

# A literature survey on objectives and success factors of mobile CRM projects

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**Abstract:** *Mobile Customer Relationship Management (mCRM) frames the interface between companies and their customers by assisting mobile actors with mobile and wireless technologies. The aim of mCRM projects is the implementation of such systems. Experiences from the CRM background show problems in the implementation phase, which are caused by poor execution of the project and unrealistic project objectives. Therefore achievable objectives and success factors of mCRM projects are identified by two analyses of scientific publications and best-practice cases. The findings of our research suggest that there is a set of reachable objectives which can be classified into customer, market, interaction and performance objectives. We will also discuss how mCRM can be applied to the public sector. Based on our results we want to point out how the public sector can benefit from our research in mCRM projects.*

**Keywords:** Mobile Customer Relationship Management (mCRM), objectives and success factors of mCRM projects, mCRM in public sector

## 1. Introduction

In today's markets the interface between a company and their customers is of great importance. Customer Relationship Management (CRM) is concerned with this interface. According to an often cited definition CRM "[...] is the infrastructure that enables the delineation of and increase in customer value, and the correct means by which to motivate valuable customers to remain loyal – indeed, to buy again" (Dyché 2002, p. 4). Operational information and communication systems are employed to enhance the customer relation and to standardise the CRM activities. Mobile CRM is a term for CRM systems which make use of mobile devices like cellular phones, PDAs and smartphones but also on-board vehicle computers or notebooks. The basic idea behind mCRM is to provide IT support for customers and/or employees in mobile scenarios. Mobile scenarios include different levels of mobility: a user can work at different places (serial mobile) or while being in motion (walking on customer's premises). For the last case there are additional requirements with regard to the dimensions of the devices and the provision of connectivity.

Mobile CRM (mCRM) expands the channels of CRM to the customer (Sundararajan 2002) and supports actors of CRM using mobile technologies. In mCRM-scenarios employees and/or customers are in the state of being mobile (Hampel & Schwabe 2002).

The purpose of a mCRM project is the implementation of a mCRM solution. A mCRM-project should have the following stages: definition of the strategy and the activities of the mCRM-system, launch the system to back-up the mCRM activities and audit the success of the executed activities. Experiences from the CRM-background show that there is the danger of project-failure. Several studies (Kemp, 2001; Thomson et. al, 2002; IMO, 2003; Computerwoche, 2004) document failures of CRM projects in the past. To prevent mCRM projects from failing it seems reasonable to inspect the success of the projects.

Pinto & Prescott (1990) name "Planning" and "Tactics" as dimensions for a project's success. Mistakes made in the planning-phase of a project can result in not achieving the intended improvements of a project. To avoid this the reachable objectives should be figured out in advances. Mistakes in tactics effect the projects execution. In order to execute a project effectively the project's success factors must be kept in

mind. Therefore one intention of this article is to discuss reachable objectives and success factors of mCRM projects.

The transformation of the CRM philosophy in Government and especially m-Government implies potentials for authorities. In this case citizens must be seen as the customers of authorities and a citizen-focused organization is needed. Possible potentials are greater efficiency, improvement of service levels, real-time connection to citizens or authority-wide display of all important citizen information.

According to the described mCRM-scenarios above we state some similarities for the public sector using mobile technology: employees of authorities and/or citizens can be in the state of being mobile. Using mobile technologies between authorities and citizens provides several advantages: firstly, there is a wide access to a large number of citizens because of the high penetration rate of mobile devices; secondly, mobile technologies allow nearly immediate communication (Rodrigues et al. 2005). Examples are:

- **Citizen being in the mobile state:** The Government of Malta offers m-Government notification services via SMS (Rodrigues et al. 2005), e. g. SMS of court deferrals or SMS to remind holders of trade licences to apply timely for a renewal (Government of Malta, 2006).
- **Employees of authorities being in the mobile state:** The public administration in some districts of Berlin (Germany) offers citizen services at highly frequented public places like hospitals, libraries or shopping centres using mobile technologies. In these “mobile offices” citizens are counselled and a wide range of public administration services like making applications for new driving licenses and passports are offered (Mobile Citizen Services Berlin, 2006).

The shown similarities between companies & clients and authorities & citizens lead to some questions like: How can the public sector benefit from the results of our research about mCRM projects? Which results can be transferred to the m-government and which not? These questions we will answer in this article.

The remaining article is organized as follows: The second chapter deals with the applied research method. Chapter three is the main part and covers the identified objectives and success factors. In the last chapter we summarize and sketch promising questions for future research.

## 2. Background

### 2.1 Project Management in mCRM

Typical management projects have three different stages (see figure 1): Development, implementation and termination (Packendorff, 1995).

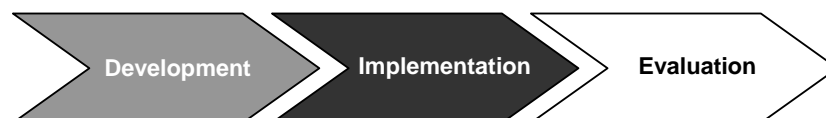


Figure 1: Stages of a mCRM-Project acc. to Packendorff.

In the development stage the corporate surroundings are analysed, the objectives are defined and the business units as well as the products are planned (Kotler & Bliemel, 2001). Objectives are imaginative statements about aspired future conditions (Kuß & Tomczak, 2002). The stated conditions should be measurable and changeable (Homburg & Bruhn, 2000). Objectives related to mobile CRM form part of the corporate set of objectives and should be achieved by the mCRM project. A project is successful when all objectives were reached.

In the implementation stage the planned objectives from the development phase are realized and controlled (Hippner, 2004). The success factors of the project must be kept in mind in this stage. Success factors “[...] are those few things that must go well to ensure the success for a manager or an organization” (Boyton and

Zmund, 1984). Research on success factors has been actively pursued for over one decade: Originally the research referred to the identification of global factors as attempted in the PIMS study (Neubauer, 1999). From 1990 on researchers began to look for success factors within market strategies (Fritz, 1990). Nowadays the search for success factors is limited to particular corporate activities (Alt et al. 2004; Belout et al. 2004). Success factors of mCRM projects have not been identified yet.

Finally in the termination phase the project has to be evaluated. Project impacts and acquired objectives have to be measured and actions of adjustment have to be taken (Hahn, 1999).

Salomann et al. (2005) interviewed 89 decision makers in the German-speaking area. Only a minority (9 %) of the survey's respondents have already completed a mCRM project, whereas 60 % are introducing or planning to introduce mCRM in their company. This shows that mCRM is a rather unexplored field. Previous projects with CRM background indicate poor success rates (Kemp, 2001; Thomson et. al, 2002; IMO, 2003; Computerwoche, 2004). The reasons for the failure of projects can be found in three areas:

- **Technical aspects of the implementation:** The complexity of system and application can be too advanced for the use of later operators.
- **Deficient description of CRM activities:** Companies often are unsure how to realize CRM in an appropriate way for their business.
- **Lack of project management:** Coordination and organisation of the project often are insufficiently executed.

All the aspects mentioned above form part of the implementation stage of the project. Therefore to avoid mistakes in this stage of a mCRM project the success factors of the implementation have to be evaluated.

## 2.2 Research questions

Up until now, observed mistakes only accounted for the implementation stage of a project. However failure of projects can also stem from the development and the evaluation stage. In the development stage there is the danger of defining unrealistic objectives so even a flawless implementation phase wouldn't lead to a successful project. Therefore the key questions of this article are:

- Which objectives can be theoretically and practically reached with a mCRM project?
- Which factors need to be considered in order to implement the project successfully?

To answer the questions noted above we have chosen an approach with three steps in accordance to the three stages of management projects.

- The first step is to identify the potential objectives of a mCRM project. An analysis of the strengths, weaknesses, opportunities and threads (SWOT) of mCRM and CRM shall lead to this. The target is to define a system of potential objectives with interactive influences.
- Secondly the success factors of mCRM projects have to be identified by a literature analysis of 65 recent scientific publications from international authors of both conceptual and empirical nature. Admission criterion for the analysis was the mention of success factors or obstacles in CRM or mCRM projects. The success factors were determined by the quantitative frequency of mentions according to the procedure of Fritz (1990). Fritz carried out a literature analysis to find success factors for corporate prosperity.
- The third step is to identify achieved goals in completed mCRM projects by another literature analysis. We analysed 62 reports on best-practice cases of mCRM projects from different countries. The reports comment extensively the course of events and the outcome of each project. We recorded the absolute frequency of successful projects and deduced the reached objectives.

All publications evaluated were obtained by querying several online databases for scientific literature using the key terms "CRM", "mobile CRM", "mobile sales", "mobile service", "best-practice", "objectives" and "success factors".

### 3. Key Findings of the research

#### 3.1 Identified objectives

We performed a SWOT-analysis (Kotler & Bliemel, 2001) to get an overview of what is theoretically possible with CRM. The SWOT-analysis is a methodical approach from management science to assess the Strength / Weaknesses (internal factors) and Opportunities / Threads (external factors) of strategically relevant entities like products, services, firms or project alternatives.

The results of the SWOT analysis of the strategy and the management approach of CRM and mCRM is shown in table 1 and provide an overview of what is theoretically possible with the use of mCRM.

SWOT	CRM	mCRM
Strengths	Knowledge about potential buyers and clients	Personalised and new-to-the-world offerings
	Concentration on profitable customers	Technical assistance of the field service
	CRM process frame	Mobile exchange of relevant data and information
Weaknesses	CRM as isolated solution	Unsophisticated maturity of the mCRM system
	Deficient CRM system	Dubious cost-value ratio
	Insufficiently defined activities	Insufficient collaboration of employees
Opportunities	Improved customer interaction	Elevated customer satisfaction and loyalty
	Purposive addressing of potential buyers	Process shift to customer
	Increased revenue per client	Increased revenue
Threads	Elevated customer expectations	Complicated user-interface
	Negative Customer reaction on CRM activities	Customer concerns regarding privacy and security
	Decreased revenue	Elevated expectations of the customer

Table 1: Result of the SWOT-analysis of CRM and mCRM

The possible objectives of the mCRM projects were derived from the results of a SWOT-analysis of both CRM and mCRM. According to Diller (2002) the objectives in marketing can be classified into performance-, interaction-, customer-, market- and income-objectives:

- **Performance objectives:** They refer to internal activities in companies. They are composed of reductions in process time and costs as well as advancements of employee productivity, data quality and coordination of tasks. Further performance objectives are a precise function of the mCRM-system as well as improvement of employee satisfaction.
- **Interaction objectives:** They deal with the customer relation. Among these are the offering of novel services, the integration of elements of the order processing and the option that the customer overtakes parts of business processes (e. g. customer information, sales process). Together with performance objectives they support the customer objectives which again have impact on the market objectives.
- **Customer objectives** are retention of existing customers and acquisition of new customers and thus support the market objectives. The market and performance objectives affect the income objective resolving in higher profits.
- **Market objectives:** We could identify the following objectives with regard to the market: increased revenues, rise of market share and improved competitiveness.

- **Income objectives:** This class of objectives subsumes just “increase of profit”, which is influenced by performance, interaction and market objectives.

Figure 2 shows the identified objectives of mCRM projects and how these objectives are related.

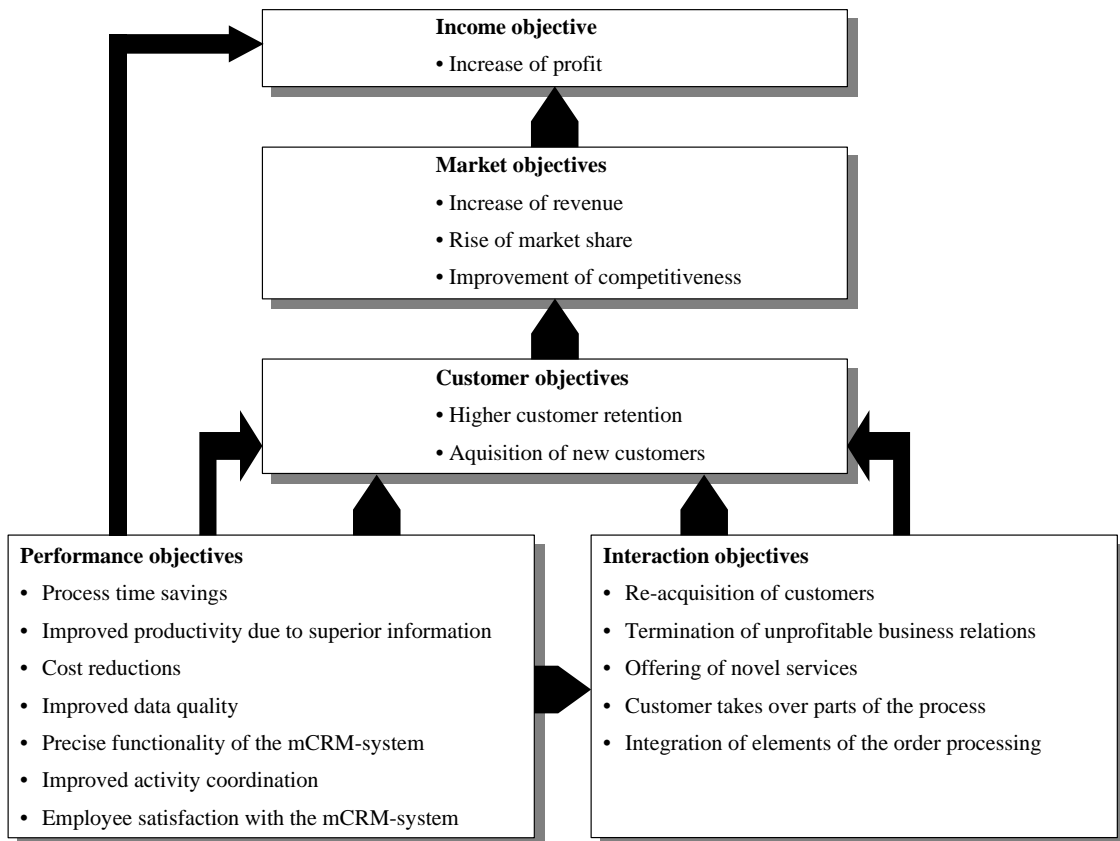


Figure 2: Classified objectives

### 3.2 Success Factors of CRM and mCRM Projects

We identified 65 relevant publications which mentioned 450 times one out of 31 different success factors. The mentioned factors can be classified into the following three groups:

- Project management
- Processes and activities
- Technical factors

Other factors were only stated four times in the sample and can therefore be neglected. The success factors with background in project management were mentioned 161 times. These factors need to be considered when the mCRM project is not an extension of a CRM project but entirely novel. Factors related to processes were stated 177 times and those with technical background 108 times. Process and technical factors were specially mentioned by publications based on conceptual research. Altogether, twelve critical success factors were detected. These factors were mentioned by at least 18 % of the publications in the sample and have a special relation to mCRM. In Figure 3 the relative frequencies of the mentioned success factors are depicted. The following factors deal with project management:

- **Interdisciplinary project team:** The team implementing the mCRM-system has to interdisciplinary one, e. g. specialist from marketing, sales, service and IT.

- **Involvement of later users:** Later users (front office personnel, field service, customers) have special insight into what is needed for successful mCRM system. Therefore they have to be involved in the implementation procedure at an early stage.
- **Sufficient project resources:** The project team needs to be equipped with sufficient know-how, financial as well human resources.
- **Top management backup:** The assistance and the encouragement of the executive board are essential to actually realize changes in business processes.

Success factors related to mCRM processes are the following:

- **Customer-oriented processes:** The activities of mCRM should be related to the customer buying cycle which has the following four stages: stimulation, evaluation, buy and after-sales.
- **Process Customising:** The mCRM-activities need to be customised and standardised according to specific needs of both customers and vendors.
- **Customer analysis:** Before the proper activities of mCRM are executed, the data of the customer base needs to be integrated into the system based on an intensive analysis.

**Mobile processes:** The mCRM-activities must bear utility for customer and vendor. The mobile interface needs to be interactive, emotional and personalised.

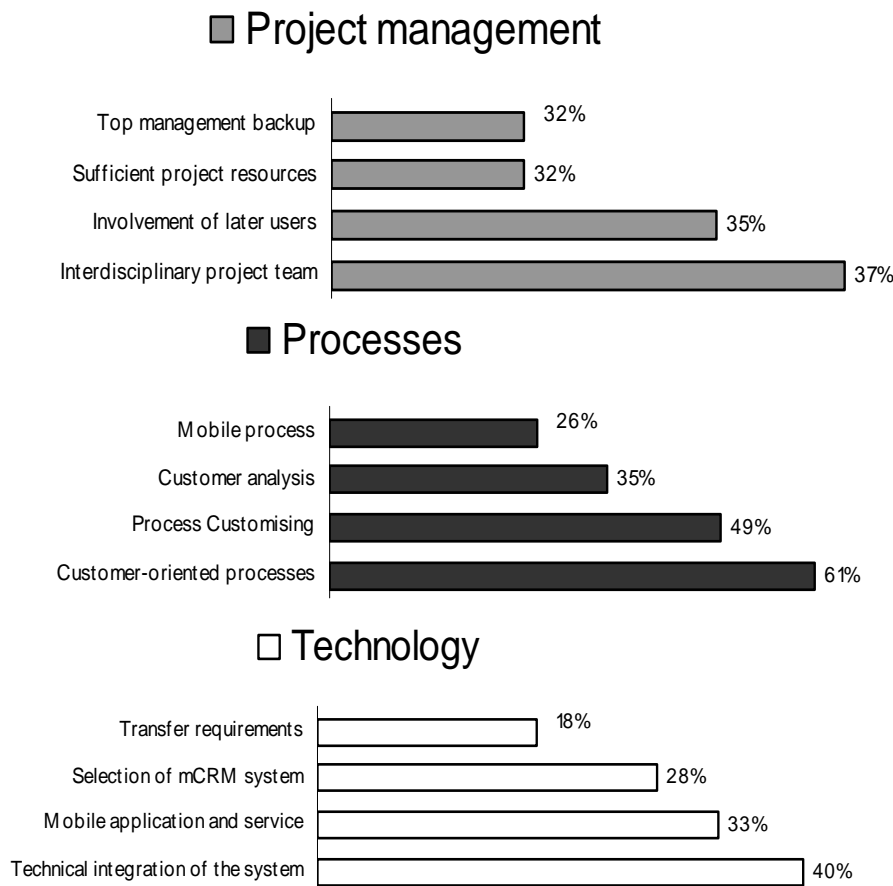


Figure 3: Relative frequencies of the mentioned success factors

Technical success factors are as follows:

- **Technical integration of the system:** Any error in the mCRM-system has an impact on the customer relation. Therefore the system must be carefully integrated.

- **Mobile application and service:** The mobile application is to be usable with clear menu navigation. The mobile service needs to be functional.
- **Selection of mCRM-system:** The hardware for the backend system as well the mobile devices has to be carefully selected.
- **Transfer requirements:** The wireless transmission of data must be reliable and secure.

### 3.3 Reached Objectives in CRM and mCRM Projects

The best-practice cases derive from both the public and the private sector. To better illustrate the reached objectives, one case from the public sector shall be described closely. This case was found in the study of Lerner and Frank (2004) and deals with regional administration offices. To get rid of paper based checklists these offices used blackberries to inspect fire protection of houses. The blackberries automatically received the checklist for the inspection and the result of the inspection could be sent to the back-office. The electronic based inspection automated the workflow accounting and enhanced data quality. Therefore process time was saved and the back office's staffs could be reduced.

Overall, the 62 best practice cases can be classified according to which actor is the mobile one: customer, vendor or both. In the majority of cases (43) the vendor was mobile. In those cases the field service was visiting the customer at his homelike infrastructure. mCRM in this case helped to keep the field service better informed and gain productivity. The result was a reduction in costs and process time.

In 18 cases the customer was the mobile actor. The customer can demand these services autonomously (e. g. navigation service on mobile devices). Thereby the acquisition of new customers is enhanced as well as the retention of customers. In one case both actors were being mobile: a novel service was offered and assisted by members of the field service. mCRM-activities can be divided into marketing, sales and service activities; all these activities are related with the customer himself or contact to the customer:

- Marketing activities try to identify potential new customers and are especially important for companies from the production sector.
- Sales activities support the field service and mobile customers to boost the vending of products or services.
- Existing after-sales services can be provided to mobile customers in self-service manner so costs and required process time is reduced. Another example is if service technicians are equipped with mobile terminals to support maintenance activities at customer's premise.

Of the 18 originally identified potential objectives 13 were actually reached in projects. Among these are all of the performance objectives:

- **Process time savings:** Due to more efficient field service and better information inside the company process time is reduced.
- **Elevated productivity:** The field service can be provided with information about customer and products through his mobile device. Therefore his productivity rises.
- **Improved data quality:** Either the client or the field service creates and modifies customer data. This leads to a better quality of data.
- **Cost reductions:** The process savings and the fact that the customer overtakes parts of the process reduce costs.
- **Functionalities of the mCRM-system:** Due to the interface function of mCRM the customer will find every inconsistency of the mCRM-system. Therefore it is especially important to avoid mistakes.
- **Advanced activity coordination:** The field service can be better coordinated through mobile communication.
- **Employee satisfaction:** The later users of the system must be satisfied the changes in business processes.

Furthermore three interaction objectives can be achieved:

- **Novel services:** Novel services can be offered to customers by developing mobile versions of existing services or by creating new mobile services.
- **Overtaking of process parts:** Process parts or entire processes such as the sales process can be conducted by the customer.
- **Elements of the order processing:** The field service can handle elements of the order processing such as payment, order confirmation and availability check at the customer's location.

Performance and interaction objectives assist the customer objectives:

- **Customer retention:** Better information about customers helps to keep a good relationship with customers. This leads to higher revenues per customer and more frequent repurchases.
- **Customer acquisition:** mCRM Marketing activities help to identify potential new customers.

Only one of the market objectives could be realized, namely "increased revenue". Due to retention and acquisition of customers revenues rise.

Based on the reviewed publications we can make no statement concerning increased profits through mCRM (income objective). The rise of market share as well as improved competitiveness can't always be met with mCRM projects. Furthermore, re-acquisition of customers and the termination of unprofitable business relations are not reachable objectives of mCRM projects.

### ***3.4 Transformation of the result for m-Government***

The results of our research give an overview about possible objectives implementing CRM in authorities. But not all of the discussed reachable objectives can be transferred to m-Government because we are talking about non-profit organizations of the public sector. Such organizations don't have business departments like marketing, sales and service. Therefore we enumerate objectives that might be possible for the public sector in our opinion.

The focuses for m-Government are the three categories performance, interaction and citizen objectives, which contribute to more efficient public organizations:

- **Process time savings:** Due to more efficient services and a better information flow inside authorities process time is reduced.
- **Elevated productivity:** All employees with direct citizen contact and also mobile employees can be better provided with information. Therefore there is the potential of improved productivity.
- **Improved data quality:** Either the citizen or the employee enters and modifies data. This leads to higher quality of data since errors when transferring data from paper forms to computers are less likely.
- **Cost reductions:** The process savings in the citizen focused organization and the fact that citizens can overtake parts of the process like sending digital information almost in real-time reduce costs.
- **Functionalities of the mCRM-system in m-Government:** Mobile accessible websites or mobile services must meet the requirement for an intuitive usage.
- **Advanced activity coordination:** The public administration's field staff can be better coordinated through mobile communication, e. g. the already mentioned fire inspections of houses.
- **Employee satisfaction:** The employees affected must be satisfied by the changes in government processes.

Interaction objectives for m-Government:

- **Novel services:** Novel services can be offered to citizens by developing mobile versions of existing services or by creating new mobile services.
- **Overtaking of process parts:** Process parts or entire processes can be conducted by the customer.

Performance and interaction objectives assist the citizen objectives, which can be transformed in the following objective:

- **Improvements in citizen communication:** There will be a better and faster citizen communication using more and different communication channels. This might lead to more citizen satisfaction.

#### 4. Summary and Outlook

In this article success factors and objectives of mCRM projects were empirically determined by literature research. Our two analyses led to the formulation of 12 success factors and 13 objectives.

- Success factors of mCRM projects: Successful mCRM projects need to pay attention to project management, processes and technology. Within the project management the project team has to incorporate later users and has to be interdisciplinary. Top management and sufficient resources must back up the project. Process specific success factors are that mCRM-activities have to be customised and need to refer to the customer buying cycle. Additionally customer data has to be analysed and requirements of the mobile process need to be considered. Technical success factors are the appropriate selection and integration of the mCRM-system as well as the consideration of technical requirements regarding transfer, application and service.
- Objectives of mCRM projects: Reachable objectives of mCRM projects are performance, customer, market and interaction objectives. Especially the performance objectives can also enhance the efficiency of a public organisation by improving the productivity of employees, reducing costs and process time, a better coordination of activities and a functional mCRM-system. Customer objectives deal with acquisition of new and retention of existing customers. The market objective is to increase revenues. The interaction objectives are concerned with the offering of new services to the customer and shifting business activities to the customer through mCRM. Therefore the customer can overtake and execute independently activities such as the sales process. Elements of the order processing could be carried out at the customer's location.

Based on the discussed objectives and success factors of mCRM projects, causal connections between and within objectives and success factors are further areas of research. Moreover, the process specific success factors were held quite general due to the fact that there were no constraints concerning products or industries. A more precise formulation of these success factors would also be of interest. Finally, our analysis could neither assure nor decline the effectiveness of mCRM to increase the profit of companies. This aspect however is of high interest for decision makers of future mCRM projects, of course. We have also discussed in our article similarities for CRM usage in m-Government and which objectives could be possible objectives for authorities. More research is required to identify objectives defined for mCRM projects in the public sector.

#### References

- Alt, R. & Puschmann, T., 2004. Successful Practices in Customer Relationship Management. In Proceedings of the 37th Hawaii International Conference on System Sciences, Hawaii. IEEE Computer Society.
- Belout, A. & Gauvreau, C., 2004. Factors influencing project success: the impact of human resource management. In International Journal of Project Management , vol. 22, no. 1, pages 1–11.
- Boyton, A. & Zmund, R., 1984. An Assessment of Critical Success Factors. In Sloan Management Review, vol. 4, pages 17–27.
- Computerwoche, 2004. CRM überfordert Europäer (in German). In Computerwoche, page 34.
- Diller, H., 2002. Grundprinzipien des Marketing (in German). GIM, Nürnberg.

- Dyché, J., 2002. *The CRM-Handbook*. Addison-Wesley, Boston. 2002.
- Fritz, W., 1990. Marketing – ein Schlüsselfaktor des Unternehmenserfolges? (in German). In *Marketing ZFP*, vol. 3 pages 91–106.
- Government of Malta, 2006, M-Government web site (June 12, 2006); <http://www.mobile.gov.mt>.
- Hahn, D., 1999. Strategische Unternehmensführung – Grundkonzept (in German). In Hahn, D. & Taylor, B. (Ed.), *Strategische Unternehmensplanung*, Physica, Heidelberg, pages 28–50.
- Hampel, F. & Schwabe, G., 2002. *Mobiles Customer Relationship Management* (in German). In Reichwald, R. (Ed.), *Mobile Kommunikation*, Gabler, Wiesbaden.
- Hippner, H., 2004. Zur Konzeption von Kundenbeziehungsstrategien (in German). In Hippner, H. & Wilde, K. (Ed.), *Management von CRM-Projekten*, Gabler, Wiesbaden, pages 33–66.
- Homburg, C. & Bruhn, M., 2000. Kundenbindungsmanagement - Eine Einführung (in German). In Bruhn, M. & Homburg, C. (Ed.), *Handbuch Kundenbindungsmanagement*, Gabler, Wiesbaden, pages 3–36.
- IOMA, 2003. *Report on Customer Relationship Management*.
- Kemp, T., 2001. CRM Stumbles Amid Usability Shortcomings. In *Internet Week*, 856, pages 1-2.
- Kotler, P. & Bliemel, F., 2001. *Marketing Management*. Poeschel, Stuttgart.
- Lerner, T. & Frank, V., 2004. *Best Practice Mobile Business* (in German). Business Village, Göttingen.
- Mobile Citizen Services Berlin, 2006. Website of Mobile Citizen Services in Germany, Berlin (June 10, 2006); <http://www.mobued.de>.
- Neubauer, F. 1999. Das PIMS-Programm und Portfolio-Management (in German). In Hahn, D. & Taylor, B. (Ed.), *Strategische Unternehmensplanung*, Physica, Heidelberg, pages 469–496.
- Packendorff, J., 1995. Inquiring into the temporary organization: new directions for project management research. In *Scandinavian Journal of Management*, vol. 11, no. 4, pages 309–333.
- Pinto, J. & Prescott, J., 1990. Planning and tactical factors in the project implementation phase. In *Journal of Management studies*, vol. 27, no. 3, pages 305–327.
- Rodrigues, H., Ariza, C., Pascoe, J., 2005. On the Development of an Open Platform for M-Government Services. In (Krogstie, J.; Kautz, K.; Allen, D.): *Mobile Information Systems II*. Springer/IFIP, pp. 79-90, 2005.
- Salomann, H., Dous, M., Kolbe, L. & Brenner, W., 2005. *Customer Relationship Management Survey – Status Quo and Future Challenges*. Institute of Information Management at the University of St. Gallen.
- Sundararajan, P., 2002. Emerging Mobile Customer Relationship Management. In *Applications in Financial Services*. EAI Journal, Mai 2002, S. 44–47.
- Thompson, E., Davies, J. & Frey, N., 2002. Gartner's 2002 European CRM Survey: As Projects Progress, Challenges Abound.