Business/IT-Alignment for Customer Relationship Management in the Telecommunication Industry: Framework and Case Study

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Business/IT-alignment for customer relationship management: framework and case studies

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Abstract: In this paper we apply business/IT-alignment principles to create a framework for CRM. We build upon earlier related work that showed that CRM performance has a positive correlation with the degree of maturity and alignment between business and IT. The business/IT alignment CRM framework facilitates assessing an organisation's current CRM maturity and identifying future CRM improvements. The framework is validated by two different cases, a Caribbean telecommunications firm and a Dutch insurance company. The results of these applications support the validity and applicability of the framework.

Keywords: CRM; business/IT-alignment; maturity; assessment framework.

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1 Introduction

Through the years CRM has come to play a more vital role in today's organisations. With the aid of information technology – and particularly the internet – CRM has rapidly evolved into a business function that *may* give companies a significant edge on their competition. At the development side of the market for CRM software, products have matured to dedicated applications and services, while the main players like Oracle, Siebel and SAP seem to strongly consolidate their market shares. At the usage or consumer side of the market however, companies seems to be less mature in the successful adoption and deployment of CRM software and systems (cf., Kim et al., 2003; Romano and Fjemestad, 2003).

In a number of publications, the added value of CRM in general and CRM IT deployment specifically are doubted. E.g., Rigby et al. (2002) show that many CRM improvement strategies are far from effective. Moreover, a Dutch survey in 2003 by Novell (2003) shows that from over a 100 CRM implementations only about 25% provided positive Return On Investment (ROI).

Freeland (2003) claims that, in order to be effective in terms of customer attraction and retention, organisations should address CRM holistically, taking into account the areas CRM strategy (including channel strategy and image strategy), customer service and operations, sales and distribution, and marketing in a balanced way. In line with this, earlier research by Batenburg and Versendaal (2004) showed that a company's maturity and alignment in terms of the perspectives

- CRM strategy
- CRM operational monitoring and controlling
- CRM processes and organisation
- human and cultural aspects of CRM
- e-CRM (Information Technology, IT) correlates with an organisation's performance as for CRM.

In that particular paper a generic CRM business/IT-alignment framework was constructed. In this paper we would like to take this framework further, by operationalising it for two different industries: the telecommunications sector and the banking/insurance sector. The dynamics in both sectors are enormous. In many countries the national telcos are moving (or have moved) from monopolists to just players in an international playing field. The banking and insurance industries underwent tremendous changes because of globalisation too, while in addition the rise of electronic payment and banking has radically transformed the market landscape as well (Karakostasa et al., 2005). For both the telecom and banking/insurance sector, the adoption of leading edge IT to optimise their front and back offices processes has become an critical condition to survive and sustain competitive advantage. Both sectors also resemble in their urge for an effective approach of CRM to satisfy the current and future needs of their quantative huge customer bases.

The research question we elaborate in this paper contains of two parts:

- How can a framework be developed to support the successful deployment of CRM in organisations from a business/IT alignment perspective?
- What can be diagnosised if this framework is applied to two different industries?

In the following section we provide more detail on CRM maturity and alignment. This allows us to subsequently create the business/IT-alignment framework The framework is operationalised in Section 3 for the two mentioned case studies industry sectors. Section 4 depicts the case studies in which the framework is applied in real-world situations. We close this paper by identifying the applicability of the framework, drawing conclusions and indicating future research.

2 A business/IT-alignment based CRM framework

Our framework is based on two central concepts: maturity and alignment, both with regard to the mutual domain of CRM and IT. These key concepts will be elaborated respectively in the following subsections, followed by the presentation of the actual CRM framework.

2.1 CRM maturity

The first concept of the framework is based on the concept of maturity levels. The Nolan model is often quoted as the origin of the maturity perspective (Nolan, 1979). Nolan's model defines the specific pattern of IT-management by organisations. With the adaptation of the Nolan growth model, the principle of defining stages of growth was further extended and applied to the development of organisations and business units. Earl's model of IT learning curves can be considered as one the first examples of this extension (Earl, 1989). Since then, both the original Nolan and Earl models have been revised, extended, specified and modified, in line with progress made in the field of information systems and software engineering (Galliers and Sutherland, 1991).

Carnegie Mellon defined the Capability Maturity Model (CMM) which has become an established model in the field of information systems. It was designed to measure, monitor and evaluate the professional development and engineering of software and related domains such as IT-governance, project management, people management and so on.

Existing CRM maturity models from literature indicate that maturity grows from 'product orientation' towards 'customer orientation' (Freeland, 2003; Batenburg and Versendaal, 2004; Hayes and Ruhlman, 2001; Mattison, 2001; Gurãu et al., 2003; Ryals and Knox, 2001; Kim et al., 2003). We identify the following four maturity levels for our business/IT-alignment framework:

- *Level 1*: Ad hoc: product orientation
- *Level 2*: Developing: infant customer orientation
- *Level 3*: Interacting: adolescent customer orientation
- *Level 4*: Collaborating: adult customer orientation.

The lowest level implies minimal if any regard to the customer. At the highest maturity level the organisation is one that is fully focused on the customer, on all levels and in the entire organisation and across the full supply chain. The customer is the driving force behind the actions taken by marketing, production, and purchasing.

2.2 CRM alignment

In the Strategic Alignment Model (Henderson and Venkatraman, 1993) business strategy, IT strategy, organisational infrastructure and processes, and IT infrastructure and processes should be in balance through strategic fit and functional integration. The model calls for the recognition of multivariate relationships, which also forms the bases for the Business-IT alignment (Luftman et al., 1993). However the domains and relationships of this model are of a generic classification, and not nearly enough formalised. This makes it difficult to actually measure or benchmark alignment and performance (Kearns and Lederer, 2000). Scheper (2002) presented a business/IT-alignment model that could clarify the superior performance achieved from interactions between ICT and other organisational aspects. Scheper extended the four fundamental domains as presented in the Strategic Alignment Model by making use of the model created by Turban et al. (1999). The result is that the organisation can be viewed from five business dimensions:

- strategy and policy
- organisation and process
- monitoring and control
- information technology
- employee and culture.

We adopt the assumption from Scheper and Turban et al. that the five business dimensions cover the entire (business) spectrum of an organisation. Furthermore, e.g., Freeland (2003), agree that an integrated, holistic approach to CRM is needed in order for organisations to benefit from CRM. This implies some form of balance and alignment across the entire organisation. By defining business dimensions it is possible to set balanced and measurable goals for the several dimensions at the same time, and aligning the organisations objectives. In accordance with this theory the framework will be based on an enterprise wide approach using the five business dimensions defined above.

2.3 The CRM framework

Table 1 depicts the resulting framework.

The horizontal axis contains the business dimensions; the vertical axis depicts the CRM maturity levels, ranging from product centricity to customer centricity. As described by Freeland (2003) and Batenburg and Versendaal (2004), and confirmed by business analysts alike (e.g., Siebel eBusiness, 2006) we recognise four generic CRM domains (CRM strategy, service and operations, sales and channels, and marketing). In the operationalisation we define characteristics of all these four generic CRM domains for each business dimensions in Table 1. The next section discusses this operationalisation for the telecom industry and the finance industry.

Table 1 The business/IT-alignment CRM framework

	Strategy and policy	*Organisation and processes*	*Monitoring and control*	*Information technology*	*Employee and culture*
Level 1: Ad hoc Product orientation					
Level 2: Developing Infant customer orientation					
Level 3: Interacting Adolescent customer orientation					
Level 4: Collaborating Adult customer orientation					

3 Operationalisation of the CRM framework

To be able to measure the CRM maturity on the five business/IT dimensions there is need to create characteristics that identify all four maturity levels relating to each of the four generic CRM domains. The existing academic literature and practical applications of CRM within the Telecommunications and Finance do not provide a clear indication of what constitutes the different maturity levels, specifically what is levels 2 and 3. With the literature studied (notably Freeland, 2003; Mattison, 2001; Hoekstra et al., 1999; Shostak, 2002; Gamm et al., 2005) it only appeared feasible to define product-oriented characteristics and customer-oriented characteristics for the CRM framework.

For brevity we do not list all characteristics, instead we list some typical characteristics of maturity level 4:

- *strategy and policy*: market segmentation, incorporating the customer into the business planning cycle, emphasis on retention of customers
- *organisation and process*: customer service groups, conscious selection of potential customers, processes are customer-oriented
- *monitoring and control*: customer sales metrics, real-time access to customer profiles
- *information technology*: activities automated if financially and technically realistic, easy access to customer organisation through IT
- *employee and culture*: training focus on customer, customer satisfaction incentives for employees.

Assessing an organisation can now be accomplished by identifying which portion of customer-oriented characteristics per business dimension is present in the organisation, and which product-oriented characteristics are still present. In our framework we define level thresholds for each 25% of available customer-oriented characteristics. For example, if an organisation fulfils 59% of the characteristics of Monitoring and Control, it is said to be on level 3 for that particular business dimension.

Once an organisation is assessed using the CRM framework, the business dimension that has the highest score may set the objective for the other four dimensions, in order to obtain business/IT-alignment by levelling. This then directs a new CRM strategy for the assessed organisation. Competitors' benchmark data (once available for the framework), may additionally serve the new development of a new CRM strategy of the assessed organisation.

4 Application of the CRM framework on two case studies

The next subsections show the empirical results of the two case studies in more detail.

4.1 Case study 1: A Caribbean Telco

The Caribbean Telco in this case study has about 300 employees, and is organisationally divided into four basic departments, reflecting three customer segments: financial, commercial, technical, and management and support. The Telco is transforming from a (by the government) protected monopolist to a commercial player on the telecommunications market. Related to this transformation the Telco recently purchased Siebel CRM software, and is at the start of deploying it.

To assess the CRM performance and alignment within the Telco (and to determine a CRM strategy), a CRM assessment questionnaire was created based upon the operationalised CRM framework. The questionnaire consisted of more than 50 questions. Each business dimension had a subset of questions. The amount of questions varied from one dimension to the other. This poses no problem for the assessment since the final result will be based on a percentage scale and will enable us to compare the five dimensions on those same bases. All questions are indicators to determine the customer centric, product centric or CRM maturity levels in between. Answer categories were restricted to 'yes' or 'no' only. Control questions were incorporated into the assessment. These questions add some validity to the responses and allows for a consistency check. Before sending out, the questionnaire was validated by peer review with several managers. This led to several changes to the setup and formulation of the questions.

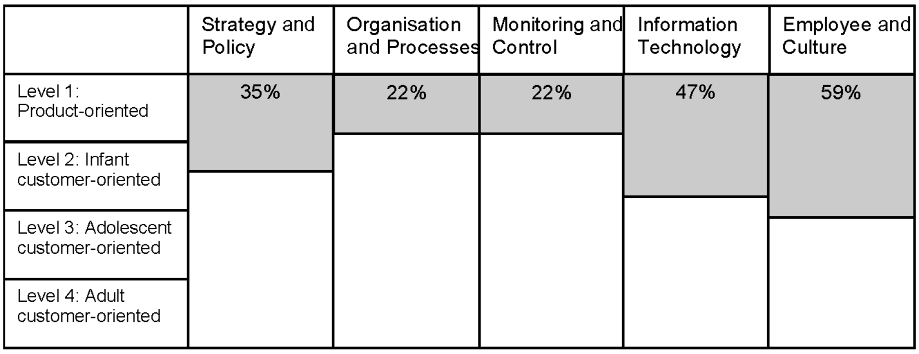
The content of the questionnaire required a very specific type of employee to participate in the assessment. Participants had to be knowledgeable across all five business dimensions and have a good sense of CRM activities within the Telco. Because of the way the company is structured, the main workflows require cross-functionality from the general managers. A relative small number of general managers actually run the company, and most of them are aware of all major operations. Inviting this group made it possible to have respondents that were capable to assess the company across all dimensions. A group of seven managers were selected and agreed to participate with the research (see Table 2). The CRM questionnaires were collected within a time span of three weeks after the adoption of the Siebel system. They were digitally processed and data was analysed to carry out the evaluation.

Table 2 Participants in CRM assessment

Position	*Department*	*Age*	*Years at Telco*
Product manager	Commercial department	36	10
Marketing manager	Marketing	31	4
IT application manager	IT department	39	4
Commercial manager	Commercial department	45	11
Customer interface manager	Customer interfaces	34	6
Director	Management	43	15
IT manager	Technical department	37	1

The results of the assessment are displayed in Figure 1. For each business domain (read: column of the framework) percentages from 0% to 100% are used to indicate the extend to which one of the four CRM maturity levels are actually reached. Per maturity level, percentages are based on a number of questions in the assessment. The nature of our maturity model is cumulative; starting with the basic level 1 (product oriented).

Figure 1 Results CRM framework assessment for Telco



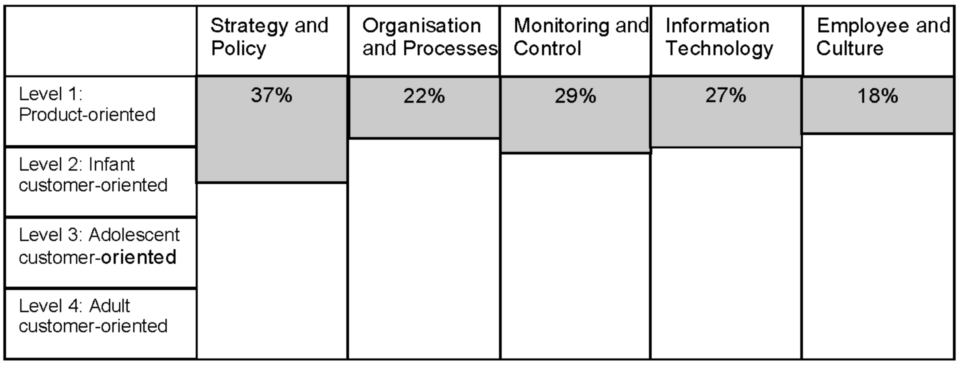
According tot Figure 1, Organisation and Processes and Monitoring and Control are the two business dimensions that are the least developed at the Telco, while Employee and Culture is best developed. The difference in maturity between the different dimensions can be interpreted as a weak (business/IT-) alignment. In a feedback session with the respondents that completed the questionnaire the overall scores on the CRM framework were discussed. Without exception, each of the respondents confirmed that the maturity assessments for the five different business/IT dimensions were in line with their expectations.

Next, project managers at the Telco used the gaps (characteristics not fulfilled in the framework) to update their future and running projects to deal with those. In prioritising the gaps and related project activities, short-term goals to reach maturity level 3 for each of the business/IT dimensions was agreed. Striving for alignment was defined as the main target for the next years. The organisational assessment resulted in an updated CRM strategy that was decomposed along the several business dimensions and its characteristics.

4.2 Case study 2: A Dutch Bank and insurance company

The second case study concerns a Dutch Bank and insurance company employing 58,000 persons worldwide, and 11,000 in The Netherlands. At the time we performed the case study the Dutch Bank annex insurance company, was in the last phase of a CRM implementation, including e-CRM. The questions derived from the CRM framework were posed to nine members of the steering group that was responsible of the CRM implementation. The assessment was executed according to the same procedure as in the previous case of the Caribbean Telco. Likewise, the main results for the Dutch Bank and insurance company in terms of the maturity values for each of the dimensions are presented in Figure 2.

Figure 2 Results CRM framework assessment for finance institute



In this case the Organisation and Processes and the Employees and Culture dimensions has the lowest maturity scores, achieving only 18–22% of the first CRM level. At the other three dimensions, the Dutch Bank does not achieve high score too, with only partially meeting the maturity requirements for level 2. We observe that the banks' maturity values are unbalanced, and imply many opportunities for improvement. Based on these results of the assessment, a feedback session was organised to discuss the not-fulfilled characteristics and the direction to improve the CRM business/IT-alignment. A total of 31 action points were defined for the short and long term. The action points were ordered by the dimensions of the framework which provides an useful overview to manage an align them. A sample of the action points defined were:

- *with regard to strategy and policy*: take customer intimacy (cf., Treacy and Wiersma, 1995) as a major value discipline; the marketing strategy will have higher company priority; customer expectations will be managed in the future
- *with regard to organisation and processes*: announce customer and segment managers, marketing activities are defined cross-functional, development of new products based on customer requirements
- *with regard to monitoring and control*: collect customer feedback pro-actively

- *with regard to information technology*: availability of customer information, IT-supported collection of customer requirements
- *with regard to employee and culture*: include customer satisfaction as employee incentive, improve inter-department communication.

The task for the bank and insurance company is obviously not to tackle the action points separately or per dimension ('silo-wise'). Rather, the challenge is in defining cross-cutting projects and programs to realise the direct alignment between the business domains. After all, the framework is build upon the proposition that the performance of and organisation (and likewise its CRM activities) strongly depends on the balance and interconnection between all the functional parts that contribute to this.

5 Conclusions

The trigger for this paper is that many (e-)CRM initiatives of organisations fail to add significant value to the sales and marketing performance (Kim et al., 2003). A critical success factor in this appears to be alignment of CRM with the operational and strategic business domains. In this paper we present a business/IT-alignment framework that is aimed to overcome these deployment problems of CRM. The basic idea is that the framework provides a validated assessment of CRM maturity within five basic dimensions of an organisation: strategy and policy, organisation and processes, monitoring and control, employees and culture and information technology. Analysing the maturity gaps between these domains results in identifying the level of an organisations' business/IT alignment with regard to CRM. Based on this analysis, future CRM improvements can be detected and planned.

The theoretically developed framework is validated with the help of two different case studies, one base on the deployment of CRM within Caribbean telecommunications firm, and a second on a large CRM project within Dutch insurance company. The first and foremost conclusions from these validation case studies concerns the validity and applicability of the framework. While the two companies are quite different with regard to their product and sales/marketing processes, our CRM framework, assessment and gap analysis were successfully conducted and judged as very applicable and relevant by the managers that participated in the case studies. The questionnaire derived from the framework was completed without noticeable difficulties by a total of 16 respondents from both organisations (CRM managers, project members). More important, the managers were strongly triggered and inspired by the results of the assessments and gap analysis to give new directions to their CRM strategy and deployment of CRM projects and systems. This can be considered as an validation of the framework of such, while one the opportunities to define road maps and best practice are also within a arm's length. The basis for this is the cross-sectional comparison of the CRM assessment results between organisations at one point of time (i.e., benchmarking), or the longitudinal comparison of CRM assessments within organisations between different point in time (i.e., monitoring; cf., Romano and Fjermestad, 2003).

Obviously, these extended applications of the business/IT framework for CRM presented in this paper requires broader application of the assessment and its accompanied questionnaire. An interesting point of validation would indeed be that organisations who planned their CRM strategy on this framework indeed achieved stronger competitive advantages in CRM. Both the telecommunications and the bank/insurance company that served as the first validations for this paper demonstrated that many CRM improvements can be made. This is a particularly interesting finding, as both companies experience high demands for effective and efficient CRM considering the fierce and increasing competition among their large bases of customers. Expanding the assessments and analysis to other industries that might deal with other type of customers (f.i. businesses or consumers only, or citizens in the case of (e-)government) will provide new validation opportunities for the framework. This subsequently addresses the exploration of the generalisability of the framework and the need to turn it into a situational method (cf., van der Weerd et al., 2006).

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