Literature Review and an Analysis of the State of the Market of Anything Relationship Management (xRM) xRM as an Extension of Customer Relationship Management

Jonathan P. Knoblauch and Rebecca Bulander Pforzheim University of Applied Sciences, Tiefenbronner Str. 65, 75175 Pforzheim, Germany

Keywords: Anything Relationship Management, xRM Concept, Customer Relationship Management, Stakeholder, Relationship Management.

Abstract: In this paper we want to point out the importance of Anything Relationship Management (xRM) as an extension of Customer Relationship Management (CRM). Therefore we will describe the historical development of xRM and give a detailed and comprehensive literature review as well as an own definition. After that we want to point out the key aspects of xRM compared to CRM. Finally the results of a state-of-the-art market analysis about xRM platforms are presented and evaluated. This market analysis demonstrates the variants of xRM platform offers. The literature review, the xRM CRM comparison and the state of the market analysis will help future research activities towards a general xRM concept and platforms which enable relationships to and the management of any stakeholders or entities.

1 INTRODUCTION

Many companies and organizations use Customer Relationship Management (CRM) to manage their customers systematically and strategically with the support of information and communication technology (ICT).

Due to the continuous progress of ICT and the increase of connected people, (smart) physical things and virtual objects in the so called Internet of Everything (IoE), more and more stakeholders and business objects are mapped into the IT systems of companies and organizations. This progress is called Anything Relationship Management (xRM) meaning a consistent and comprehensive mapping, interconnection and administration of all relevant objects in the business and private sector. xRM also includes concepts, approaches and strategies like CRM.

In this paper we want to highlight the importance of the topic Anything Relationship Management as an extension of Customer Relationship Management. Therefore we will describe the historical development of xRM and give a detailed and comprehensive literature review as well as an own definition. After that we want to point out the key aspects of xRM compared to CRM. Finally the results of a market analysis about xRM platforms are presented and evaluated. This market analysis demonstrates the variants of xRM platform offers. Finally a conclusion is given to summarize the most important results and to give an outlook towards future research that is necessary.

2 ORIGIN OF CRM AND LITERATURE REVIEW

In this paragraph we explain the origin of the term Anything Relationship Management. After that a literature review about xRM and a final definition of this expression in the context of this paper is given.

2.1 Origin of xRM

Next to the topics Cloud based CRM, Social CRM, Mobile CRM and Big Data Analysis of customer data xRM is one of the most important business subjects at the moment.

Anything Relationship Management has its origin in Marketing (McCarthy 1960). In the 1970ies Relationship marketing as, "[...] attracting, maintaining and - in multi-service organizations – enhancing customer relationships" became important, because companies realized that long term relation-

Knoblauch J. and Bulander R..

In Proceedings of the 11th International Conference on e-Business (ICE-B-2014), pages 236-244 ISBN: 978-989-758-043-7 Copyright © 2014 SCITEPRESS (Science and Technology Publications, Lda.)

²³⁶ Literature Review and an Analysis of the State of the Market of Anything Relationship Management (xRM) - xRM as an Extension of Customer Relationship Management. DOI: 10.5220/0005128602360244

ships to customers contribute to the economic profit (Berry, 1983, p. 25).

In the course of time companies did not only concentrate on customers but also on additional stakeholders like suppliers; therefore the expression Relationship Management as an extension of Relationship Marketing was introduced (Smyth, 2008, p. 638).

Based on the continuous progress of ICT in companies Customer Relationship Management (CRM) became more and more important at the end of the 90ies. CRM respects a customer oriented philosophy of marketing, sales and services supported by a CRM IT system (Hippner and Wilde 2006, p. 18). At this point the focus of the definition was again only on the customers.

In 1998 the term EXtended Relationship Management (XRM) was used for the first time by the software vendor Broadvision. It extended CRM to an one-to-one relationship using internet technology (Britsch et al. 2012, p. 83).

Until 2005 the idea of the extension of CRM including stakeholders became more important; an evidence for this development is the increase of software solutions on the market for Supplier Relationship Management (SRM) or Partner Relationship Management (PRM). At the end of 2007 Microsoft was the first company who offered a solution for Anything Relationship Management (xRM); it was called Microsoft Dynamics CRM 4.0. The expression "Extended" was changed into "Anything" and stood not only for any stakeholder but also for other entities like intelligent objects or assets (Britsch and Kölmel 2011, p. 2.).

Since 2008 the expression xRM is used by more and more software sellers; some of them extended their existing CRM software platforms some of them offer xRM solutions for specific branches.

The following diagram provides an overview of the evolution of the expression xRM (see figure 1).



Figure 1: Development of the expression xRM.

2.2 Literature Review

In this section important definitions of the expression xRM which were created over the last 17 years have been collocated and analyzed. Compared to other literature reviews such as by Britsch and Kölmel (2011) this literature review includes significantly more definitions. Furthermore the definitions are not only listed, they are also evaluation by different criteria. Following the results of the literature review as well as a classification of the xRM objects will be presented. The object of the literature review is to identify common criteria for xRM. These are the basis for a general definition that considers the current development in ICT.

2.2.1 Classification of the Objects of xRM

To implement xRM in an enterprise the different objects which might have interrelations have to be classified first. Synonymously the objects will also be called entities. An entity is an existing object which is distinguishable from other objects (Kleinschmidt and Rank 2005, p. 10.).

In xRM three different categories of stakeholders are defined: single individuals and enterprises also called stakeholders, physical (smart) objects and virtual assets (see also table 1).

Table 1: Entities of xRM.

Objects of xRM	Synonyms	Examples
Single individu-	Stakeholder	Customer, partner,
als & enterprises	entities	Employees, Supplier
Physical objects	Physical entities	Cars, machines,
	-	washing machine
Virtual assets	Virtual entities	Documents, terms
		and conditions

2.2.2 Result of the Literature Review

To conduct the literature review not only scientific literature but also commercial publications have been evaluated. The listed definitions were selected because they represent a comprehensive 17 year range (oldest and newest definition), the most important authors in our opinion and different perspectives regarding the term xRM. Because of the page limitation of this paper only the literature comprising the most important criteria are listed and also the different definitions of xRM are not posted on its own in this paper (see Appendix for further information). The evaluation criteria are the following:

- 1. Bibliographic information sorted by the date.
- 2. For what stands the "x" in xRM?

- 3. Which aspects does the definition of xRM contain?
- 4. Which categories of entities are mentioned?

If there is an aspect in a certain definition of xRM missing this is marked with a minus in the following table. The literature review in table 2 shows, that there is a large variety in the meanings of the xRM definition. Some have a focus on an application, some of them on a concept and others for example on a strategy. The results of the review also indicate that xRM has to be implemented by ICT; it is mainly done by a platform or a combination of platforms.

Table 2: Result of the literature review

1.Source	2.Focus	3.Defined as	4.E	Intiti	es
50	A:Anything; E:Extended	 A:Application C:Concept M:Methodology S: Strategy P:Platform 	Stakeholder	Physical objects	Virtual assets
BROADVISION (1998)	Е	A, S		_	
LANEY (2001)	Е	A, C	х	E .	F.
RADJOU ET AL. (2001)	Е	А	х	Y	х
ZWEGERS ET AL. (2002), p. 157.	Е	А	х	-	-
SCHILD-HAUER (2003)	Е	С	-	-	-
SCHUBERT (2005), p. 154f.	-	S	х	-	-
BÜNING (2005)	Е	М	х	-	-
TAUB (2010)	А	А	х	-	х
ASCENTIUM (2010)	А	Р	х	х	х
MICROSOFT (2010), p. 8.	А	Р	х	х	х
BRITSCH & KÖLMEl (2011), p. 3.	А	P, S	х	х	х
CAS SOFTWARE AG (2012), p. 7.	А	A, C	х	х	х
WERMANN (2012)	А	C, S	х	х	х
BULANDER ET AL. (2014), p. 149.	А	С	х	х	x
ALEXAKIS ET AL. (2014), p. 124.	А	С, Р	х	x	X

Because of the variety of definitions we want to propose a general definition, which combines the different aspects mentioned before. Based on the definition of Bulander (2014) this definition integrates the aspect of an IT platform also:

"Anything Relationship Management (xRM), as an advancement of CRM, is a consistent and holistic concept of Relationship Management between and in-between enterprises, people, physical things and virtual assets. It is based on one or more flexible, modular and scalable IT platforms, which can be focussed on different branches. xRM helps enterprises to capture, coordinate and analyse entities and their relationships as well as processes in the Internet of Everything."

3 KEY ASPECTS OF xRM

From the point of view of most authors, the literature review suggests that xRM is a further development of CRM. Therefore, it is appropriate to compare the two terms to determine the key aspects of xRM.

3.1 Overview of xRM

Regarding the future development of CRM the following figure illustrates this process' dependency on a multilayered architecture with a management layer, a middleware layer and a backend layer.



Figure 2: Development of xRM.

The three layers of CRM will shift towards different xRM layers. The management layer in xRM describes the conceptual approach to manage the n:n interaction, coordination and collaboration between all entities. The middleware layer interconnects people, enterprises, virtual assets and intelligent objects to create virtual organizations and crosscompany business processes. This layer has to be implemented as a highly efficiently and dynamical platform with the capability of interoperability. The back-end layer integrates various systems in a homogeneous system landscape. Besides ERP and SCM systems this layer also has to integrate intelligent physical things like Cyber Physical Systems (CPS) or virtual things such as cloud computing services.

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3.2 xRM in Comparison to CRM

Objectives: According to Hippner & WILD (2006), the objectives of CRM are to establish profitable customer relationships and a holistic customeroriented business strategy with CRM systems. For this purpose, the relevant departments of a company must be interconnected and aligned towards the customers (Hippner and Wild, 2006, S. 8). By contrast, the objectives of xRM are to identify and manage all profitable relationships of the company and to map them in a consistent and holistic approach with ICT. Additionally xRM seeks to increase the relationship quality in all relevant stakeholder relationships

Management Tasks: A company serves a population of customers. These can be differentiated by e.g. their buying behavior, revenue or customer value. Therefore it is important to manage them each in an individual way. An established approach, especially for marketing and sales, is to manage customers depending on their customer value. (Günter and Helm 2006, p. 622.) With xRM, however, all relevant relationships of the company have to be managed systematically. This leads to a significantly higher complexity of relationships management. That complexity isn't contained in the individual relationships, but rather in the variation of the relationships.

Entities and Relationships: The main entities in CRM are the customers and their relationships to the company, the products and the services or the brand. In xRM the customers are only one of many entities, but still the most important. Besides virtual assets and physical objects xRM also includes all relevant primary and secondary stakeholders of the company. Furthermore xRM connects stakeholders and physical objects in the real world with virtual assets in the virtual world among themselves. Each relevant object of the real world always exists as a digital replication in the virtual world. xRM is therefore closely related to the IoE and can be seen as a management layer to manage the different entities. The following figure describes this issue.

Functional Areas and Range of Functions: CRM systems are designed to combine activities form the marketing, sales and service area in a coordinated system environment that gets systematically managed. Therefore the CRM system is split into different components that each have specific requirements and tasks involved. The most important component is the operational CRM, which includes: marketing automation, sales automation and service automation. Another important functional area of



Figure 3: Relationships in an xRM concept.

CRM is the analytical CRM. In this component the behavior of customers is recorded systematically with the aim to optimize the customer-related business processes. (Hippner and Wilde 2006, p. 48ff.) By contrast, xRM provides significantly more functionality. Besides the already mentioned functional areas of CRM xRM also includes components for social collaboration and cooperation. However it is important to note that xRM functions have to be seen more like apps that include functions out of different functional areas to provide a certain service for a user.

4 ANALYSIS OF THE STATE OF THE MARKET OF xRM

This chapter contains the results of the market analysis. First we describe the modus operandi of the analysis. After that the results are presented: first the xRM platforms and second the further developments on these platforms. Afterwards the results will be discussed.

4.1 **Proceeding of the Analysis**

One of the results of the literature review is that xRM is mainly perceived as a platform. Therefore the analysis of the state of the market is focused on xRM platforms and further Add-ons based on any xRM platform which uses explicit the term xRM; it also considers platforms which definitely offer xRM major aspects in their platform even if they do not use the term xRM. The analysis is focused on the German market because the financial support of the research program refers to Germany. The analysis also considers major US vendors active on the

German market.

The results of the state of the market analysis were raised through literature researches in books, scientific magazines and on the web (especially the home page of the xRM vendors). Specific sources from SCHWETZ (2014), SCHWETZ (2013) and BRITSCH ET AL. (2013) were incorporated in the analysis. Furthermore a survey was carried out during the CeBIT 2014 in Hannover (Germany) and discussions (personal, email etc.) with xRM vendors and xRM experts were conducted.

4.2 Result of the Analysis of the State of the Market

Vendor / Product	Software	A	B	С	D	Е	F	
	model *			Ŭ			-	
Microsoft / Dynamics CRM 4.0	OP, OD, H	(1)++, (2)++, (3)++	++	+ +	+ +	++	+ +	, /
CAS Software / CAS genesisWorld	OP, OD	$(1)^{++},$ $(2)^{++},$ $(3)^{+}$	7.	Ŧ	(±	t +	H	N
Genius4 U / SugarCRM	OP, OD	(1)++, (2)++, (3)+	+	+ +	+ +	+++++++++++++++++++++++++++++++++++++++	++	
Salesforce / Salesforce1 Plattform	OD (USA)	(1)++, (2)++, (3)+	++	+	+++	+++	+++	
Netsuite / CRM+	OD	(1)++, (2)++, (3)++	+	+ +	+++	++++	+	
GSD Software / GSD XRM - Docuframe	OP, OD	(1)++, (2)++, (3)++	++	+ +	-	++++	-	
Glaux Soft AG / Evidence Platform	OP, OD	(1)++, (2)+, (3)+	++	+ +	+	+	-	
CDC Software / CDC Pivotal	OP, OD	(1)++, (2)++, (3)-	+	+ +	+++	++++	++++	
Zoho / CRM	OD	(1)++, (2)++, (3)++	+	+	+++	+++	+++	
Sage CRM Solutions/ SageCRM	OP, OD	(1)++, (2)++, (3)+	++	+	+	+++	+++	
Adito Software GmbH / ADITO4	OP, OD	(1)++, (2)++, (3)+	++	+ +	+	++++	++++	
TecArt GmbH / TecArt CRM	OP, OD, H	(1)++, (2)++, (3)+	++	+	+	+++	0	
Selligent GmbH / CRM & Interactive- Marketing-Suite	OP, OD, H	(1)++, (2)++, (3)+	++	+	+	+++	0	

Table 3: Result of the market analysis of xRM platforms.

*Software Model: OP: On-Premise,

OD: On-Demand, H: Hybrid

A: Administration of entities: (1) Stakeholder, (2) Virtual assets (3) Physical objects

- B: Basic functionalities
- C: Extendable and flexible
- D: Functionalities of reporting and analysis

E: Mobile access

F: Support of Social Media

Table 4: Result of Add-ons based on xRM-Platforms.

Vendor	Based on	Bran- ches	xRM Functionalities
arvato	MS D	1,6	Management of contacts (VIP,
Systems proMX GmbH	MS D	8	artists, speaker, moderators, etc.) Project Management, administration of travel costs and holiday, human resource Management (skill and profile), controlling functionalities
awisto business solutions GmbH	MS D	1, 5, 6, 7	Project and document Management, Management of contacts, route planning reclamations, administration of trainings and service contracts,
Team4	MS D, Lotus Notes, Team4 solution	1, 2, 5, 6, 7	Management of contacts (supplier, investors, journalists etc.), adminis- tration of publications & conference participants), Key Account & Product Management
Axcentro GmbH	MS D	1, 2, 5	eGovernment Management, Event Management, Student Management, Management of contacts (artists, etc.)
BPA Solutions GmbH	MS Share- Point	8	Quality, Project, Recruiting and Risk Management
eNovation Business IT GmbH	MS D	8	SRM, Partner Relationship Management, Human Resource Management, etc.
FWI Infor- mation Tech- nology GmbH	MS D	3, 5	SRM, Fleet Management, administration of trainings, financial accounting
itdesign GmbH	CAS	8	Applicant and Employee Management
itelligence AG	SAP-Systeme	8	Flexible adjustment to the project
Movento GmbH	SAP CRM CAS & CAS PIA	1	Administration of schools and office equipment
Unidienst GmbH	MS D	1, 2, 3,4,5,6,7	competitors
Cluster Reply	MS D	3, 5	Contract Management, Management of Objects, Call Center, Apps for Automobile
provalida GmbH	SugarCRM, IBM, Epiphany Cobago	8 but focussed on 3, 5, 6	Individual development, Campaign Management
crmpartners	MS D	8	Finance Management, Member Management, individual development

Remarks to the table:

Based on: MS D: Microsoft Dynamics CRM

CAS: CAS Genesis World

IBM: IBM Enterprise Marketing Management

Branches:

- 1 = Public and Private Service Provider 2 = Energy, Water Supply, Mining
- 2 = Energy, wa<math>3 =Industry
- 3 =Industry 4 =Duilding Indu
- 4 = Building Industry
- 5 = Trade, Transportation & Hotel and Restaurant Industry
- 6 = Financial Services

7 = Medicine, Chemical & Pharmaceutical Industry

8 = Intersectoral

Remarks to the table:

The state of the market analysis pointed out that there is a wide range of xRM platform vendors (Table 3) and xRM vendors that offer further Addons (Table 4) for xRM platforms. Regarding xRM platforms vendors, there are three kinds of platform to be distinguished. First are xRM vendors who offer a generic xRM platform that gets enhanced and adjusted by business partners or users for specific industries (e.g. Microsoft), second are xRM vendors such as CAS who also work with business partners to enhance and adjust their platform but also offer own industry-specific xRM solutions, and third are some xRM vendors that offer a platform on which apps, functions or enhancements can be purchased depending on user requirements and industries (e.g. Salesforce). The xRM platform is thereby sold and distributed by the xRM vendor. Other developers can develop apps and publish them in the company's own App-Store. Most of the xRM vendors have an on-premise and an on-demand delivery model. Some vendors like Salesforce or Netsuite only have an on-premise delivery model. The investigation of the administrated entities has shown that all vendors more or less allow the mapping of stakeholders and virtual assets. The mapping of physical entities however is not supported by all vendors. But it is important to note that physical entities (especially smart objects) could be integrated via Web services, which in turn get supported by several vendors. All xRM platforms have a relatively large basic functionality and extensibility. The extensibility is limited when vendors are offering only an App-Store to add new functions and extension. Reporting and analysis functions as well as mobile access are available on most of the xRM platforms. This indicates that mobile computing is generally accepted in the xRM/CRM market. Only social media support is not consistently realized on xRM platforms. In summary, it can be stated that the xRM platform vendors offer a wide range of solutions. Microsoft (with their Dynamics CRM solutions) is certainly one of the most competitive xRM vendors since they have positioned themselves early in the xRM market. In the German market the company CAS has also established themselves well especially for small and medium-sized enterprises.

There are a variety of companies offering xRM solutions based on customized xRM platforms. These companies are typically business partners of xRM platform vendors and develop xRM solutions to one or more specific industry sectors. For example, the company arvato Systems has specialized themselves with their product CARE

xRM which caters towards social services. Other companies like Movento GmbH focus on public administration, schools and institutions. Lots of companies also act across variety industries and merge different third-party applications to create powerful customized xRM solutions. The survey regarding Add-ons based on xRM platforms made clear that two-third of xRM Add-ons solutions are implemented on the Microsoft Dynamics CRM platform. But it must be taken into account that the analysis primarily was focused on solutions that mention the term xRM. Since Microsoft uses this term already several years, this is an explanation why so many Add-ons are based on Dynamics CRM.

5 CONCLUSIONS 5.1 Summary

At the beginning of this paper we highlighted the importance of xRM. Then we described that relationship management is the theoretical origin and CRM is the technological origin of xRM and demonstrated the development towards the expression xRM. After that an extensive literature review was provided. The main findings out of the literature review were that the 'x' in xRM stands for anything since around 2010, newer definitions see xRM primarily as a concept as well as a methodology and all newer definitions include the entities stakeholder, virtual asset and physical object. Another important key finding was that xRM is perceived as one or more IT platforms that offers different services to user. Out of those research findings we provided an xRM definition which includes all important xRM aspects. We continued by describing the key aspects of xRM in comparison to CRM. After that, the results of the state of the market analysis of xRM platforms and Add-ons on existing xRM platforms were presented. Important results were that there are three kinds of xRM platform vendors. xRM vendors who only offer a generic xRM platform that can get enhanced and adjusted by business partners or users, xRM vendors that only provide a platform on which all needed functionality can be added through provide enhancements and xRM vendors who provide both variants. Another result of this analysis was that there are already vendors that offer xRM platforms and functionalities, but they do not really cover all aspects of xRM. The reason is that xRM is at its beginning and the enabling technology like Internet Protocol version 6 or context sensitive sensors to integrate context sensitive information are at an early stage and have to be more adapted in the practical use.

5.2 Implications and Research Outlook

The literature review and the state of the art market analysis are the basis to create a general xRM concept and platform, which enables relationships to any kind of stakeholder, virtual assets and physical (smart) objects also using context information. The next steps of our research project are to develop such an xRM concept and an xRM prototype to demonstrate a specific xRM use case for SME (Small and Medium Enterprises). The xRM concept should also offer a guideline for companies how to establish xRM in a company. The prototype will help to evaluate the xRM concept and will be implemented for a defined process out of a specific scenario like Smart Factory, Smart Mobility, or Smart Building. Based on such an xRM concept value creation, networking, administration and management of the complex network of relations of companies and organizations is possible.

ACKNOWLEDGEMENTS

The authors would like to thank the research program of Karl Steinbuch of the MFG Innovation Agency for ICT and Media for the financial support of the research project "Ma-x-RM – Management concept of Anything Relationship Management".

REFERENCES

- Alexakis, S.; Bauer, M.; Britsch, J.; Kölmel, B. (2014): Interoperability in Service-Oriented Production Networks: Managing n:n Relationships with xRM. In: Charalabidis, Y.; Lampathaki, F.; Jardim-Goncalves, R. (eds.): Revolutionizing Enterprise Interoperability through Scientific Foundations, pp. 119-136.
- Ascentium (2010): CRM: the tip of the XRM iceberg. URL: http://www.istart.co.nz/index/HM20/P C0/PVC197/EX245/AR211044 (accessed 03.27.2014).
- Berry, L. L. (1983): "Relationship Marketing.". In: Berry, L. L.; Shostack, G. L.; Upah G. (eds.): Emerging Perspectives on Services Marketing. American Marketing Association, pp. 25–28.
- Britsch, J.; Bulander, R.; Kölmel, B. (2013): Anything Relationship Management (xRM) as Management Layer for the Hyper-connected Society. In:

Collaborative Systems for Reindustrialization. 14th IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2013, Dresden, Germany: Springer, pp. 451–458.

- Britsch, J.; Kölmel, B. (2011): From CRM to xRM: Managerial Trends and Future Challenges on the Way to Anything Relationship Management. Conference and exhibition, October, Florence, Italy. Dublin: IIMC, International Information Management Corporation.
- Britsch, J.; Schacht, S.; Mädche, A. (2012): Anything Relationship Management. In: Wirtschaftsinformatik, Volume 54, Issue 2, pp. 83–85.
- BroadVision (1998): BroadVision Featured in BusinessWeek's 'InfoTech 100,' press release, PR Newswire Association LLC, Oct. 27, 1998.
- Bulander, R.; Kölmel, B.; Wüstemann, J. (2014): Auswirkungen des Anything Relationship Managements auf das Dialogmarketing. In: Dialogmarketing Perspektiven 2013/2014. Wiesbaden: Springer
- Büning, M. (2005): Jenseits des Kunden. URL: http:// www.team4.de/wpcontent/uploads/2013/10/Team4Ac quisa2005Beziehungspflege.pdf (accessed 23.1.2014).
- CAS Software AG (2012): xRM Nutzen Sie die Kraft Ihres Netzwerks, white paper, 2012, URL: http:// www.cas.de/fileadmin/user_uploads/Enterprise/Mittel stand/Download/Zentrale_Dokumente/xRM_ Whitepa per_fuer_CAS_Mittelstand.pdf (accessed 24.02.2014).
 - Günter, B.; Helm, S. (2006): Kundenwert. Grundlagen -Innovative Konzepte - Praktische Umsetzungen. Wiesbaden: Gabler Verlag.
 - Hippner, H.; Wilde, K. D. (2006): Grundlagen des CRM. Konzepte und Gestaltung. Wiesbaden: Gabler Verlag.
 - Kleinschmidt, P.; Rank, C. (2005): Relationale Datenbanksysteme. Eine praktische Einführung. Berlin [et. al.]: Springer.
 - Laney, D. (2001): Application Delivery Strategies. The Great Enterprise Balancing Act: Extended Relationship Management (XRM). URL: http://blogs. gartner.com/doug-laney/files/2012/02 /ad1074-The-Great-Enterprise-Balancing-Act-Extended-Relation ship-Management-XRM.pdf (accessed 02.03.2014).
 - McCarthy, E. J. (1960): Basic marketing, a managerial approach: Homewood, IL: Richard D. Irwin.
 - Microsoft (2010): The xRM Advantage for Solution Builers.URL: http://microsoftaucrm.wordpress.com/20 10/05/20/new-dynamics-crm-white-paper-the-xrm-ad vantage-for-solution-builders/ (accessed 02.11.2014).
 - Radjou, N.; Orlov, L. M.; Child, M. (2001): "Apps For Dynamic Collaboration," The Forrester Report. In: Forrester Research, MA: Cambridge.
 - Schildhauer, T. (2003): Lexikon Electronic Business. München: Oldenbourg.
 - Schubert, V. A. (2005): XRM integrated customer relationship management for pharmaceutical innovations. Thesis, Technical University Berlin.
 - Schwetz, W. (2013): xRM-Markt im Aufwärtstrend. URL:http://www.marketing-boerse.de/Marktueber sicht/details/1316-xRM/41886 (accessed 03.04.2014).

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- Schwetz, W. (2014): xRM das CRM der dritten Dimension. URL: http://www.computerwoche.de/ a/xrm-das-crm-der-dritten-dimension,2515 917 (accessed 02.11.2014).
- Smyth, H. (2008): The credibility gap in stakeholder management: ethics and evidence of relationship management. In: *Construction Management and Economics*, 26:6, pp. 633–643.
- Taub, J. (2010): Managing Relationships with Microsoft Dynamics CRM. URL: http://www.crmsoftwareblog. com/2010/06/managing-relationships-with-microsoftdynamics-crm/ (accessed 03.02.2014).
- Wermann, B. (2012): xRM: ein Managementkonzept macht Schule. URL:http://www.springerprofessional.d e/xrm-ein-managementkonzept/3550460.html (accessed 03.13.2014).
- Zwegers, A.; Wubben, H.; Hartel, I. (2002): Relationship Management in Enterprise Networks. In: Mařík, V. (egs.): Knowledge and technology integration in production and services. *IFIP – The International Federation for Information Processing*, Volume 101, pp. 157-164.

APPENDIX

xRM Definitions

Source	Definition
BROAD- VISION (1998).	"BroadVision believed that the Internet would funda- mentally alter the way businesses conduct commerce and communications around the world. This belief led us to bring to market a series of strategic Internet applications that enable companies to manage one-to- one relationships across an extended, global enter- prise. This Extended Relationship Management strategy – what we call XRM – is at the core of all BroadVision products and services."
LANEY (2001).	"By 2005, extended relationship management (XRM) practices, discrete technologies, and inclusive busi- ness solutions (e. g., ERP) will surface to offer a more holistic means of administering and measuring all enterprise points of interaction (POIs). Advanced offerings will accommodate interaction with all business allies across all channels, and just as com- mercial CRM solutions entered the mainstream in the late 1990s, packaged XRM technologies will become viable by 2007. [] Advanced XRM solutions will also manage relationships with secondary business allies (e.g., local/federal/international government, community, industry organizations, investors, associa- tive PECS, even competitors)"
RADJOU ET AL. (2001).	"To collaborate effectively, firms will need a new breed of apps called eXtended relationship manage- ment (XRM) to help them speed up and expand the scope of supplier, channel, and customer relation- ships. XRM apps enable firms to monitor partner status, manage intercompany transactions – and optimize design, production, and service."
Zwegers et Al. (2002), p. 157.	"To enable the cooperation of multiple organizations in supply chains or virtual enterprises, the relations between these partners need to be defined. Configura- tion and set-up tools are needed to define inter- enterprise relationships, in addition to applications for monitoring, management, and optimization of inter- enterprise business processes. Before processes within a supply chain or virtual enterprise can be executed,

	the relations between the various partners have to be defined by means of tools for the set-up of these
	cooperation forms. These so-called eXtended Rela-
	tionship Management (XRM) services can be used to configure a whole supply chain or virtual enterprise."
SCHILDHAU-	"Due to Extended Relationship Management concept
ER (2003). (translation)	(XRM) the interactions with the company environ- ment are optimized and a profitable and continuous
	Relationship Management is thereby enabled."
SCHUBERT (2005), p.	"Integrated customer relationship management is translated into the term XRM: targeting all the cus-
154f.	tomers involved in the industry and managing the
	relationship between them and the pharmaceutical company interdependently. [] The XRM approach
	allows a holistic communication strategy appropriate for the pharmaceutical product involved. It includes
	the explicit consideration of processes, players and
BÜNING	positioning. " "[xRM] is about relationships, which every company
(2005).	maintains - to customers, to business partners, to
(translation)	lobbyists and facilities, to all stakeholders companies are in contact. All of these stakeholders want to be
	cared of and looked after. This goes further than the
	typical CRM approach, which largely concentrates on the static assignment of one person to one company."
TAUB (2010).	"This new era of CRM is focused on relationship management. Some in the industry call it "XRM"
(2010).	because the X factor can mean any relationship
_	important for a business to manage information around. For example, an Insurance agency focused on
	providing employee benefit plans would need to
	manage the relationships between clients, quotes, policies, carriers, policy rates, producers and commis-
	sions. Now that businesses are able to configure a rich application in line with their own specific needs, the
	return on investment can be companywide and not
ASCENTIUM	just focused on specific department silos." "An effective CRM shouldn't be just about sales and
(2010).	marketing. It's a platform for developing line of
	business applications – applications that manage and track information and processes around real-world
	objects. The object could be a customer, but it could also be a grant, building, or a potential candidate for
	hire. The key question is: "Do I need to track the in-
	formation and activities related to this entity?" If the answer is "yes," then you should be thinking xRM,
	where the 'x' might represent 'supplier,' 'channel,' 'partner,' or some other term."
MICROSOFT	"The "X" in xRM stands for "anything," connoting
(2010), p. 8.	the framework's flexibility to accelerate the develop- ment applications for virtually any type of relationship
	managed by a line-of-business (LOB) application."
	[] "An application developed with xRM is able to help any team manage any relationship, any relevant
	process, and any data. Known as a relational LOB application, a custom solution developed on xRM
	could be used to manage vendors, assets, people,
	partners, licenses, or any other aspect of a business that involves relationships, which is most of what
BRITSCH &	business is about."
KÖLMEL	"Anything Relationship Management, xRM is a holistic management strategy containing the integra-
(2011), p. 3.	tive data collection, analysis, and control of any kind of relationships that concern any kind of organization-
	al entities, using appropriate positions, processes, and
	line of business applications based on a flexible, scalable software platform with a high degree of stan-
	dardization, aiming to establish beneficial col- laboration among entities, and, eventually, to con-
	tribute to the long-term success of the organization."
CAS Software	"Anything Relationship Management could be translated with Relationship Management for all sorts
AG (2012),	of things'." [] "Similar to the mathematical varia-
p. 7. (translation)	ble, 'x' represents any single individual or thing. It's no longer only about the customer relationship (like in
	CRM) but also about the relations network between any organizational stakeholders and entities. xRM is
<u> </u>	any organizational successfullers and cittates. ACM IS

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	the continuation of the CRM-idea to a company's	
	whole ecosystem. By means of xRM the junctions of	
	an organization should be interconnected and support-	
	ed." [] "Like CRM, xRM is not only a software but	
	also a management concept."	
WERMANN	"xRM is the further development of CRM, which	
(2012).	provides sales a holistic view of all important data,	
(translation)	relationships and facts around customer relationships.	
· · · · ·	As a company strategy for the connected world all	
	relationships of an organisation are captured, con-	
	trolled and analysed through appropriate xRM tools."	
	[] "It's no longer only about customer relationships	
	but rather about the relations network between all	
	sorts of humans (e. g. employees, customers, partners,	
	suppliers), things (e. g. products, vehicle fleet, real	
	estate) and virtual assets (e. g. documents, events, test	
	series)."	
BULANDER	"xRM (Anything Relationship Management) de-	
ET AL.	scribes a holistic relationship management concept	
(2014), p.	within and between organizations, humans as well as	
(2014), p.	virtual and physical objects. xRM connects the Inter-	
(translation)	net of Services and the Internet of Things, it coordi-	
(translation)	nates the relations between the different actors and	
	objects and includes the interactive processes between	
	them."	
ALEXAKIS ET	"xRM is the concept of managing n:n relationships in	
ALEXAKIS ET AL. (2014),	collaboration networks by connecting all related	
p. 124.	parties through a common IT platform. The typical	
p. 124.	xRM platform/app architecture and its deployment in	
	the cloud allow a scalable integration of systems,	
	stakeholders, things, and services, while at the same	
SCI	time guaranteeing interoperability and seamless	NOLOGY PLBLC ATION
	processes between all companies of the network."	
	processes between an companies of the network.]