

Understanding and guiding our internal customer

T-Mobile case study: Dolphin

Author: Falk Uebernickel, University of St. Gallen
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Purpose of the document

The guidance of the internal customer is a major challenge for the IS department of T-Mobile. In order to understand and improve customer guidance, it is necessary to study past IS projects, and analyse good as well as bad practices in guiding the internal IS customers. Learning from this, helps to improve future IS projects in terms of internal customer guidance. This paper describes the Dolphin project concerning the strengths and weaknesses of managing internal customer requirements. The different project episodes are especially analysed according to the question of how IS and internal customers interacted and how both parties dealt with formulating requirements. The case study's aim is to deliver five key messages for improving the understanding and guiding of internal customers. These messages constitute the solution of the case study and are not attached to this document, but are receivable within the workshops at the IS Management Meeting on 29-30 March 2006 in Scheveningen (NL).

The Dolphin project: Confederate with your customer

In December of 2002, “Dolphin”, a project for implementing standard software for third party partner billing, was started by T-Mobile Germany (TMD). Dolphin’s purpose was to displace the custom software “Probiss” (Provider Billing and Settlement System) that was installed at the end of the year 2001. The new system was designed to support the entire partner billing (corporate clients) and reselling of content in consideration of new business models planned in the future. Customers of the new billing system are marketing, sales and finance departments at T-Mobile Germany. Additionally, the IS quality and operating department were involved on the IS side.

At that time, Ralph Leipert – project manager at T-Mobile Germany – forecasted the total capital expenditure (CAPEX accumulated) to EUR 3.5 mill. Along with representatives of the customer and IS side, Mr Leipert was part of the project steering committee. But what happened...?

The need to change a running system

In the year 1999 the predecessor project of Dolphin, Probiss, started with the objective to build up a software solution for partner billing at T-Mobile Germany. Project management decided to implement custom software. After two years of software development the rollout was finished in 2001. But the newly made system did not satisfy the customer or the IS department.

Mrs Krips, representative of the sales department at T-Mobile, said that Probiss was very limited in functionality. For example, neither client-factoring nor good data quality nor low change and maintenance efforts were possible. Mr Menge, project member for the marketing department, demanded a more flexible software system in order to map new developed business models. Beyond which, the lack of internationalisation was also a big issue.

On the other hand Mrs Driller-Schücker, Head of Centre of Excellence Partner Billing, stated that IS at that point had problems with the software vendor of Probiss. In many cases change requests took too long and were too expensive. On top of everything, operating costs for the whole system were too high. Therefore the IS department decided in December 2002 to build up a new system and Dolphin was born.

Transforming a legacy software application

At the end of 2002, the situation at T-Mobile was taut. After developing and implementing custom-made software over two years, several problems, errors and requirements still existed.

The decision to choose Convergys

When Mr Leipert became project manager of Dolphin in December 2002, the IS governance of T-Mobile Germany changed. Instead of forcing custom-made software, the IS department was impelled to introduce standard software if possible. Until then, mainly custom software was used at T-Mobile.

The vendor selection process started on the basis of the requirements specification document 1.0. This version was based mainly on generic functional descriptions from Probiss, the predecessor of Dolphin; business functions were described only marginally (e.g. “the new system has to support workflows”) said Mr Glatzke, a freelancer at T-Mobile Germany. At that time the customers (sales, marketing and finance) of the IS department were rudimentarily involved in the specification process. The involvement was limited to some interviews and two high-level workshops with representatives from the customer and IS side. Therefore, no new customer requirements were considered in the first requirements specification document which was used for assessing the software vendor. In July 2003, Convergys became product supplier and software integrator. The basis of the contract with Convergys was the version 1.0 of the requirements specification document.

In April 2003, five months after the project started, the customers got the first requirements specification draft (version 1.0) from the IS department. It was obvious that the functional requirements specified by the IS department did not match with business needs. Marketing, sales and finance revised the version 1.0 document completely. Some requirements were extended and others were added to the document. As result of the revision process requirements document 2.0 was released to the IS department but not to Convergys.

The fight against standard software

At the same time, another problem arose in front of Mr Leipert. The business side, especially the end users, were very afraid about the introduction of standard software. They had several concerns against the rollout:

- *Standard software is going to have an impact on their business processes:* Mr Johannmeyer, project manager since January 2006, said that end users were afraid of major changes on their business processes.
- *New tasks:* The customers were worry about that standard software will lead to new, and by then, unknown tasks.
- *Changed roles:* The introduction of standard software will lead to an organisational change.

To convince the business side, project management used two different communication strategies. On the one hand, Mrs Driller-Schücker and Mr Leipert interacted many times with high-level management on the business side. The focus of these discussions and meetings was mostly about total cost of ownership (TCO) of Probiss and Dolphin. On the other hand, IS project management and Convergys tried to convince the end user with product presentations and meetings. Parts of these meetings were product demonstrations where the end user had the possibility to see all features offered. This task was very challenging for IS because they had only a rudimentary understanding of Geneva and PAM to reduce fears at the customer side. But nevertheless, due to good connections to the business / high-level management and the high level of commitment, the customers accepted the standard software approach. At the end Mr Johannmeyer, project manager in charge since January 2006, stated, “it was easier to convince the high-level management than the end users”. The whole process took a couple of months, and still some concerns exist.

IS in a sandwich position

When the Dolphin project started, the IS department chose the “sandwich” approach for communicating with the business departments and Convergys (see Figure 1). The business side had only contact to the IS department. A direct link to Convergys was not planned. Instead of that, the IS department forwarded all business and IS requirements to Convergys and vice versa. In 2002/2003 the position of the IS department was precarious, because they had insufficient knowledge about the development/customising of standard software applications and Geneva/PAM.

The first problems arose at the end of 2003, when customers recognised that the contract between IS and Convergys was based on the old requirements specification 1.0 and not on version 2.0. Because of that, numerous misunderstandings between IS and business were the consequence. It happened often that the business demanded new functionalities but Convergys delivered only functionalities based on the old document. One customer said “the IS department tried to close the gap between the Convergys requirements specification and the customer document” – but the experiment failed. At that point in time it was evident to the customers that IS was only the man in the middle.

For the business it was not acceptable to have two different software specification documents. When the steering board held a meeting in 2003, they decided to merge both requirement documents into one SPD (Solution Process Document). In April 2004, the so-called “Fachkonzept” (SPD) – the merger of document 1.0 and 2.0 – was finished. In succession, IS, business and Convergys decided to release three software packages. Release one and two should have covered all Probiss functionalities, release three should have added new features and business models. The main target with this release was to close the gap between requirement document 1.0 to the requirement document 2.0.

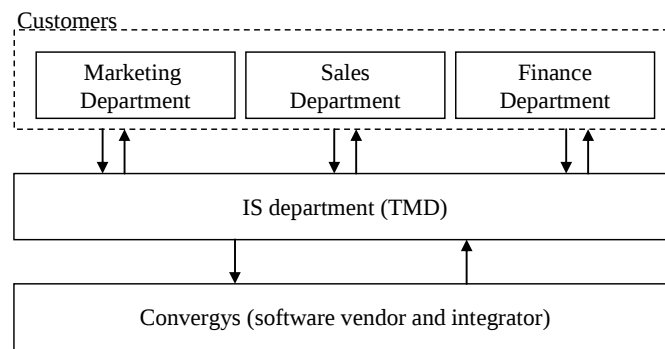


Figure 1: Communication structure within the Dolphin project 2002/2003

At the same time, a smouldering fire got off the ground. When Mr Leipert held a steering board meeting on 3 September 2004, he complained about the project performance of Convergys:

- No project updates or comments to the overall project plan for months
- Project members/management and executive management often have a different information basis about Convergys
- Action points are postponed from week to week
- There are Convergys employees on-site, where it's unclear what they do or which role they have
- No progress for three weeks on the whole project

Until then, marketing, sales and finance department were informed vaguely by the project management about these vendor problems. Customers demanded “IT should put the cards on the table”. Therefore Mr Leipert, Mr Samzow, successor to Mr Leipert, and the customer side initiated on 17 December 2004, another steering committee meeting in Bonn where four future project approaches were evaluated (see Table 1).

After some hard negotiation, an alternative four (not preferred by the customers) was selected, with Convergys as software vendor and system integrator for release one and two. But the strategy failed, Convergys did not change its project performance...

Managing the crisis

After two years only release zero, called drop 0 (drop 0 is a non-customised version of Geneva and PAM) was tested in cooperation with marketing, sales and finance. The customers felt misunderstood and disappointed. On the other hand, T-Mobile IS had massive problems to collaborate with Convergys. During the same time (at the end of 2004) there was a shift in project management from Mr Leipert to Mr Samzow.

	Alternative one: Rescission of the contract	Alternative two: New solution based only on Geneva	Alternative three: Release 1 & 2 rollout and Release 2.5 with CVG	Alternative four: Release 1 & 2 rollout and Gap Analysis
backer	Marketing	Finance, Marketing	IT	IT
approach	Spend no efforts for further investigation of the defined solution Using existing solutions, only maintenance of ProBiSS	Spend no efforts for further investigation of the defined solution Start new investigation for Geneva based solution, with new integrator	Spend efforts in further investigation of : - CVG amendments - Quality improvements - Release 2.5 ff - alternative integrator for releases after 2.5	Spend efforts in further investigation of : - CVG amendments - Quality improvements - Gap Analysis ProBiSS vs. Dolphin R1&2 and closing the gaps in Release 2.5 - alternative integrator for releases after 2.5
Next steps	Working on formal Rescission of the contract	Working on formal Rescission of the contract and check integrator fit in parallel	Working out facts for a decision after CVG amendments phase either to Rescission of the contract or go forward with CVG	Performing gap analysis and working out solutions to close gaps in Rel. 2.5 with CVG

Table 1: Alternatives for future project approach (end of 2004)

The get-together in Edinburgh

The first step to get the project on the right path was to initiate a three-week workshop in January of 2005 in Edinburgh (Convergys headquarters). Participants were three customer representatives, two T-Mobile IS-employees and four representatives from Convergys. This was the first time that all three stakeholders had acted in concert. For each problem cluster (e.g. Enhanced Searching, Call Filter, Error Handling or XTC Interface) the group worked out necessary requirements and representatives of Convergys presented prototypes. Mrs Driller-Schücker called it “interactive requirements engineering”. This prototyping approach helped the business to understand the technical solution of their specified requirements. Therefore, it was possible to reconcile business needs with options offered by Convergys. Due to the very good working atmosphere, close relationship to the software engineers and IS, the structured proceeding, as well as constructive ideas, the workshop ended very successfully and major misunderstandings had been eliminated. This workshop helped to overcome the sandwich approach for the first time.

The general feedback of all participants was: “...it was good...”, “...you have done your homework...” and “...we even have extras – amazing...”. Since that time the working atmosphere between IS and business improved constantly. Mrs Krips noted “...the IS department tried to understand the business and its processes”.

When IS closed its knowledge gap

As part of the Edinburgh initiative the IS management decided to build up the necessary software solution know-how to advise the customer in a better way. As Mr Johannmeyer certified, the IS side did three things to accomplish this task. First, project management hired external employees which had essential knowledge about partner billing processes and the Geneva toolset in order to close the knowledge gap very quickly. Second, software engineers of the IS department made training courses to gain knowledge about the software solution. And third – the most important point – since the Edinburgh workshop IS employees were motivated to experiment with the system. Mr Glatzke reported that it was like the German competition “Youth researches”. Due to this achievement the IS department appeared in a new light.

The steering board cancelled the contract with Convergys

Until November 2005, the IS department adhered rigidly to Convergys, but meanwhile the aforementioned communication and quality problems continued. Furthermore, additional problems with the PAM-GUI arose. In parallel, the new software development contract for release 3.0 was in negotiation. Therefore the steering board committee decided on 4 November 2005 that the contract with Convergys will not be extended anymore (this proposal was made by the marketing and finance department at the end of 2004, see Table 1 – alternative 2). One month later, 15 December 2005, the board evaluated two proposals:

1. DIaLOGIKa: A customised graphical user interface (GUI) based on the Dolphin data model.
2. T-Mobile: The IS department offered a customisation based on the Geneva system and data model without the PAM-GUI.

At the end of the day, Mr Samzow, Mr Stoevhase, Mrs Krips, Mr Johannmeyer and Mr Menge decided to choose the T-Mobile option. Due to the eagerness to work, the IS department built up sufficient knowledge to support and develop the standard software platform, release 3.0. As a result, the new contract situation led to a new commitment on the IS side. At this time, one customer certified, IS began proactively to search for new functionalities and solutions for the customer.

Tight integration of the customer

Since the beginning of 2006, under Mr Johannmeyer’s leadership, the customer was integrated very tightly into the whole project management and customisation process of Geneva. Regular team meetings and workshops (participants being the representatives of IS and business) were introduced to

enhance the communication and understanding between both parties. In many times business and IS are working together to find solutions or solve problems instantly. Simultaneous training was held. In addition, Mr Johannmeyer established face-to-face contact with the customer. In conclusion, these steps helped to guide and to understand the customer in a better way than before.

Lessons learned

1. **Build up standard software solution know-how as soon as possible to guide and convince your customer**

A key competency of IS should be excellence in technical and business skills. Early adoption of solution/product knowledge is necessary to guide the customer through the requirements specification process and following project phases. Relating to Dolphin the sandwich approach can be avoided if IS has solution know-how as soon as possible. Additionally, the gained know-how contributes to provide confidence between business and IS.

Quotes: "...the IS department has to be a early adopter of standard software know-how."

2. **Guide your customer through the requirements specification process (interactive requirements engineering)**

An interactive requirements engineering process with the aid of prototypes, detailed examples of the solutions, etc. is necessary to guide and convince the customer. Detailed technical descriptions are not as important as striking examples. As shown earlier, the workshop in Edinburgh with all stakeholders present, was the best way to describe and understand business requirements from different perspectives in consideration of the feasibility. Furthermore, the prototyping approach helped the business to understand the technical implementation of their wishes.

Quotes: "...don't use theoretical specifications...", "...prototyping is very useful and a big chance that a standard product will give you the required benefit..."

3. **Different strategies are required to persuade your customer at management and end user level**

Thus IS should bear in mind that it takes a lot of time and effort to convince the customer to use and accept standard software applications, particularly if the customer is accustomed to using individually developed applications. The IS department has to be tenacious and persuasive. The project management of Dolphin used two different communication strategies to convince the customer. First they tried to get the high-level management on board. Parallel to this they convinced the customers with detailed product presentations and meetings.

Quotes: "...it was easier to convince the high-level management than the end users..."

4. **Early problem escalation**

Early problem escalation (e.g. time delays) can help avoid misunderstandings between IS, business and the software vendor. In this case a single point of contact on every side would be desirable. Relating to this case, IS hid most of the communications between the IS department and Convergys. Therefore all problems with the vendor were not transparent to the customer.

5. **Confederate with your customer**

IS should initiate warm-up workshops / kick-off and regular meetings with all stakeholders (business, IS and software vendors). Additionally, close relationships between IS project management and customers should be forced. Like Mr Johannmeyer showed, the working atmosphere between IS and business improved instantly after integrating the customer in the whole project life cycle.