

Complementary perspectives in the value chain on ERP system implementation

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Abstract: In this paper we report on a explorative empirical study on implementing ERP systems in SMEs. Representatives from the different links in the value chain; user, customer, consultant and vendor were interviewed to investigate the process. The function of the qualitative interviews is probing for information. The interviews were conducted to shed light on the experiences of the different links across the value chain, and to uncover potential challenges in the implementation process.

The analysis shows that the informants have radically different experiences and understandings of the ERP implementation process, depending upon their position in the value chain. An example, the consultants argue that they implement a system based upon the “right” information that the customer has delivered. The customer, on the other hand, chooses a consulting company that can provide trust and safety – because he does not understand the technicalities of customized ERP systems. We argue that the views uncovered through the informants retrospective stories, if understood as complementary, may be used to identify future challenges that the ERP community must address.

Introduction

As popularity of implementing ERP systems in Small and Medium Enterprises (SME) has grown within recent years, reports on troubled or even failed implementations of ERP systems have grown as well (Alvarez, 2002).

Due to the high cost of having a new or highly customized ERP system made specifically to fit the organization, many of the SMEs choose a standard ERP solution such as Microsoft Dynamics NAV or SAP Business One. The companies then have a consulting company customize the standard system to fit their business processes and add new features.

The purpose of the following study is to alter the perspective from focusing solely on the organizations alone to exploring challenges throughout the entire value chain of an ERP implementation process. This means extending the area of research to include four links in the value chain; vendor, consultant, customer and user, in order to uncover different perspectives on causes that lead to challenges in the implementation.

The purpose of this article is not to describe a single coherent case study of a failed implementation of a standard ERP system, but to report on perspectives on ERP systems implementation from representatives in different links of the value chain.

Methodology

The approach is an explorative investigation of implementation. Four links in the process were chosen and four representatives for the vendor, consultant, customer and user were identified as basis for the empirical study. Qualitative interviews, the function of which was probing for information, were conducted to acquire an understanding of the social context and the reality of the informants (Silverman, 2000). We did not carry out a thorough qualitative study– this was not the goal. The aim was solely to gain insight into the process across the value chain where the different positions of the informants constitute different understandings and experiences (Denzin & Lincoln, 1994). Our interest is the experiences of each informant as told in their retrospective story about an ERP implementation process. The assumption is that by drawing these different stories into the light it will be possible to show a coherent picture of the process of implementation. Because the positions are complementary they give access to very rich data – across the process – and will help us identify future challenges to be investigated.

Qualitative interview

Initially two pilot interviews were conducted, the function of which was probing for inspiration. On this basis, themes for the four qualitative interviews were identified. The interviews were semi-structured and an interview guide with different themes was developed. All interviews were taped and transcribed in full and the citations used in this paper were translated from Danish to English.

Data analysis

The transcribed interviews were read and based on the method of deriving meaning, the essence of statements from the informants were generated. In a second step these meanings were analyzed and categorized – or rather themes were developed. On the basis of these themes, coherent retrospective stories of the informants were developed.

Empirical data

The following is the stories developed from the interviews with the informants. It should be noticed, that the informants refer to different cases of implementations in their statements, except for the user and the customer who refer to one instance of a process of implementation.

User

The user describes the companies in the initial bidding round as very eager “*We had five companies in the bidding and there were none of them who couldn't do everything. They could do it all*”

After choosing a firm, the user finds the beginning of the implementation process to be very collaborative. The consulting firm tries to understand the business processes of the organization and even the individual needs of the users by doing workshops with all the affected users “*In order to uncover the needs they went around to the different specialties, if you can put it like that, in terms of what do I [the user] need, how would I [the user] like it to look... we [the users] were all a part of that.*” The initial process of the

actual implementation is also viewed as a collaborative process by the user, where the consultant who makes the actual customizations will work “on-site” in the organization together with various users “*He [the consultant] would sit next to us [...] So we [the users] would sit with all our papers and say: “Wow, look at that”*”.

However, as the implementation progresses the user experiences a decline in the interest from the consultant “*But after a certain period of time, I think, they [the consultants] would somehow rather have it over with. Then there is no more collaboration*”. Reporting from the consultants on various issues, concerns and errors in the system raised by the user, is either scarce or none existing “*Then some mish mash started to happen and the agreements we [the users and the consultants] made were actually not kept [...] all along we had an agreement that they [the consultants] would supply us with schemes [error reports]*”

The user does not understand what the consultant presents when incremental deliveries and presentations of the system are made. Training of the users is erratic and is conducted using a partial implemented system with terms and labels from a different industry than the users’ working environment “*We sat with people and members and customer overviews, and it was very confusing that every time they [the consultants] explained something to us [the users] then it was something about bicycle tires and things like that*”.

The user also states that the level of technical capabilities of the consultant who makes the actual customizations to the system is too low and that the consultant does not really understand the business processes “*... I don’t think he [a consultant] was as good a programmer as he thought he was, and that was why it began to slide... he wasn’t competent.*”.

When the implementation process is over, the user still does not understand all the functions, terms and labels used in the system, and the user considers the ERP system to have poor usability “*... many of those things and features... I can’t use them. I sort of skip them... that is very unsatisfying*”.

Customer

The customer expresses the goal of the initial competitive bidding as; finding not just the lowest bidding firm for supplying and customizing the ERP system, but also a consulting firm that can provide safety and trust. “*They sell safety. In terms of, that what you buy actually works*”.

The customer also hires an independent consulting firm to assist in the choice of ERP system and to “translate” what the bidding consulting firms are actually saying “*And then we used him [the independent consultant] a lot for translating what they [the bidding firms] were saying. It is totally silly, but that was actually an important task.*”

Once a consulting firm was contracted the customer gets the impression that the firm “over sold” the ERP solution “*It is really, really, really over sold*”. The customer does not think the consultants have any prior knowledge about the customer’s industry or the organization “*They [the consultants] do not have understanding of business [...] So we spent an enormous amount of time teaching them about our business [...] They don’t spent the time necessary to understand it [the processes] before they start*”

producing code” After increasing frustrations with the implementation process, the customer fires the contracted consulting firm and hires a new one instead.

Consultants

The consultants states that during the competitive bidding the goal for the consulting firm is to have the customer choose their bid and establish the customer’s budget for the implementation *“And the discussion that takes place actually consists of Sales [the sales department] establishing the need. You identify the customer’s budget”*.

The consultants always suggests standard ERP systems for SMEs, since most SMEs are much alike in their point of view *“... there used to be a time, where every company thought they were unique, that they were individual... and they are not, that is rubbish”*. They discourages the customer to have too extensive customizations made to the standard ERP system, since that will make it difficult and expensive to apply future updates from the vendor.

As regards to understanding the needs of the customer and the organization, the consultant sees it as very important to ask “the right” questions when talking to the customer *“Our criteria for success is that we are capable of asking the right questions”*. But the consultant still sees it as the customer’s responsibility to provide “the right” information which again defines the requirement specifications for customizing the system *“It is not our responsibility to ensure, that we have all the input, because we can’t know if we have.”*.

In order to ensure successful implementation the consulting firm has a model which describes several steps the consultants must follow during the process *“And that [the model] was invented in a time where you thought you should always spent 14 days on what is called a pre-analysis. [...] We can get you [the customer] up and running in four days. A standard product – bam! And then we take it from there and find out afterwards, what else you [the customer] would like alongside”*. One of the deliveries in the model is a document describing the changes and customization specified by the customer. It is the objective that a developer can make the necessary changes to the standard ERP system based on that document alone *“Which [the document] in principle enables the developer to code like after a script.”*.

The consultants do not always consider the requirements expressed by the user and customers to be relevant for the implementation *“[...] because the customer sometimes want the strangest details, and they can keep on finding something that would be nice to have and so on. And we can’t always do that.”* And the requirements are sometimes diverse *“One wants something and another wants something else. An annoyance really, that you have to make up your mind about unimportant details over and over, because we have the broad perspective.”*

Vendor

The vendor representative specifies the area of User Experience (UE) as a major concern regarding value for the end user of the ERP systems *“[...] the UE area is certainly a place for improvements. It is generally some very complex systems and it is more the rule than the exception, that you need training in order to use them.”* He points out that the user interface (UI) in all the modules in the vendor’s standard ERP system, targeted at SMEs, is based on accounting systems and the assumption is, that

all users within the organization can use the same UI outline *“In reality it’s like: Okay, if it works for the bookkeeper, then let’s try the same model. That’s probably what the warehouse worker needs as well [...] And you don’t have to be in the UE business that long to see that it is not the right model”*.

The consultants can customize the UI but the vendor warns, that this can cause problems when upgrading to a newer version of the system later on *“The challenge is, that if you make too much customization, then the next time an upgrade is available [...] all the customizations will have to be made one more time. So there are high costs associated with upgrading.”* The vendor also points out; that there used to be a certification program for the consulting firms for making UI customizations, but that has been canceled.

As a response to these challenges the vendor is working on a model that can help consultants understand all the different roles, departments and processes in the organization. The model is globally unified in its origin, and does not take e.g. national or cultural differences into account. Besides making the process of applying updates cheaper, the purpose of this model is to ship different variations of the standard UI in the ERP system, and that this will bring better usability to the end user *“[...] so you only get what is relevant to Eduardo [an example of an end user], independent of the code behind it [the UI]”*.

A second objective of the model is to give the vendor more control of the customization process, *“So we don’t have any control [over the consultants] at the moment. And we see a lot of “interesting” solutions”*.

Analysis

The following analysis is based on deriving challenges in the process of implementing standard ERP systems based on the view on selected topics from the different informants.

The bidding phase – trust and safety vs. budget insight

The initial bidding phase is clearly viewed differently upon by the informants in the value chain. While the customer is looking for trust and safety, when contracting a consulting firm, the consulting firms are trying to establish how large a budget the customer has for the implementation. Whether the consulting firms are aware of this conflict of interests and use this to their advantage is not explicit, but the user does describe the bidding firms as very eager to promise any customization the customer would want. This may be the reason why the customer ends up feeling the consulting firm has “over sold” the solution during the bidding phase.

Requirement specifications – getting the right information

Once a consulting firm is contracted and the process of gathering requirements for the implementation and customization of the standard ERP system begins, the consultants consider getting the “right” information to be of utmost importance. But at the same time they see it as the customer’s responsibility to ensure that they have all the information they need. This “expectation” is contrasted by the customer’s need of an independent consultant to translate what the bidding consulting firms are actually saying. The identification of this expectation as a challenge is furthermore supported by the indication, that the consultants have poor insight into the organizations business processes, according to the user. This may

be because consulting firms often use experienced consultants in the sales process, while using inexperienced consultants in actual implementation process (Kock, 2001).

Implementation – declining interest and ongoing requirements

Both the user and the customer explain that during the process of implementing the ERP system, the dedication and focus from the consultants decline. This issue is not addressed directly by the consultants, but their annoyance over the user and customer's ongoing and sometimes diverse requirements, suggests that they may stop listening to these requirements at some point. This could be what the user and customer interprets as lack of interest and focus.

Usability – unfamiliar terms and feature vs. no upgrades

The user and the customer seem to have different perspectives on the usability of the final implementation of the system. The user considers the usability of the system to be poor and does not know how to use certain functions and features in the system, mainly due to the UI.

The poor usability seems likely to be linked to the problems with applying upgrades to the standard ERP system if too many customizations are made to the standard UI, as addressed by both the consultants and the vendor. The challenge we have identified here may find support in the vendors comment on “interesting” solutions to the customization of the UI.

Unified customer model – control for the vendor and a tool for the consultants

The issues put forth by the user and the customer, in regards to poor usability and the lack of understanding the business processes among the consultant, is addressed by the vendor in terms of the new customer model. The philosophy behind the model seems to be, that the model can serve as a tool for the consultants when trying to understand the business processes and the users in the organization. At the same time it provides control for the vendor in order to avoid poor customizations of the ERP systems, especially the UI, and it will supposedly help to ensure compatibility with future updates of the system.

Concluding remarks

This paper presents several points of interest for further research on challenges in the value chain when implementing ERP systems. It is obviously necessary to gather more data to establish if the challenges suggested in this paper are generally an issue.

If that is truly the case, an interesting study will be on whether standard ERP-system with a predefined set of UIs combined with a role based model can actually substitute the need for conducting in-depth field studies of the users and the business processes in the organization.

Another topic for further investigation is the actual structure of the value chain in itself, in regards to having a link, in the shape of a consulting firm, between the vendor and the customer and how this impacts implementation of the ERP systems.

References

Alvarez (2002)

Alvarez, Rosío (2002): "The Myth of Integration: A case study of an Implementation" in Nah, Fiona Fui-Hoon (red): "Enterprise Resource Planning Solutions & Management", IRM Press, Hershey, USA, 2002, s. 63-88.

Denzin & Lincoln (1994)

Denzin, Norman K. Lincoln, Yvonna S. (1994): "Introduction – Entering the Field of Qualitative Research" in Handbook of qualitative research, eds. Norman K. Denzin & Yvonna S. Lincoln, 1'st edition, SAGE Publications, Thousand Oaks, pp. 1-19.

Kock (2001)

Kock, Christian (2001): "ERP-systemer – erfaringer, ressourcer, forandringer", 1. udgave, Ingeniøren A/S, København.

Silverman (2000)

Silverman, David (2000): "Doing Qualitative Research – A Practical Handbook", SAGE Publications, London