Case Study

Creating a single view of the customer for CRM strategy

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Abstract

This paper discusses the importance of data integration within a single view of the customer (SVC) database for CRM strategy and implementation. It uses one case study from a European telecommunications company to highlight the problems and issues that can arise when implementing such a system. Emphasis is placed on the need for the project to have a clear strategic focus as an imperative for successful implementation. The case illustrates that an SVC database also relies on high-quality data and an acceptance throughout the organisation that data stored within the company are enterprise-wide data and not the sole preserve of departments that generate the data. Finally, the ways that SVC projects are organised and managed can impact on their success.

Introduction

Relationship marketing is founded on the idea that a relationship between two parties creates added value for the customer as well as the value of the product/service being exchanged.¹ To build and sustain a successful relationship with customers, a company requires good-quality current data which contain all the customers' interactions with the company, so enabling all customer-facing departments to have a complete picture of each customer right up to the most recent customer contact. To build this complete set of data on each customer an integrated approach must be taken to bring all customer interactions together into one place, and all customer data need to be stored centrally within a single view of the customer (SVC) database.

The aim of this paper is to discuss problems that can arise during the implementation of an SVC database, as well as factors that contribute to its successful implementation. These are illustrated through a case study approach to explain how a major European telecommunications company implemented an SVC database as part of their overall CRM strategy. In building the database major issues relating to its strategic direction, data quality and ownership arose, and these are discussed along with the lessons learnt from the first attempt at implementation. The paper concludes with a discussion of strategies that might be used when implementing these databases to improve on operational efficiency and build closer relationships with customers.

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CRM defined

Literature review: The philosophy of customer relationship management

Marketing practitioners and academics have believed for some time in the concept of building close relationships with customers.^{2,3} It is widely documented in the literature on CRM that keeping existing customers is more profitable than attracting new customers and it is easier and less expensive to sell incremental products/services to current customers.⁴⁻⁶

CRM comprises the business processes, the technologies and the rules required to interact with a customer at various stages of the business life cycle.⁷ Therefore, obtaining buy-in from key stakeholders is critical to success.⁸ It is argued that CRM represents a new and increasingly efficient way for companies to understand and respond to customers' needs and preferences, allowing them to build more meaningful connections with consumers than ever before.⁹ Value for the parties involved is created through an interaction process between suppliers, customers, competitors and others; suppliers and customers are often co-producers, and they create value for each other in a joint effort.¹⁰ The goal of CRM is to maximise the value of the relationship to the customer for his or her benefit and the company's profits,¹¹ but in reality it may be difficult to achieve this goal due to many factors that will be discussed later.

The basis of CRM in many organisations is the idea of an SVC which in theory is held on one database or several databases linked in real time. This is then made accessible to all customer-facing staff and to customers who choose to use the self-service side of CRM, such as the internet or interactive telephony.^{12,13} Without a strategy to integrate and maintain a complete representation of each customer, the ability to capitalise on revenue opportunities is reduced. A complete customer view reduces corporate exposure and redundant marketing efforts that waste resources and may even repel customers.¹⁴

Research methodology

This research involved one case study within a large European telecommunications organisation — access was granted on the basis of various confidentiality agreements to the case organisation and its supplier of IT services. The aim of this research is to find out how one organisation has implemented an SVC as part of their CRM strategies, why they have taken these approaches and what can be learnt from the implementation of these strategies.

Case study company background

Many telecommunications companies are now employing CRM techniques, not least of all to help in the development and retention of higher-value customers in what has become a much more competitive telecommunications marketplace.

This case study organisation is a leading provider in the European telecommunications marketplace. Its key activities include the provision of fixed-line switched telephony services and associated value-added services such as voice-mail, call management services and so on, in both

retail and wholesale markets. The company provides high-end data products such as leased-line and frame relay products and associated value-added integration services in both retail and wholesale markets. It has a strong market leadership position in its domestic market and is the key supplier of infrastructure services in the wholesale market.

Justification for SVC implementation

The company decided to implement SVC since data were being housed in various locations throughout the organisation which resulted in fragmentation and data duplication. As a long-established company, it had a mix of different computer systems within various departments. It was realised that to remain competitive it would need to centralise the data held on the current computer systems as part of its wider CRM strategy. The project started in during the year 2000 and it was anticipated that the first stage would take at least one year.

Strategy formulation

Structure of project

The SVC project was structured into three stages. The aim of the first stage was to develop a core database design and structure, develop database load processes (batch loads from legacy systems including an account-centric data warehouse), develop data-matching processes for ongoing data loads, develop online interfaces to and from the call centre application used to manage the top 60,000 business customers and interface with the marketing campaign management platform to support analysis and campaign list generation.

The aim of the second stage was to develop an online interface to residential/SME sales and support call centres to capture communications records and perform upfront linking of accounts to identified customers to avoid data duplication.

The aim of the third and final stage was to develop an online interface to the order management system for high-end data products (leased lines etc) to support upfront linking of data accounts to existing customers, also again avoiding data duplication.

In reality, the project never materialised as originally structured. External dependencies on other projects became a problem: for example, the data order management system project was so far behind schedule that they were not ready to develop additional interfaces. The additional requirements and constraints imposed on the front-line systems resulted in the planned interfaces with them being reduced to a minimum.

Findings from first phase of the SVC implementation

Major problem areas arose during the implementation of the first stage of the SVC. Hence a review of this, including problems arising from the recently implemented stage two of the project, was necessary. The review revealed that the strategic objective of the SVC was unclear; there were also data quality and data ownership problems. Additionally, and with the value of hindsight, the management and organisation of the project were not designed to enhance effective implementation. These issues are discussed in more detail below.

Lack of clear strategic objective for SVC

The strategic objective of the project and the strategic role of SVC were, from the outset, unclear, poorly informed and badly communicated both within the SVC project team and with the stakeholders. There were conflicting views within the team as to the strategic objectives (customer intimacy versus operational efficiency), which made it difficult if not impossible to deliver a consistent message to stakeholders and providers of requirements.

Budget problems

Then a parallel programme to develop, sell and serve capabilities for broadband communications services threatened stage two of the SVC project, which was a direct competing strategy. This strategic focus on the product dimension resulted in development for call centre systems being compressed and budgets being reduced. The result was the SVC project, without a clear strategic priority, ended up being sidelined.

The lack of a clear and focused strategic objective resulted in the project team overengineering parts of the SVC data model and architecture as they felt that they needed to cater for every 'what-if' type of scenario. Where a choice needed to be made between an issue of operational efficiency and an element of customer intimacy, the model was effectively designed for both.

Strategic focus

The system development team designed the data model at 'arm's length' from the processes that would create and use the data. The lack of strategic focus served to make this approach more complex. As a result the project team tried to do all things for all people; they tried to support too many strategic options at once. The absence of a clear strategic focus precluded any opportunity to sanity-check why the project was trying to be all things to all people and rationalise the approach to the management of the data.

Data quality issues

There was a failure to examine the processes that create and use data in the organisation. This resulted in the SVC project exposing undocumented data quality problems in the legacy systems. Unfortunately this occurred through the removal of 'work-arounds' that had existed in the legacy systems and had masked the impact of the data quality problems. Of course, the SVC project was blamed for the failure of downstream processes such as revenue accounting. Historically within the company, customer data which were collected via the call centre were not used for data mining and customer analysis. Thus, little priority was attached to the quality of the data collected at this contact point. This led to poor-quality data in the database as the call centre agents were incentivised on speed of answer of call, ie how many calls they answered in one working shift. With this focus on the speed of customer transactions, call centre staff did not focus on, nor did they understand the importance of, the quality of the data that they were entering.

Data management

The implementation of the SVC required the migration of data from the series of old legacy systems. The data migration process failed to address the fundamental issues of data quality (conformance to standard, existence of duplicates). To illustrate, within one legacy system an

address was stored with number and street name in one field called 'address line one', but then in another system it was stored as number in 'address line one', and street name in 'address line two'. Trying to merge these data is very difficult, as the matching software will not make a match due to the fact that the two fields contain different data, yet they may refer to the same customer. The system then created them as different customers; this meant in reality that one customer may have been stored many times within the new SVC database.

Consequently, the SVC inherited all assumptions and data quality issues inherent in the source systems from which the data were migrated. Flawed assumptions and contradictory business rules that existed in the source systems from previous data migration projects were migrated into the SVC.

Data processing

The compromises on scope and extent of online interfaces resulted in an architecture that was essentially batch driven. This created significant problems in the speed at which the data are processed, and in turn affected the quality and usability of the data.

The use of 'black-box' matching processes, which hide the rules being applied to the data, made it difficult to get stakeholder buy-in to the final deliverable system. When problems or questions arose, the team was unable to show definitively in a clear manner how the matching process operated. A failure to address data quality issues and implement a standard set of consistent business rules from the account-level source up meant that the development team inherited other failures as well as their own.

Data ownership issues

This pervasive view of systems and processes extended to data management. There was a strong culture of 'our data' and 'your data' but no culture of 'the enterprise's data'. This resulted in the SVC moving from being the 'master' of customer data, with real-time bi-directional interfaces feeding an 'off-the-shelf' CRM/sales force automation package and the other call centre and operational platforms, to being little more than a glorified staging area for data on the way to the data warehouse.

Enterprise wide data

The 'our data/your data' culture, combined with a lack of understanding in the business as to the strategic priority and function of the SVC, resulted in requests for data clean-ups and adherence to agreed business rules for data management effectively being ignored in many cases.

Issues in project implementation organisation

The company tried to do everything in one generic structure, and failed to understand that different users require different perspectives of the SVC. Essentially, the focus was on systems rather than business processes. The stove-pipe approach to developing an integrated architecture did not work and new methodologies needed to be considered.

The company is now involved in a second attempt at implementing SVC using the lessons learnt from the first attempt.

Rethinking SVC implementation

The second attempt at SVC implementation has addressed the four key problem areas as follows.

Clear strategic objective

This attempt at the SVC has a very clear strategic objective that is understood by all stakeholders and project team members. The sole objective of the programme is to realise operational efficiencies to drive down operating costs. As a result, the project has started from a process perspective to determine what needs to be done to make the business more efficient and reduce operating costs. This process focus has resulted in a clearer understanding of what data are required and how they will be used.

Strategic priority

The first attempt at SVC failed in its objectives because the project team and stakeholders did not think out the objectives fully and did not relate them back to a single strategic imperative. As the strategic objective and role of the SVC were unclear from the outset, this resulted in conflicting views within the team regarding the priority of customer intimacy versus operational efficiency.

Business process and data quality issues

There was insufficient consideration given to the processes the SVC would have to support and the significant challenges that the source data quality presented. The failure to tackle business processes and data quality resulted in the database containing a chaotic collection of records with no SVC. Furthermore, the SVC contained duplicated data, and as a result failed to model anything close to a 'real-world' customer entity. The fundamental issues with the data quality drove up support and maintenance costs and did nothing to engender support with stakeholders for the project. In this second attempt at an SVC, a review of the processes of how the data will actually be created and used has highlighted significant data quality issues that were missed in the first attempt.

Data integration

The company envisage the second attempt at the SVC to be a key component in an integrated architecture overhaul. The overhaul includes a focus on simplifying the architecture to make it easier and more cost-effective to support. This requires the integration of a number of call centre systems and their data. In this iteration, the quality of data has moved to centre stage as the client proposes to make a sizeable amount of data available to customers via self-service channels. To ignore data quality issues this time could expose the company to risks of litigation and may result in loss of customers and revenue.

Data ownership and meeting the needs of multiple users

There are many perspectives on an SVC depending on the user who is accessing the data. Each user has their own internal definition of a customer, and the SVC needs to support this as it underpins legacy operations. To illustrate this point, in a residential customer context, the sales/service staff need to have a view of the number of accounts each

**Total quality
management**

customer may have and the type of relationship the customer has with these accounts, eg are they just the bill payer?

The customer has their own view of themselves which is either as a user of a web-based self-service channel where one or more accounts may be registered, or as a collection of cost centres (in the case of businesses) against which costs (bills) need to be allocated.

This is equivalent to the TQM mantra, presented by Masaaki Imai among others, that the ultimate determinant of quality is the customer, or the next process that uses the manufactured product.¹⁵ In essence the current attempt at an SVC is based, to a significant extent, on TQM principles. The focus was placed first on the process which uses and creates data and which would reference and update the SVC. The requirements of these processes (sales, service, self-service, marketing, etc) were then fed into the data-modelling efforts where they refined the fundamental logic of the SVC model. All modelling and requirements for data and/or interfaces were then assessed against the strategic objective: operational efficiency and cost reduction. This then refined the model and approach further.

Data ownership and project organisation and management

In this iteration of the SVC project communication between the project development team and the stakeholders has improved considerably. This has been helped considerably by the project having a clear strategic focus. All people involved know why it is being done (to support processes and to deliver on specific strategic benefits) and what is being done (defined architecture, structured data model, clearer definition of what the model and rules need to be).

**Improved data
management**

Furthermore, key people now understand the dependencies between the projects (the SVC forms the central 'brain' of the CRM architecture, it depends on the call centre and other platforms for population and they rely on it for data to enable processes to operate). This has helped overcome the 'our data/your data' hurdle. Data quality issues are centre stage and are being tackled in a proactive manner with explicit acceptance that failure to address them will result in a failure to deliver on the promise of the SVC and failure to achieve the strategic objective of operational efficiencies through a simplified and more integrated architecture.

The integration of the call centre functions on to one platform using the SVC as its 'live' source of data to support the goal of operational efficiency requires the issues of ownership and management of data to be resolved in the interests of the enterprise as a whole.

An enterprise-wide view of processes and data has been taken which has resulted in a relatively generic set of core processes and data requirements being defined for the SVC to support. Previously the SVC had to support multiple distinct versions of the same process or data item. The rigorous avoidance of 'stove-pipe' development has ensured that risk, dependencies and quality issues can be identified upfront before they jeopardise the success of the project.

Lessons learnt

Managerial implications

There are a few generic lessons to be learned from this case study which will hopefully help other companies as they embark on SVC implementation. First, it is essential to have a clear strategic objective from the outset with all stakeholders and end users in agreement about what the SVC is going to achieve for the business, eg operational efficiency.

The second lesson is that it has to be realised that the data that are already stored in these dispersed databases are not always of a similar format, which makes integrating these data more difficult. The data need to be standardised to an agreed format throughout the whole company. Also data which are bought from a secondary source may not always be relevant and up to date, which can cause problems with integration. It needs to be realised that a failure to address data quality issues will result in a failure to deliver a successful SVC.

Thirdly, the issue of company-wide data and the culture of 'your data/our data' need careful consideration. All stakeholders and end users need to have an understanding that the data are enterprise-wide, to be used by those departments that require them.

Lastly, the issues of project implementation organisation, which involve a high amount of coordination between all the development teams, end users and stakeholders, should be addressed. From the start of the project all of these parties need to be heavily involved at all stages with a clear idea what is expected from the SVC.

Conclusion and further research

Within this area of customer data integration there is a need to find out if the problems highlighted within this case are more widespread. The limitations of this study are that only two departments within the case organisation were investigated, and there is a need to look further within this organisation into the marketing and sales department to ask questions such as whether it is essential for this organisation to have complete customer data integration within an SVC or whether there is an easier solution to managing their customers to achieve operational efficiency with a good level of customer intimacy.

The way ahead

Further research within this area would include looking at other telecommunications organisations in Europe to find out if they are having similar problems and to research a better way of achieving these customer integration strategies within the telecommunications industry.

Marketers are often the champions of relationship marketing and CRM within their organisations. Companies need to rethink how they manage and organise the large volumes of customer data they have dispersed within the organisation in order to reap the benefits that CRM can bring. This often results in companies opting to integrate all customer data in an SVC so that users throughout the organisation will have access to a holistic view of each customer consisting of current and accurate data. But implementing an SVC can raise as many problems and issues as it attempts to solve, as this case study has demonstrated.

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