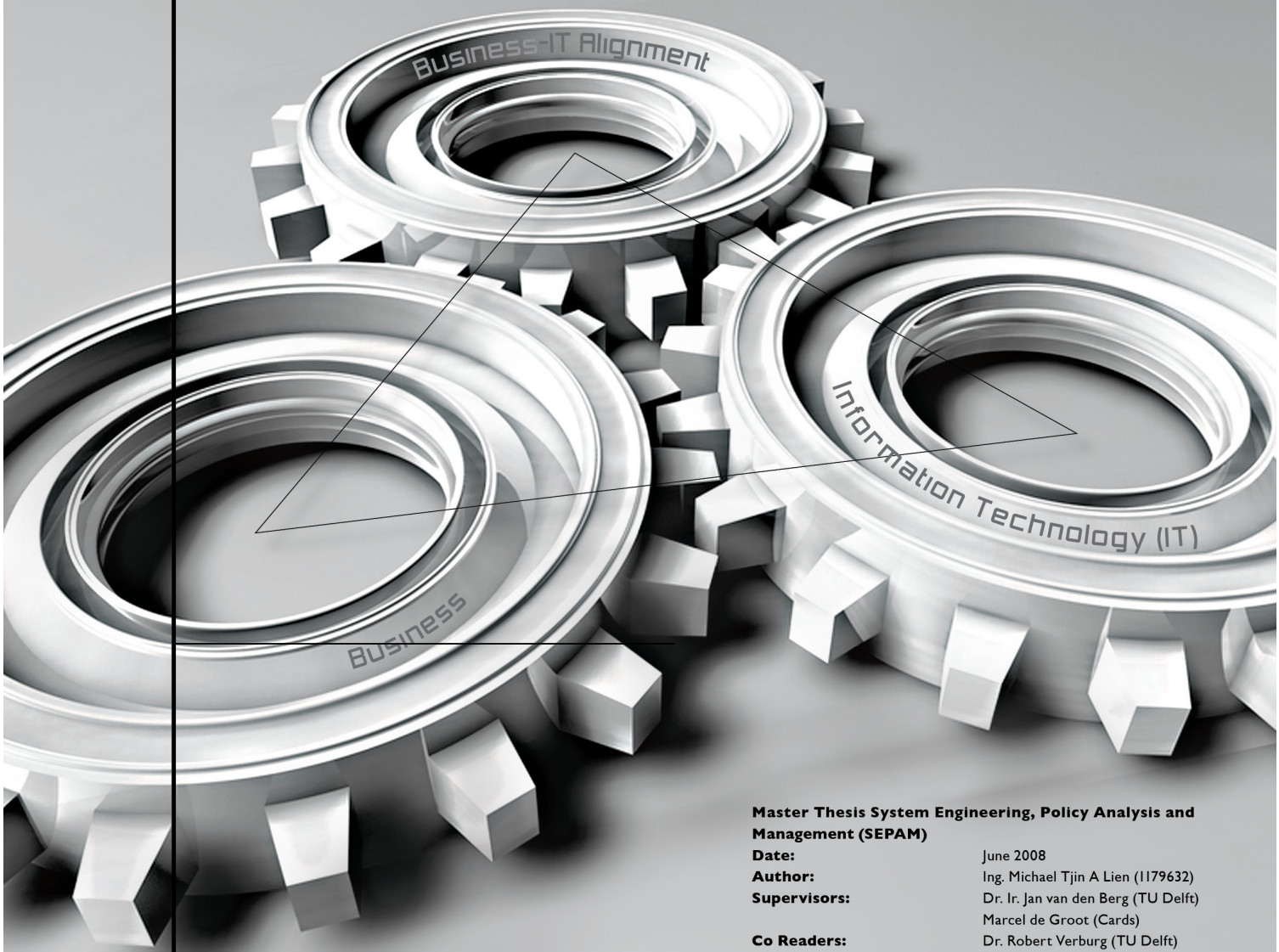
# Developing a pragmatic approach to improve business IT alignment

## a case study in the Cards business




**Master Thesis System Engineering, Policy Analysis and Management (SEPAM)**

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# Preface

The subject of Business and IT alignment is a specific area of interest. Not only because it covers both areas Business and IT, but also the management area. It is a combination of researching strategies, architectural concepts and technologies. Therefore I'm very grateful I am able to present a thesis with this subject.

I would like to thank Marcel de Groot and Wim van der Hoeven for giving me this opportunity to perform the study at Cards and all my colleagues who participated in the research for their time and support.

A special thanks to Jan van den Berg from TU Delft for all his guidance and advice.

Michael Tjin A Lien,
Barendrecht, June 2008

# Management Summary

The gap between business and IT departments is increasing. Many businesses have difficulties to understand IT challenges and technical possibilities. IT departments have difficulties to position themselves as strategic assets and to maintain high quality IT service to the business. In addition globalization and outsourcing are directly impacting the alignment. Alignment between the departments requires therefore attention.

Business and IT alignment is already a known subject and different researchers have published different theories and frameworks. But because they are missing the practical insights the following research question has been defined "*What pragmatic approach can be used to improve Business IT Alignment towards a desired maturity level?"* with as goal to develop a pragmatic methodology to analyze and improve the business IT Alignment. And with as case study the fuel Cards business within an international oil company. Recommendations to improve alignment towards a desired maturity level will be provided as deliverable.

The developed methodology consists of different approaches and models that are essential to understand and analyze alignment between Business and IT. In the methodology the order from approaches goes from a high level abstract analysis to a low level detailed analysis. This consists of understanding strategies and strategy directions, analyzing organizational roles and responsibilities & understanding the alignment competencies (including governance, architecture, value measurement etc). This methodology is a structured step-by step plan how to deal with alignment by identifying gaps and finding potential improvements. From gathering all related data about the business and the organization to finding concrete validated recommendations that can be presented to the stakeholders.

The case study has been performed in the Cards Business where they perceive the alignment gap is increasing due to reorganizations and globalization. Information of the current and desired state of alignment have been gathered by having structured interviews and maturity level assessments with Business and IT stakeholders. On average the current maturity level is measured and round up to level 3. This means there is in general alignment between business and IT. For example the areas of communication, partnership and skills are on acceptable levels. This is a good basis to improve the organization with a more effective alignment. As target it is agreed to have level 4 as desired maturity level that is inline with the organizational performance targets.

The gaps have been identified and recommendations have been found in every area. Some examples:

- Define and communicate scope & responsibilities of critical roles in the organization
- Implement Function IT plan, defining the priorities and long term IT strategy plan
- Establish SLA Management, monitoring and updating the SLA regularly
- Start involving IT stakeholders in important governance groups
- Introduce regular feedback surveys and benchmarks

Recommendations have been shared with Business and IT stakeholders and they confirmed they are clear, understandable and most of them realistic.

An implementation plan in four phases is provided and it is advised to start with a strategy approach (discuss with Business and IT Leaders) together with an organization-wide approach (Business and IT staff) to agree on the approach of improving alignment and to prioritize the action items. The developed approach is not only identifying gaps but it is also a good starting point for discussions where and how to improve. With Cards as case study it can be concluded that the overall methodology is a good pragmatic approach to understand the subject and how to perform Business IT alignment research. It can be used for generic purpose for different type of organizations with as main goal to improve Business IT Alignment.

# 1 Introduction

In this chapter the research objective is introduced and described in its context and scope. In the next section 1.1 Context, the subject of this master thesis is explained and in 1.2 the overall research objective and in 1.3 the related research questions. In addition the research scope and used methodology are presented in sections 1.4 and 1.5.

## 1.1 Context

Nowadays most types of business over the world are highly dependent on the information technology component that is embedded into their critical processes. Information technology and IT organizations are now part of the business implying direct IT involvement when new business initiatives are undertaken. Enabled by IT, enterprises can optimize their processes and focus on cost reductions to be competitive and flexible at the same time.

On the other hand companies still consider IT as cost and look constantly for cost reductions in the IT organization. Common practice is to centralize the IT organization as a shared IT service that can act as an independent service provider, then IT would be easier to benchmark and compare the overall service with competitors. Additionally opportunities may exist in the area of near – and offshoring, especially when the IT department is running as a factory, with formalized roles and procedures. But cost reductions do have impact on people, roles, responsibilities, communication and especially the business. Companies are struggling with the divided departments and are overwhelmed with processes and procedures. They are trying to find an optimized way to align.

This is currently the situation of the Card Business within the overall Downstream business (an oil business segment focusing on refinery, marketing, trading and shipping of oil products). The Card Business is about selling and managing fuel cards and transactions including other related card services. It is an integrated business within the organization operating independently and it has its own complex card IT landscape with many critical business processes. Higher management has decided to reorganize the Card Business and separate the IT department from the business. See Figure 1.

This change has led the Card organization to a different approach for managing its business and IT and is now in a phase of structuring the teams and improving and aligning internal processes. Difficulties arise with keeping the Cards business process knowledge within the organization since it is now in the IT department instead of the business. Taking that as given, the question arise what will happen with the overall organization effectiveness and if the organization will keep the competitive edge to get maximum value from IT. Other companies in the same situation experience problems with achieving their business goals and maintaining a common direction between Business and IT (Mahony and Gerrard, 2005), caused by various factors e.g. no well-defined IT roles (Gerrard, 2005), wrong prioritization, knowledge and transparency of IT and especially missing alignment between business and IT (CIO, 2005).

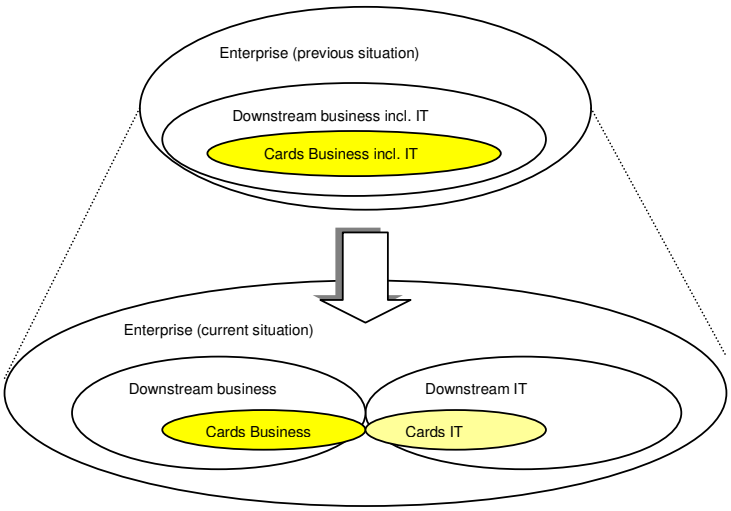



**Figure 1 Card Business organization change**

This introduces the subject of Business and IT alignment. Company directors recognized the importance and they see the alignment as a prerequisite to establish an optimized organization (CIO, 2005).

## 1.2 Research objective

The research for this master thesis focuses on the subject Business IT alignment within the Cards business. This concerns finding out the right approach to improve company's effectiveness. Finding out the current and desired maturity level of alignment and looking for opportunities to improve. It is covering the people aspect, the organizational aspect and the technical aspect. Research will start with selecting and combining the different theories and approaches published by different researchers over the world. They introduced models and frameworks with different perspectives and the overall goal is to find an approach that can be used effectively, a new approach that combines the theories and frameworks resulting in a chain of activities, like a *methodology*, to improve Business IT alignment. Based on some pre-investigations it became clear the current alignment models and frameworks were limited in their practical approach. They are not focusing on results how to find alignment gaps and are limited in finding the right approach how to improve. Theoretical frameworks are more common with an abstract view how alignment can be analyzed. Therefore it is important not only to find an approach to improve Business IT alignment but a pragmatic approach for researchers and consultants to gain more benefits when analyzing the alignment between business and IT.

Thus the research objective is to find an approach that can measure the level of maturity in the area of Business IT alignment and identify recommendations for the business to improve. The latter is about finding new improvements in such a way the level of maturity in Business IT alignment within Cards can increase.

## 1.3 Research questions

This research begins with defining the main research question and related sub questions. The overall research question will be:

> *"What pragmatic approach can be used to improve Business IT Alignment towards a desired maturity level?"*

Based on this research question we can categorize related sub questions in the following four phases. This is including the research method(s) that will be used:

First phase consists of analyzing the subject Business IT alignment

1. What is Business IT Alignment and how to improve it? *Literature study*

Second phase consists of exploring the solution space and designing the pragmatic approach

2. Which models and frameworks are available in the area of Business IT alignment? *Literature study*
3. How can these models be used to develop a pragmatic approach to improve Business IT alignment? *Analysis and Design*

Third phase consists of using the approach by performing a case study, to understand current and desired situation and to find recommendations to improve Business IT alignment

4. What is the business and how is it organized? *Desk Research*
5. What is the current and desired situation, maturity level, of Business IT alignment? *Assessment & Interviews*
6. What are the recommendations to improve Business IT alignment? *Analysis*

Fourth phase consists of understanding how well the pragmatic approach works and to what extent the approach can be used in other cases

7. How acceptable and realistic are the recommendations in the Case study? *Interviews*
8. How pragmatic is the developed approach? *Reflection and Discussion*
9. Can this pragmatic approach be used in other situations? *Reflection and Discussion*

In section 1.6 'Reading guide' a representation is shown of the alignment of the chapters in the master thesis with the proposed research questions.

## 1.4 Scope

This research into Business IT alignment has a clearly defined scope. Firstly, the theoretical picture will be drawn of what can be achieved with Business IT alignment. By using existing models of different researchers a new methodology can be found to assess and improve alignment in the different areas. There are generic abstract models, which can be used to assess the current alignment and more in depth pragmatic frameworks to assess the maturity level. This is divided in different categories 1) Theory on Business IT Alignment (Gartner, 2003), 2) Theory on strategy alignment (Henderson and Venkatraman, 1999), 3) Theory on alignment competencies (Luftman, 2003) and 4) Theory on Strategy on bottom-line value chain (Benson, Bugnitz and Walton, 2004).

Secondly, by performing a case study focusing on the operational Cards world, the Cards business will be described in terms of business, organization, and processes and embedded IT technology. This research will focus on the alignment methodology around it and will therefore not go in too much technical or business detail. But it will present some concrete recommendations to improve Business IT alignment. In combination with interviews, conducted with management and experts the current and desired situation can be analyzed. For the interviews, representation of Business and IT is required and therefore people in key positions will be selected and asked to provide input for this research.

In addition this case study will be used to examine the new approach to see if it can be used in different contexts and situations. And it will be assessed to see if this can be used for a more generic research.

For the final conclusions a review of the project will be added including consideration of potential benefits of alternative approaches. The focus here is on finding the learning points from this research.

## 1.5 Reading guide

See below a graphical representation of the structure of this report

- Chapter 1 is the introduction of this master thesis including the research objective and scope and the approach of this research
- Chapter 2 provides some further in-depth background information about the Cards organization, business and processes
- Chapter 3 gives an overview of the literature on Business IT alignment. Various models and frameworks will be discussed and the new methodology will be presented
- Chapter 4 will focus on a case study, assessing the Cards business that wants to improve Business IT alignment. The assessment will be a reflection of the current literature and provides validated recommendations to improve their Business IT alignment plus the possibilities for further research based on these findings
- Chapter 5 will validate the new Business IT alignment methodology
- Chapter 6 & 7 describes the conclusions, future recommendations and reflection of the overall research and shares experiences and learning's.

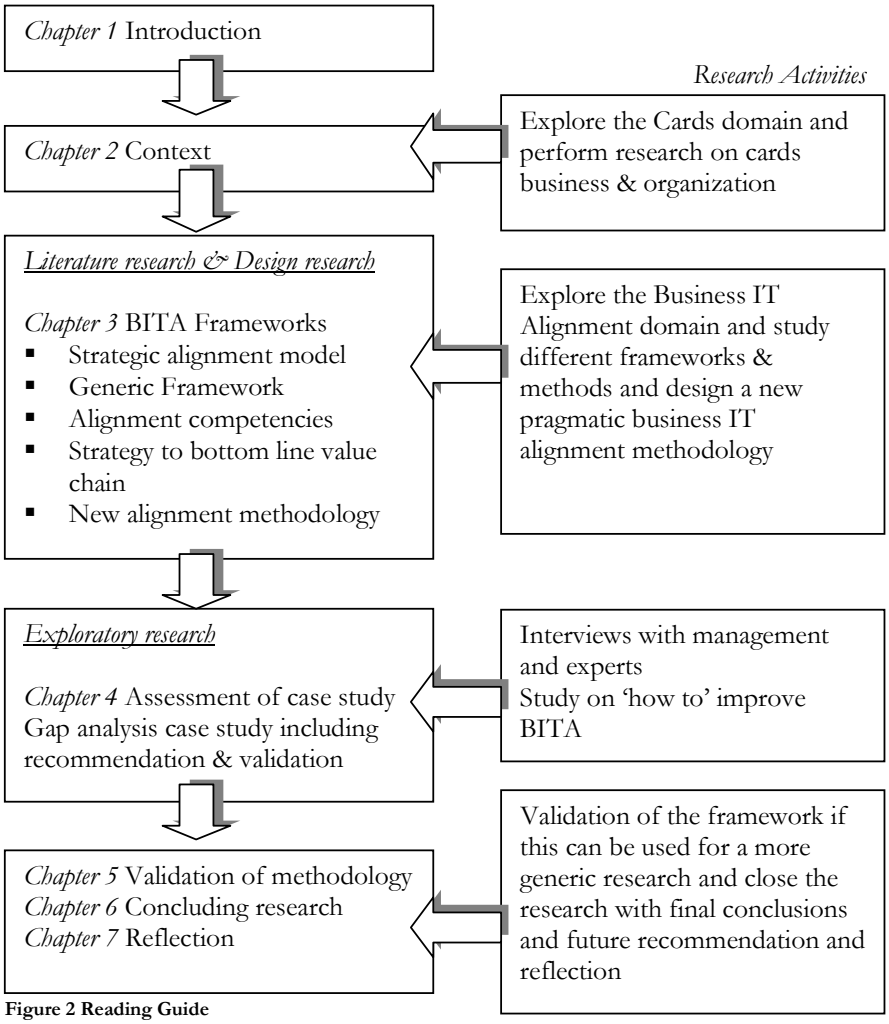



**Figure 2 Reading Guide**

# 2 Context

As described in the introduction, the focus of this research is on the Cards business that is operating for the whole of Europe. This company is a valuable and critical part of the current retail business and has added value to the customer value proposition, since most of business-to-business (B2B) customers are using fuel cards to purchase the products at the petrol stations. Because of the dynamic and integrated businesses of retail this environment is constantly changing. The Cards business aims for high quality service towards their end customer in the payment arena.

For years this Cards business had an autonomous existence and with a separate legal entity it was mostly operating independently, an organization steered by a board of directors and an IT department as part of the decentralized business within Downstream. Reporting and communication lines were mostly informal and they operated in the whole organization as a collaborative unit. A year ago the decision was made on corporate level to centralize IT and business. This was done to align the Cards business to Retail and to align the IT service to a shared Retail IT service provider. The centralized departments have strategies that need to be applied and that means new roles and responsibilities, more formalized work and new procedures and communication lines with as main target cost reduction. To achieve that people headcounts need to be reduced and outsourcing initiatives have to be taken forward. But within the business, initiatives have started. Projects and budgets have been approved and planning of these projects is agreed. That means a lot is going to happen and IT resources will be needed.

The centralized IT department has a professional organization with improved and aligned processes with clear performance indicators. To keep operations and project deliverables on target different attributes need to be changed. For example the Service Level Agreement (SLA) between the departments will need to be formalized and agreed and new and current roles need to be changed, formalized and better communicated.

But people within the organization are now worried that this separation has a negative effect on the Cards business. With the introduction of new procedures and additional communication lines a slow bureaucratic environment arises. There are frustrations and obstacles within the organization because of new formalized approval cycles and unclear communication lines between the departments. With outsourcing in mind how is it possible to have a sustainable and knowledgeable IT workforce? And how to keep the Cards business and processes knowledge in the organization? Will this change impact the dedication and commitment of people? But most important will this impact the overall business, will the business value of IT be improved or not?

To analyze this topic, research is needed in the area of Business IT alignment. This means research that looks into the value of IT for the business and its organizational efficiency. By evaluating the organizational behaviour and assess effectiveness of the IT department to identify new opportunities to improve. That means an assessment of the current state is required and a future desired state needs to be achieved.

The next sections discuss the Cards business and organization to understand how they are organized, who their customers are and how they operate. Because this company exists of many different organizations a clear demarcation has been made where the research is focusing on.

## 2.1 Cards Business

Within the global oil industry a small segment is focusing only on payment and loyalty activities within the retail fuel business. That segment is the Cards business; managing payment services to purchase fuel, lubes or shop articles at a petrol station. The Card Business, also called Card Operations is a shared payment service within Retail and is supporting the B2B - Commercial Fuels segment that provides high quality transport, industrial and heating fuels to business customers worldwide - and the Retail community (Intranet sources, 2007). They act as service provider to the other communities. Figure 3 shows the graphic picture of the Cards business customer segments. Also mentioned in the picture is the Cards IT Operations department as that is part of the Cards Business but setup as separate IT organization.

Both businesses have smaller customer segments that reach different customers using the cards service:

1. CRT, Commercial Road Transport (vehicles above certain weight e.g. truckers and busses)
2. Fleet customers (e.g. lease companies and companies with car fleets) and
3. Private customers (e.g. small businesses or consumers)

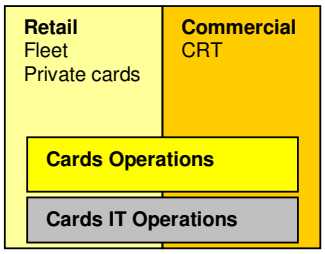



**Figure 3 Customer segments of Cards Business**

Because of this structure there is a mix of stakeholders with different interests and objectives. Main goals and strategies are to increase market share in that business and increase profitable sales by selling more volumes (Interviews, 2007). From beginning onwards the drivers of the Card Business come from the CRT segment and therefore these are more decisive in taking the lead in many decisions. The Cards Business is in constant discussion with these stakeholders and advises them regarding the business processes that are critical for them.

The Card Business provides the following main services to its customers

- Production and delivery of fuel cards
- Authorization and validation of card transactions
- Payment acceptance over the whole of Europe on different networks
- Processing card transactions
- Printing and delivery of customer and retailer invoices
- Provide customer management information via the web or email reports
- Cross border payments and invoicing for the whole of Europe

## 2.2 Organization

This section describes the organizational structures and their departments. See below a picture of how the Cards business is organized. Within the enterprise it is a global business and therefore a global organization with Cards Americas, Europe and East as regions. This research will focus only on Cards Europe that is shown in the middle of the picture including various departments that are part of this. It is divided in two departments: 1) Cards Operations and 2) Cards Projects. Both areas would be too extensive to research for this master thesis; hence it has been decided to select the Cards Operations only. In colour the area that will be included:

1. IT Operations department as separate department responsible for all the IT services including systems, applications and process support
2. Local Operations - responsible for Card Operations over the whole of Europe and work together with Local Customer Service Centres (CSC) - they have direct contact with external customers
3. Fulfilment - responsible for cards and pin production & print and delivery of invoices
4. Security - responsible for preventing fraud and applying security guidelines throughout the organization

Also mentioned in the picture are the global project organizations called Streamline and GSAP (global SAP). Both projects aim for standardization and simplifying business processes. The content of both projects are out of scope but are mentioned because of the impact they will have on Cards Operations.

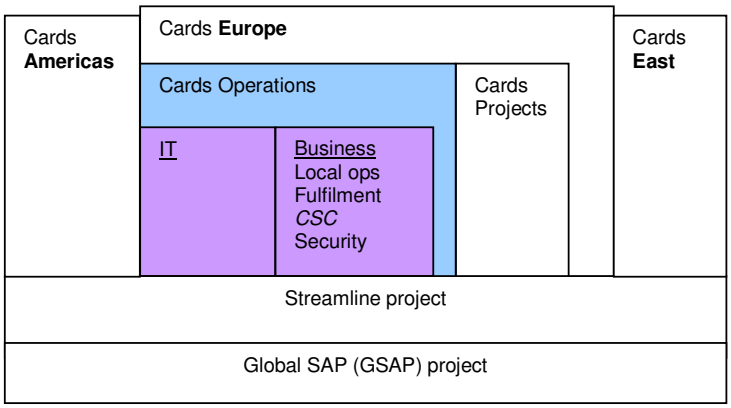



**Figure 4 Cards Organization within Retail**

One year ago the Cards IT department was incorporated into the new global IT department of Downstream (Intranet sources, 2007). Divided in:

- BIM (Business Infrastructure Management), mainly hardware and infrastructure support
- BAM (Business Application Management), mainly application support
- BSM (Business Systems Management), mainly demand management and communication
- AD&P (Application Development and Projects), mainly project and development work

The majority of people went to the BAM organization and the rest to BSM, BIM and AD&P. BAM focuses on top performing business application support. This in total will present the overall IT service to the business. As BIM and AD&P are not in scope they are greyed out in the representative picture below. The BSM on the contrary is the direct link between business and IT, a department that understands the business but also the IT requirements around it. The dotted lines are showing the communication flows from business to IT and IT to business that is filtered through the BSM line.

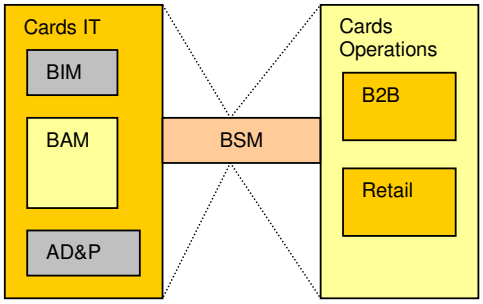



**Figure 5 Representations of Cards Business and IT departments**

## 2.3 Global projects within the organization

As already mentioned global initiatives will have impact on how the Card Business is organized. Projects are running in parallel and most of the times are linked to each other. A few of the important projects that will have impact on the business are Nemo, Streamline, GSAP, Sox and ISIP. Nemo is a project that will change the business organization and has direct impact on roles and responsibilities in parts of the organization. Streamline project is about streamlining the business by simplifying and standardizing processes and offers. This will have direct impact on business processes and IT Systems. Global SAP (GSAP) is a project that change all core SAP (ERP) systems around the world that will have impact on most of the business processes and IT systems. And in addition there are important compliancy programs called Sox (Sarbanes Oxley) and ISIP (Information Security). These have impact on both business and IT processes.

Different strategies in the organization are started, from different angles. The question is how to respond as an IT organization. How can an IT organization be aligned with all these different strategies and initiatives?

## 2.4 Card Transaction Flow

Different IT systems are integrated in the existing business processes and are fundamental for the complete end-to-end overview. Below is a high-level transaction flow that starts with a customer paying the fuel for his car or truck at the station and ends with him receiving the invoice or downloading his transaction data via a web tool. All services mentioned in the previous section are in this picture.

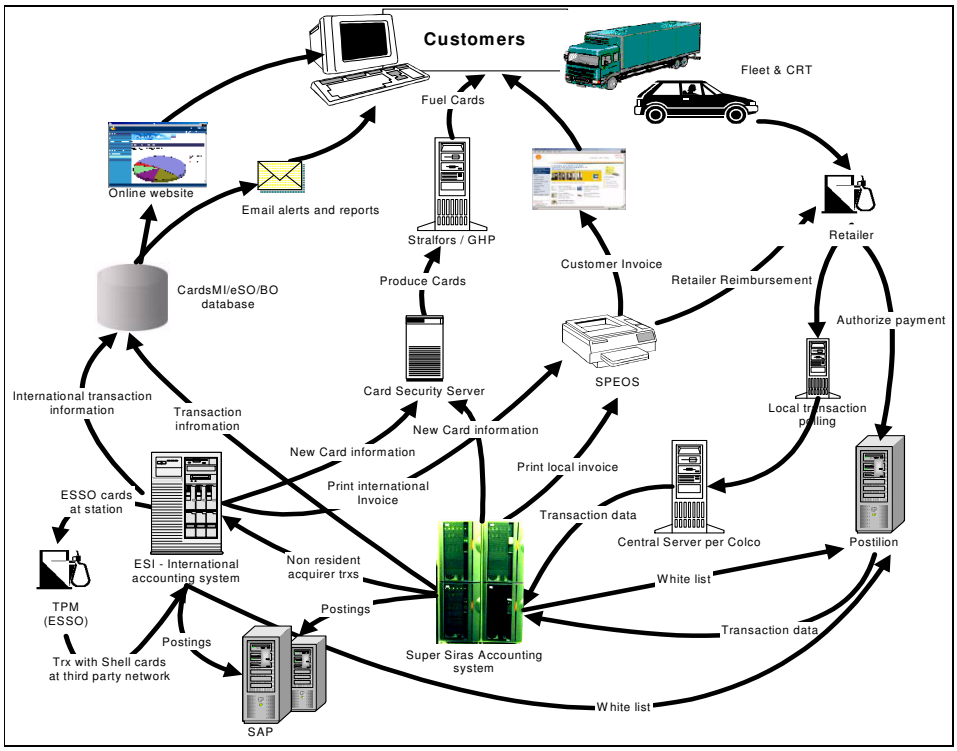



**Figure 6 Card transactions flow**

To start the end-to-end flow from the beginning, the customer on top is fuelling up his car or truck at a petrol station (retailer) and pays with a fuel card.

- The fuel card will be authorized by a system called Postilion. This system is fed by a white-listing mechanism (list of active cards) produced by the Super Siras accounting system
- Super Siras receives all polled transactions from Postilion and other polling systems and processes the transaction files daily
- Super Siras is interacting with ESI- International accounting system for cross border transactions and managing transactions made by cardholders of other cards suppliers
- Super Siras is interacting with SAP for financial bookings for customer or retailer accounting
- The accounting systems are part of the invoicing process and are sending invoice data (depending on invoice cycle) to the third party printing service. They print, archive or generate the actual invoice and send them to the customers or retailers. Electronic invoices are generated and made available to customers in the e-Invoicing web tool
- Super Siras and ESI are sending transaction data to the datawarehouse, called CardsMI to make management information available via the web or via email reports
- Customer and retailer information, also called master data, are stored and maintained within ESI and Super Siras & is distributed to e.g. CardsMI

- To produce new cards, data will be first sent to the Cards Security Server for encryption of the pin and the magnetic stripe information. After that the information will be sent to the third party that is producing and delivering the card to the end customers
- To manage the majority of all interfaces between the systems there is an application called PPI that receives and sends files to various systems & pre-processes and updates the content where needed

This picture has a system overview and therefore some detailed processes are not included. Also in different countries are different systems in place with different process setups but this picture is showing the standard that all countries are converging on. To prevent it from becoming too complex or disordered the exceptions are left out of this short comprehensive summary.

If we differentiate business and IT processes, the triangle on the right is the best way to show this. On top there is a business strategy that is translated to business processes and at the bottom the translation to multiple IT processes. That means IT processes are embedded in the existing business processes.

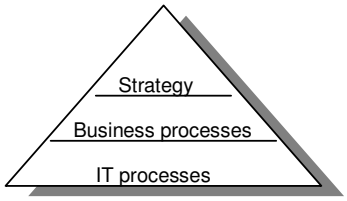



**Figure 7 Business processes vs. IT processes**

## 2.5 Conclusion

This chapter has given a brief overview of where the Cards Business sits within the organization. As service provider for Retail, CRT and Fleet it has many stakeholders. Hence the high demand of work and additional pressure to manage all expectations. Structural and strong governance should be in place to control and prioritize the demand. How is this organized and can this be improved? Are all strategies and expectations aligned? Communication between Cards Business and IT is critical and it will be interesting to see how this is managed. Can this be improved?

The new global IT organization with BAM and BSM is a new challenge. With the new BSM organization in between, acting as central point of communication (for both), new processes and different ways to operate will be introduced. This research also concentrates on the roles and responsibilities and how they experience communication and collaboration between the parties.

The Cards landscape shows the complexity of the fragmented systems the Cards business is working with. IT is everywhere and integrated in all the business processes. A mix of old and new systems inherited from the past that needs to be prepared for the future. From an architecture point of view it will be important to see how this is aligned with the business.

Also visible in the demarcation of the Cards organization is the Cards IT project department only managing the new projects. Although this is not in scope for this research it will be difficult not to discuss some of their areas, as they are also part of Cards IT.

The information given in this chapter will be used in the case study described in chapter 4.

# 3 Selecting Business IT Alignment methodology

Having read the problem description and the introduction about Cards, this chapter presents the Business IT alignment literature and describes the background and frameworks that are published by other researchers with the final goal to create a new Business IT alignment methodology.

## 3.1 What is Information Technology (IT)

Information Technology is an accepted term used for expanding range of equipment (computers, data storage devices, network etc), applications and services (helpdesk, application development etc) used by organizations to deliver data, information and knowledge (Luftman, .Lewis and Oldach, 1993)

## 3.2 What is Business IT Alignment (BITA)

Business IT alignment is a complex and multidimensional problem that remains among the top-10 issues for many organizations (Cumps, Viaene, Dedene, 2006). Business IT alignment is about aligning two different domains with its own characters, culture and ways of working. But when do we talk about Business IT Alignment? Alignment between two different domains is about achieving the same target and taking responsibility for each other and especially aiming for common understanding of the business. An internal advisory Firm 'Knowledge Transfer (2006) is defining Business/IT Alignment (BITA) as "An approach to the delivery of IT Services to the business that recognizes the pre-eminence of business needs. BITA encompasses ways of organizing, managing, controlling and measuring Information Systems (IS) resources so as to maximize added value to the business and includes 1) Business Assessment, 2) IT strategy & development and 3) Customer relation management".

## 3.3 Why improve Business IT Alignment

So what can this mean for the organization and how can the organization benefit from this alignment? CIO magazine (2005) says successful Business IT alignment involves developing and sustaining a mutually symbiotic relationship between IT and business - a relationship that benefits both parties. And Gartner (2007) says it is about aligning business and IT to maximize the value to the enterprises achieved from IT by delivering excellent value of IT operations and services, understanding the needs of their business and delivering of strategic insight and leadership to the enterprise. Henderson and Venkatrama (1999) are emphasizing the importance of IT investments. The inability to realize value from IT investment is in part, due to the lack of alignment between the business and IT strategies of organizations. Advantage is obtained through the capability of an organization to exploit IT functionality on a continuous basis.

Benson, Bugnitz and Walton have a more economic view on this: "The management team can control IT budgets and investments, and at the same time improve IT's bottom-line impact, by consistently and persistently selecting the best IT investments, and eliminating under performing existing IT activities".

Thus improving Business IT alignment is all about improving the business and working harmoniously together to get the maximum value out of the IT systems and the organization.

## 3.4 Models and Frameworks

In this section different models and frameworks are presented in terms of strengths and weaknesses and usefulness with regards to Business IT alignment. As J. Luftman mentioned in his book there is no 'one' answer how to deal with this and no 'silver bullet' to suggest. Thus it is important to select the most appropriate ones for the Card operations situation.

The presented models have a logical order (from abstract to more pragmatic approaches) and continue the search for an optimized approach. They go into increasing levels of detail to understand the overlapping ideas that are translated to a logical chain of different activities.

## 3.5 Strategic alignment model

For this area, various researchers have published several diverse models and frameworks. They recommend different approaches and especially new insights to understand this subject. IBM was the first company who started the research and came up with the Strategic alignment model of Henderson & Venkatran (1999) with a strong focus on business and IT strategies. With the role of technology varying from 'enabler' to 'driver' of the business strategy, business and technology strategies need to be in close alignment (Yogendra, 2002). They created an abstract view to understand the different aggregation levels to transform the organization. See below Figure 8 Strategic Alignment model in a bird's-eye view.

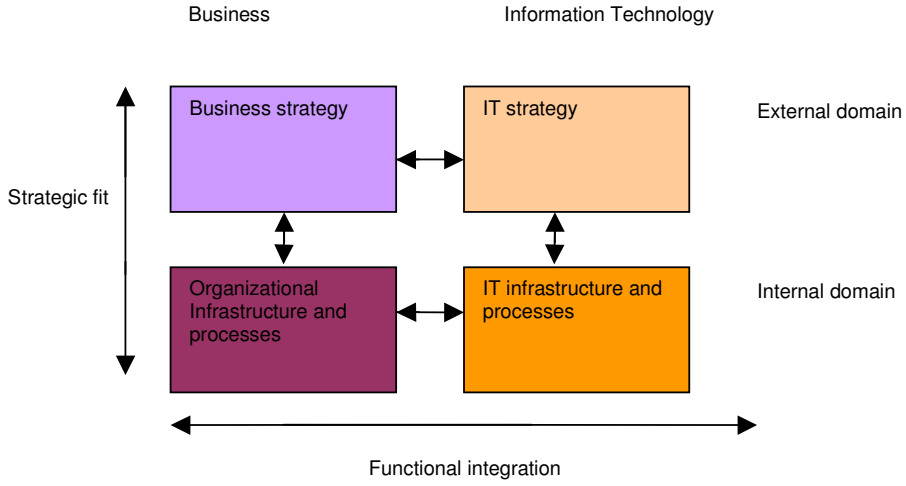


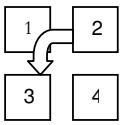

**Figure 8 Strategic Alignment model**

This model is designed to support the integration of information technology into business strategy by advocating alignment between and within four domains. Two domains on the left represent the business and two domains on the right the Information Technology. In addition they have made a clear distinction between an external and internal domain. The external domain is the business arena in

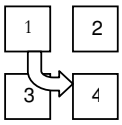
which the firm focuses on strategy and distinctive attributes to differentiate the firm from its competitors. The internal domain is concerned with the internal attributes that are in place like processes, skills and customer service. The internal domain alignment is pursued along two dimensions: strategic fit (between the external and internal domain of strategy) and functional integration (between the business domain and the IT domain). Many other researchers made use of this model and suggested new models or frameworks based on this.

For this research this model is selected, as this is the basis of strategic alignment. Mid 1980 IBM has sponsored significant research in pioneering this insight (Luftman, Lewis and Oldach, 1993). It has a focus on understanding the strategies behaviour within an enterprise. Is the strategy enabled by Business only or maybe IT only or not unthinkable both, Business and IT? There are 4 different perspectives; the competitive potential, the technology potential perspective, the service level perspective and the strategy execution perspective. The objective is to select one or a combination of the methods to identify an approach for IT planning and business transformation. Each perspective reflects an inter-play among three important domains forming what would appear as a triangle. The fourth domain remains stable and will be included in a later phase (Lufman, Lewis and Oldach, 1993, p211).

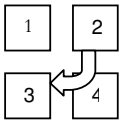
1. Competitive potential can be seen as IT strategy where IT influences the Business Strategy and can change the organization infrastructure with emerging technologies. This can results in finding new business opportunities that are competitive in the market



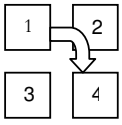

2. Strategy execution perspective can be seen as the Business strategy that changes first the business organizational infrastructure and then the IT infrastructure. Perhaps the most common perspective for management. This 'top-down" approach is preferred because of the strong linkage to the business




3. Service Level perspective has a strong focus on service management to build and sustain the service. IT strategy changes the internal IT infrastructure and influences the business Organizational Infrastructure. IT takes the responsibility for formalizing service level contracts




4. Technology potential perspective, creating a Business Strategy that directly fits with the IT Strategy and as result changes the IT Infrastructure. Strong understanding of IT capabilities by business leaders is needed and they must ensure system and people can be changed in ways to support these technology choices




Strength of this model is, it can be used to create a clear overview of the many attributes that can be aligned and has flexibility with regards to the level of attributes used. As already mentioned, this model has a very abstract view on alignment and it does not take cultural or organizational factors into account and does not suggest any pragmatic guidelines or best practices to assess the strategic alignment between the departments.

### 3.5.1 Generic framework

Another model is the Generic framework from Maes (1999), a framework for information management based on the strategic alignment model of Henderson and Venkatran. He reused the model and introduced two dimensions, the vertical dimension between the Business and the IT layers and the horizontal dimension between the operations and strategy layers. See Figure 9. The vertical layer represents an interface between the business and technology layer to define a common language and understanding. Business-I/C T Dialogue: the new language needs a semantic underpinning; as can evidently be ascertained in the common discussion between business people and their information systems department's counterparts (Maes, 1999, p11). The horizontal layer (the structure layer) has been inserted as one of the three learning loops to transfer the operational resources and experiences to sustainable strategic assets.

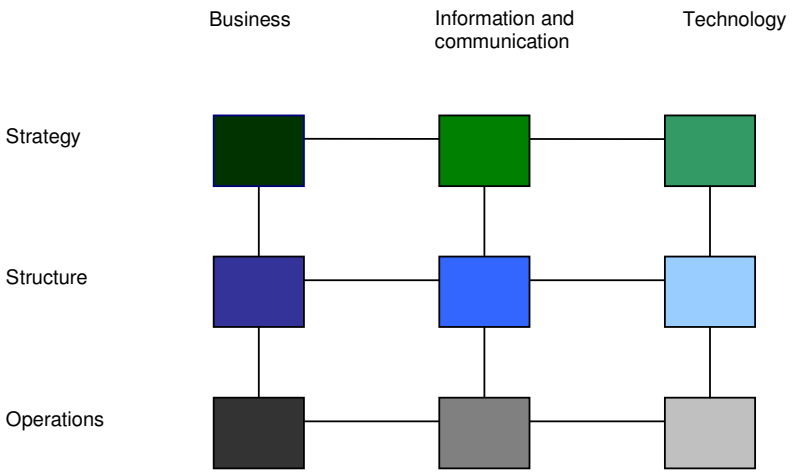



**Figure 9 Generic framework for information management**

In his paper he presents this model as the "framework of ideas" referring to different interpretations a researcher can have when using this. For example it can be used for linking the different fields in technology e.g. infrastructure, processes and applications respectively the columns from right to left, searching for alignment and misalignment. But another example is to look at operational processes linked to architectural models and communication lines to the strategic use of ICT.

Most interesting is to look at the organization how people are organized and communicate with each other with the different roles and responsibilities. Because this model introduces the missing link between the two areas and emphasises the importance of the people aspect and communication, it points out the less tangible subject that is crucial for the organization. As Gerrard said: "To bring business and IT together to integrate as one whole, with IT performing a well-understood role that results in the enterprise maximizing the effective use and value of IT" (Gartner, 2005). Also the middle, structure layer is an interesting view, as it can be difficult to enable current resources, processes and technologies for future strategies. With this view the people and IT landscape regarding architecture must be prepared, structured and aligned for future growth.

Based on that Generic framework, BiSL (Business Information service Library) made an extension to display the roles and responsibilities between ICT and Business, see Figure 10.

As Gartner (2005) also mentioned if there are unclear roles in the organization and the people do not know what to expect of others, Business IT alignment will be difficult to achieve. In this so-called nine-field model they have a clear split between the technical and business roles and specified an interface called functional support that's interacts between the two for communication purpose. Also between strategy and operations an additional layer of roles is defined to coordinate operations (Computable, 3 august 2007). This can also have a negative impact on the organization because most companies experience that this will stiffen the relations and work-environments and as a result it can cause difficulties in creating an informal atmosphere (Luftman, 2003).

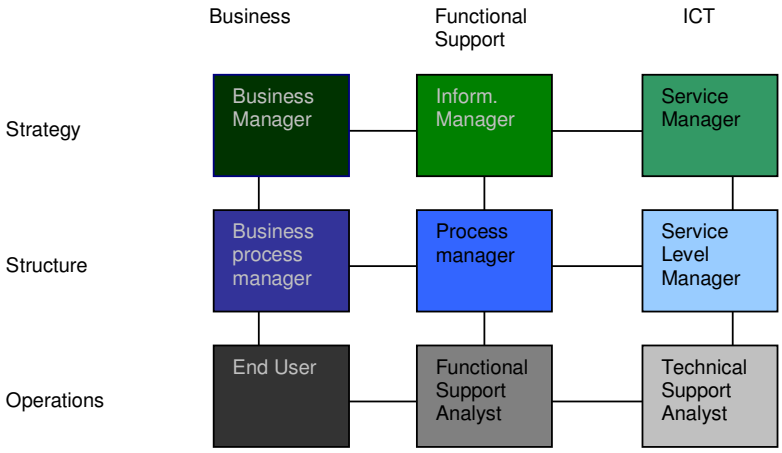



**Figure 10 Nine-fields framework – Business IT roles**

The strengths of this framework is the flexibility of choice, hence the model for roles and responsibilities & the link with communication and collaboration. The importance of communication cannot be overemphasized or undermined in its importance, especially in the field of IT and Business, where perceptions are usually wide of the mark more often than not, and expectations are unreal when it comes to the effect, utilization and impact of IT in Business (Luftman, page 175, 2003). To use this model for research, a mapping can be made to the current roles and responsibilities in Cards and the organization can be analyzed with a helicopter view.

Again these models have a theoretical abstract view of reality and are not providing any guidelines how to implement this in a most efficient and correct way. Also cultural organizational changes can hinder the alignment and implementation of such ideas.

### 3.5.2 Alignment competency

A more practical approach is required to explore the options and alternatives to improve the alignment between the different organizations. See below the six alignment competencies presented by Luftman (1993) and Benson, Bugnitz and Walton (2004),

1. Communication, it uses a common language between business and IT and it describes the tools how to communicate and how to align different agendas, objectives and perspectives in order to achieve the enterprise goals
2. Competency and Value measurement assesses the uniqueness of business and IT, and monitors/benchmarks the performance of IT investments against strategic objectives e.g. IT metrics. And makes them understandable to the business
3. IT governance has transparency and accountability for IT project outcomes. Effective IT governance is one of the ways firms achieve superior returns (Weill, Woodham, 1999). Governance means: specifying the decision rights and accountability framework to encourage desirable behaviour in the use of IT
4. Partnership, it connects and integrates business and IT planning, and management processes to prioritize the IT initiatives to align with business strategy. IT Management practices like service management are common to make performance visible
5. Scope and Architecture, it determines how to integrate business into IT and the impact of new IT investment on existing business process. In addition it gives insights for the business to find innovative initiatives to the possibilities of IT
6. Skills, it minimizes the resistance to change that comes with new IT projects. Constant development and focus on knowledge workers become more important

Whilst this looks like a very complete list of alignment competencies still areas like compliancy and security initiated by both Business and IT are not included. Also cultural differences between the departments are possible and could impact the overall alignment.

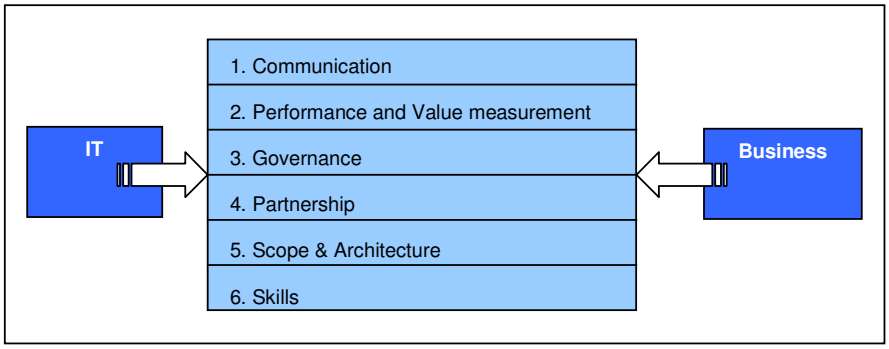



**Figure 11 Alignment competencies J. Luftman**

#### 3.5.2.1 Communication

In the area of communication it is important to look at how all the people in different departments are interacting with each other. See if the information flows are the same on different levels between management and the people on the work floor. To have optimal alignment between the business and IT, it is expected that higher management of IT and business have a shared agenda and organize regular meetings to discuss priorities. But in many companies this part can be the bottleneck. There could be some delay in accessibility and understanding. Business that sees IT as business enablers has a bigger focus on understanding what IT can do and cannot do. IT as service provider needs to understand how business wants to use IT, which means on an operational level and with innovative projects. This results in a constant mutual understanding of the cost, applications and infrastructure investments.

When they share their ideas and plans they can steer the business into the right direction. The question is how well is this cascaded to the people on the work floor and how well do the business and IT staff understand each other? As discussed in the chapter on Organization there are different IT groups discussing operational and project work on different levels but some are more formal than others. Formal processes and procedures are in place to register the new requests and get the right approvals and confirmations. Informal would be direct contact between IT and business people via email or phone that is not registered and logged.

#### 3.5.2.2 Competency and value measurement

This part is focusing on the approach how to measure the business value of the IT investment. Will it increase business or maybe improve operations or will it create new opportunities? The key to successful IT investment is to measure results only in business terms — that is, by using business language and common business metrics for demand management, supply management and supporting services (Fulton, 2003), because IT metrics are critical to demonstrate to business executives IT investment's value-generating potential (Cumps, Viaene, Dedene 2006). The difficulty is the justification of the investment as there are many different approaches. Luftman mentioned some of them: 1) the traditional Financial approach, the ROI (Return of Investment), 2) the New development approach (Real options) or 3) Information economics.

Most companies use the first traditional method; this is a widely accepted tool to measure and to monitor the investment and business value despite the possibility to manipulate the figures by changing the ROI rate. The second approach is using the discounted cash flow analysis that is combined with a set of options based on different scenarios. This will look at the decision process that can change after certain times to assess the 'best' IT investment. The third method ' Information economics' extends the other two and is not based on cash flow projections but on the less easily measured, strategic objectives and less tangible outcomes like customer service, quality of information or more speedy decision-making.

Thus when IT investments are evaluated different questions arise like; do you measure ROI? Are all objectives met? Are the processes accepted by the end-users?

The second subject of this section is competitive advantage. How to assess the business and IT components in their ability to create and sustain competitive advantage on competitors? Every IT department or business should reflect and ask the question 'how unique are we'? How unique and strong is the business, organization and people, and can IT lead to competitive advantage? Are there enough impediments, or barriers for imitation (Luftman, Reed & DeFillilppi, 1990)? Four barriers to imitation capture the determinants of sustainability in the context of IT-enabled strategies: IT project barrier (IT complexity, visibility and uniqueness), IT resources and capabilities barrier (infrastructure, data sources, IT development), complementary resource barrier (tangible non tangible resources, business process and external resources) and pre-emption barrier (switching cost, investments and relationship)

#### 3.5.2.3 Governance

A lot of organizations face difficulties in the decision-making process on new IT investments. Researcher Weill sees effective governance as the most important predictor of getting value from IT and therefore proposed a framework to design and understand effective governance, based on a research of top performing business firms in Europe and USA that have implemented their governance structure in different ways. But what is governance exactly? In his paper he defines governance "Specifying the decision rights and accountability framework to encourage desirable behaviour in the use of IT". A less abstract and more practical definition is "IT governance is about who makes the decisions (power), why they make them (alignment), and how they make them (decision process)" (Luftman, 2003). Both have focus on the decision-making process if it is the right thing to do in the right way, with as goal to get maximum value from IT. That means clear alignment between IT and business to validate if IT investments are according strategy and budget and if the solution is according standards and guidelines of IT. Relevant is the importance of shared domain knowledge with participation of business managers during IT planning and involvement of IT managers in business planning (Kerns and Sabherwal, 2006)

Weil says that the IT governance structure should incorporate all the major aspects of IT use including IT principles, investment and prioritization, planning, infrastructure, application development, architecture and accountability. And that fits to the different archetypes in the different domains. He identified 5 IT governance archetypes:

- Business monarchy – senior leadership (e.g. CEO, CFO) where IT management will not act independently
- IT monarchy – CIO individually or groups of IT executives
- Feudal – business unit leader or delegates
- Federal – combination of senior executives, business unit leaders, process owners and IT management
- Anarchy – Individual business owners or end users

With differences in who owns the decision rights (business or IT or maybe mixed) and who has the input rights (again business, IT or mixed). In addition he identified the different IT domains where input and decision rights differs

- IT Principles – future direction and how IT is used
- IT Infrastructure Strategies – building the IT foundation
- IT architecture – integrated set of technical choices to guide the organization
- IT investment – whole decision-making process of IT investment

#### 3.5.2.4 Partnership

In Luftman's book partnership is by far the least discussed subject and maybe because it is so straightforward. Creating a trustful and committed environment is not easy but essential for success. The main condition to realize partnership is the readiness of the client and the supplier to improve the management of each other and to deliver collectively and in collective interest the end-product (Broersma, 2006)

Luftman has a focus on the support and direction power of directors or decision-makers. For maximum partnership successful alignment between business and IT managers must be in place. Communication - influence and negotiation skills are in that position essential to create a mutual understanding how the business and IT should be run, because directors have the task to cascade a vision and direct the people that are reporting to them. Their role and responsibility is to delegate and create trust in their work environment so Business and IT can take ownership of their own area.

#### 3.5.2.5 Scope and Architecture

This is the only part of the framework that covers the technical aspect, discussing systems, applications and integration possibilities. Because IT is an embedded component in the business processes, IT can and should advise the business on the best technology with the right price and quality to run their business in a way that is adhering to the latest standards. The architect can set standards on how and what to use and to get the right fit and alignment with the business short and longer-term future plans. Technology is not only for reducing cost but can also trigger new businesses (Luftman, 2003). In his book he presents examples on what you can do with EA- Enterprise Architecture, like integrating systems and using web technology to communicate to the rest of the world. But Architecture is much more and should be for this subject limited to different level of Business IT integration: 1) data integration, 2) data level, 3) process integration and 4) technical integration. These areas represent the types of integration that are required to get the right alignment between business and IT.
Another important subject in this area is innovation. What level of IT innovation is done in the organization and should the organization invest in? In the Netherlands the average IT department is not able to play a role in the areas of IT strategy and innovation (Nap, 2007).

#### 3.5.2.6 Skills

This category covers all human resource aspects, looking at human labour, people's career plans and finding ways to motivate. In his book, Luftman mentions the difficulties companies experience with the high demand on IT people in the last few years and scarcity of resources in the supply. Globalization, outsourcing, off shoring and near shoring are all factors enterprises need to work with. The capacity to manage human intellect and to transform intellectual capital into service offerings is becoming essential, Luftman (1993, IBM System Journal Vol. 32, page 2). An HR plan needs to be developed, maybe on global level to keep and attract talented people with career opportunities and interesting personal developments. If not it can harm the competitive edge since most of them are people businesses. The right people will deliver projects on time, in budget and can aim for operational excellence.

### 3.5.3 Strategy to Bottom-Line Value Chain

This section presents a different approach and looks at the Business value of IT. Benson et al., part of the Beta Group, suggest the strategy to look at bottom-line value chain to understand, manage and control the entire IT spend within an enterprise. The Beta Group, a consultancy firm, advises companies to use the principles of New Information Economics (NIE) and explain what it takes to produce higher bottom-line impact and effectively manage IT costs. By asking the right questions it will lead to the right decisions and actions. See Figure 12 Impact questions of IT investments.

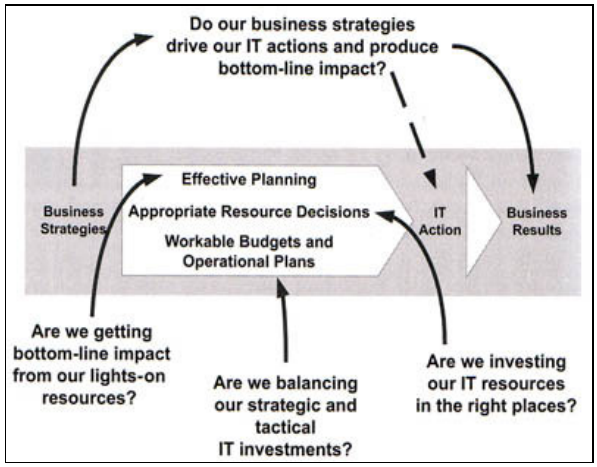



**Figure 12 Impact questions of IT investments**

The 5 NIE practices include:

1. Strategic IT demand/supply planning, translate business strategies into IT actions and direction and establish the drivers for IT
2. Innovation, the use of new IT capabilities and find new business opportunities
3. Prioritization, for project and resources and assign them to the most important projects and tasks
4. Alignment, between business and IT
5. Performance measurement, how and what to measure

In their book "From Business Strategy to IT action" they describe the importance between IT investments vs. business results and describe four scenarios:

1. Reducing IT cost with minimal 'bottom-line' impact (e.g. outsourcing)
2. Increasing IT cost and no 'bottom-line' impact (e.g. traditional budget methods)
3. Increasing IT cost and higher 'bottom-line' impact to be flexible in the rapidly growing business
4. Reducing IT cost and improving 'bottom-line' impact

Desired situation for companies is scenario 4. It is a difficult process to find the right balance between IT cost and business results and therefore companies can quickly fall into the trap of reducing cost too much with all adverse consequences. For scenario 4 Business and IT must be integrated, budgets and projects produce results only when managers and organizations perform effectively, without silos and disconnect getting in the way (Benson, Bugnitz and Walton, 2004). In their view alignment is again the crucial factor and it shows in Figure 13 Strategy to

Bottom-Line Value Chain the importance between the current portfolio and strategic IT plan to have the best view to look into the operational budget (lights-on budget). Application portfolio must be complete, maintained, prioritized and classified with the right criticality level by the business, and aligned with the Strategic IT plan to determine the annual operational budget for IT.

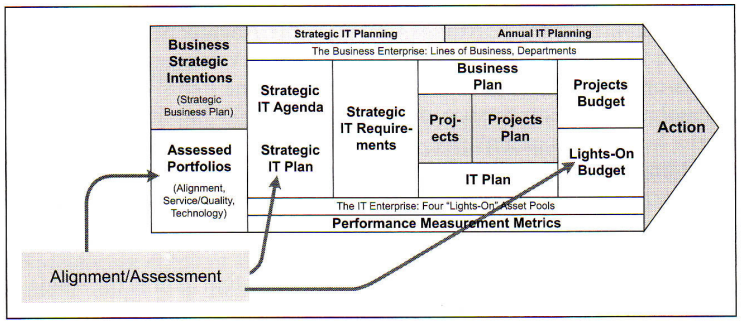



**Figure 13 Strategy to Bottom-Line Value Chain**

In contrast to the first 2 models they present a very practical approach how to deal with this subject and provide a detailed action plan based on the value chain. The most important ones to stress are listed below:

1. Define the goals and formalize the strategy IT agenda and IT plan
2. Connect to the bottom line and align the strategy and report overall performance
3. Understanding IT cost by making cost transparent based on portfolio management
4. Focus on the right things by prioritization of investments and resources
5. Make the right decisions and prioritization with integrated planning and alignment with the business
6. Plan the right results based on architecture, strategy, demand and innovation

Even though it was not their intention to focus only on Business IT alignment, the approach and tools have an overlapping value for alignment. Especially the instructions to integrate the strategy planning and by using the portfolio management and integrated planning are useful tools to improve alignment. The detailed approach and wide range of instructions are maybe a point of criticism as it is for many enterprises maybe impossible to implement. The downside of this could be the importance of data. Constant updates and maintaining of data are essential and are the strength of this approach. Enterprises lacking in this will experience problems and must oblige the organization a different way of working.

## 3.6 A pragmatic Business IT Alignment methodology

As already mentioned in the beginning of this chapter there is no silver bullet that gives the answer to Business IT Alignment. The selection of different approaches in this chapter has been outlined on purpose to find a pragmatic way to improve alignment. In previous sections the theoretical models and frameworks are presented but they still missed the pragmatism to deal with Business IT alignment.

The first strategic alignment model can give the researcher a good overview of high-level alignment components to understand the strategic direction, but because of its level of abstraction it is difficult to find concrete solutions to improve alignment. The second model, the generic framework provides another perspective and looks at communication between people & the roles and responsibilities. Its strength is to identify missing roles and communication lines, but is limited in other alignment areas.

The third alignment competencies model provides a more practical guidance in what areas to look for. The areas go into more detail and highlight the elements that are important to improve Business IT alignment. In addition also strategy to bottom line value chain is presented with concrete steps and suggestions how to improve alignment. Some models are more abstract than others but can trigger some new ideas in the area of alignment. They have overlapping interest and they are complementary to each other, but miss some definitive guidelines and give the researcher too much alternative space in terms of interpretation. The models can be used for different purposes and it is therefore important to use them where appropriate and decide what is needed for the research.

To develop a pragmatic approach a combination of all abstract models and frameworks is made. An approach including the strategic alignment model for understanding strategies (and directions), the Generic Framework for understanding the organization and the maturity assessment to understand all defined alignment competencies.

It is important to understand this logical order with as pre-requisite to analyze the business context and to gather the organizational information. The order goes from a high level abstract analysis to a low level detailed analysis.

By adding a clear step-by-step plan a new model can be presented as the new overall methodology. See in Figure 14. This methodology identifies the steps that need to be taken to understand the alignment between Business and IT departments in terms of strategy, organization, processes and people. An approach with the goal to deliver tangible results and to provide tested and validated recommendations to the requester(s).

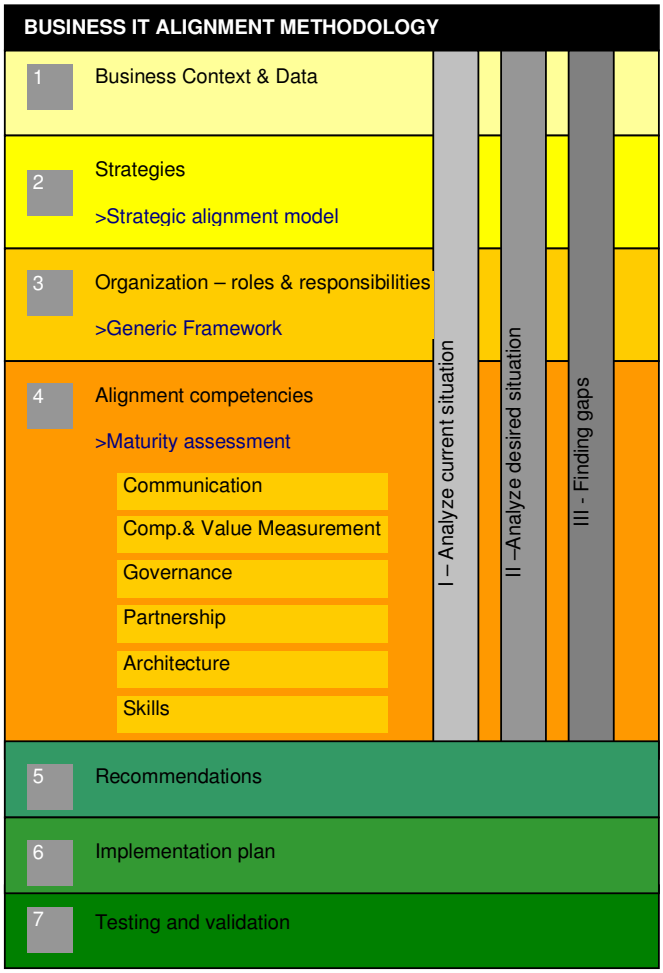



**Figure 14 Business IT Alignment methodology**

To explain the methodology in more detail from step 1 to 7:

1. First step, called business context and data collection, covers a high level research into the organization including actor analysis and the search for detailed information regarding the other main steps in the process. This is to understand scope and dynamics in which people are working. The following sub-steps are mandatory:
   - Create a helicopter view of the organization, as this is a basic building block for understanding how the business is organized and managed, and to give a good impression what roles and responsibilities are defined
   - Analyze IT components like applications, infrastructure and processes. To get a good understanding how IT is embedded in the overall business
   - Perform actor analysis that will provide the information on the different actors and their responsibilities including their objectives and interests. This is to understand what positions they have within the organization and to whom they are reporting
   - Collect data, this depends on the level of quality of available documents or information present in the organization. Executing a survey or one-to-one interviews will provide the research the missing and unwritten information regarding the organization and is therefore preferred
   - Gather information to find alignment improvements, as gaps have been identified tools from "Alignment competencies' (section 3.5.2) and "Strategy to bottom line value chain" (section 3.5.3) can be used to find opportunities to increase the maturity level of Business IT alignment
2. Second step is the search for strategic alignment. By using the strategic alignment model of section 3.5 it provides a tool to map the business and IT strategy to people, processes and applications on an abstract level. Both strategies can be assessed and the scope can be determined, including the direction of the overall organization strategy. The overlapping process shown in grey will be performed in this second step. Like step 1 the following sub-steps need to be performed:
   - Assess strategies; the alignment between Business and IT strategies on an abstract level is the first component to look into. In what way are the strategies presented, communicated and cascaded to the rest of the organization.
   - Assess alignment attributes, the alignment between business and IT attributes & internal and external attributes, also called horizontal and vertical alignment, are a way to look at the strategies in more detail. In this assessment it is important to look at how people, processes and applications are mapped to each other.
   - Assess the strategy direction. Is the strategy business driven or IT driven? Or maybe both?
   - Perform overlapping process in combination with preceding items that includes the search for the current situation, desired situation and the identification of gaps.
3. In the third step of the process the focus lies on the actual organization roles and responsibilities. By using the Generic Framework discussed in section 3.5.1 an assessment can be made of the current organization to a theoretical model. The defined sub-steps are:
   - Analyze the roles and responsibilities by using the nine fields of the Generic framework by taking the horizontal (structure) and vertical (communication) middle layers into account

- Map the roles in the organization to specified 'nine field' roles as shown in Figure 10 and make potential collaboration and communication channels visible
- Perform overlapping process in combination with preceding items that includes the search for the current situation, desired situation and the identification of gaps.

4. In the fourth and last assessment step, the alignment competencies of Luftman in section 3.5.2 can be assessed and the overall maturity level of alignment can be calculated as goal to find the desired maturity. In addition with the theory of Luftman, more in-depth research needs to be performed in the different areas. The following sub-steps are required:
   - Assess maturity level of alignment, this assessment will determine the overall level of maturity of Business and IT alignment and seek opportunities to increase the maturity level in the different areas. A selection of people in key positions in the organization from business and IT can determine the level of alignment by filling in the assessment and calculating the overall average – See Appendix A. Some detailed calculations can be made in the different areas as it is expected that business has a different perspective than IT
   - Assess the area communication; this is a research to the communication level between the departments (section 3.5.2.1). Look into mutual understanding of the departments and how current formal and informal communication is done. See if the departments are sharing knowledge and ideas and if enough involvement is in place for both sides
   - Assess the area Competency and Value measurement; this is a research to see how unique the business and IT combination is in their market and see if the expectations of services and reporting are met (section 3.5.2.2). This includes a critical look at the Service Level Agreement and the way IT as service provider is reporting to the business
   - Assess the area Governance, this is a research to look how the organization managing the changes and investments (section 3.5.2.3). Analyze the existing governance bodies and look into how the processes around that are managed. Focus on project planning, prioritization of investments and projects. Analyze the current governance structure and the level of involvement from business and IT with respect to input and decision rights of IT projects and investments
   - Assess the area Partnership; this is a research to see how well Business and IT work together as partners (section 3.5.2.4). Get an understanding how departments are sharing risks and rewards and analyze how the organization sustain the internal relationships
   - Assess the area Scope and Architecture; this is a research to Architecture to assess the quality of integration of processes and data of the different IT systems (section 3.5.2.5). Assess four types of integrations 1. Data integration, 2. Data level, 3. Process integration and 4. Technical integration. In addition some focus on innovation, how this is managed and encouraged within the organization.
   - Assess the area Skills; this is a research on people, their training, knowledge and their developing plans (section 3.5.2.6). In some companies covered by the department human resources but in other cases delegated to line management

- Perform overlapping process in combination with all preceding items that includes the search for the current situation, desired situation and the identification of gaps.

5. Step 5 is a step to define recommendations, based on the gaps and conclusions made in the preceding assessments reflecting the desired situation and to deliver recommendation to the business and IT management team. By using suggestions based on 3.5.2 Alignment compentency and on 3.5.3 Strategy to Bottom-Line Value Chain theory.
6. Step 6 is defining the next steps how to deal with alignment improvements in an implementation plan. This gives the organization advice how to prioritize and start implementing the potential improvements. The implementation plan can be divided into 4 phases:
   - Strategy approach, defining actions for higher management how to deal with existing strategies
   - Organization wide approach, defining actions for the whole organization
   - Implementation, presenting highest priorities and quick wins
   - Monitoring and feedback, defining a longer term approach to keep focus on alignment
7. In step 7 the provided recommendation need to be reviewed and validated by Business IT management and involved stakeholders, to validate the results and to be sure all recommendations meet expectations. Are the recommendations realistic and are they clear and understandable. In addition it is important to look at if elements are missing or are incorrect.

To summarize, this process consists of the combination of
1. Analyzing Business and IT
2. Identifying the strategy targets and objectives
3. Assessing the organization of people & roles and responsibilities
4. Identifying the alignment competencies and current alignment maturity level
5. Finding recommendations and
6. Validating recommendations
7. Creating an implementation plan

In the next chapter this process will be used to assess the alignment within Cards as case study and find the gaps to increase the maturity level of alignment.

# 4 Case study

In this project research will be performed to look at Business IT alignment in the Card Business and investigate how well the Card IT organization is aligned with the Card Business organization. By using several methods and models based on the methodology the current situation will be analyzed alongside the desired situation to identify gaps and find opportunities to improve. The case study starts with step 1 of the defined methodology to understand the Business context and how data is collected.

## 4.1 Step 1 – Business Context and Data collection

Information regarding Business context 1) Understanding business 2) understanding organization on high level and 3) Understanding Business and IT processes; are described in chapter 2. Next sections will discuss the actors within the organization, the tools that have been used to collect the data and how the data is used in the report.

### 4.1.1 Actor analysis

See below in table 1 the most important roles within the Cards organization with in the right column the role description and main objective.

| **Roles and responsibilities** | |
|---|---|
| Business Manager | Responsible for Cards business operations in whole Europe and aims for flawless operations, that means in overall Operational Excellence |
| Business Change Manager | Responsible for all business related changes. Aiming for a smooth and quick delivery of business changes and rollouts. Currently part of StCC (Sell to Cards Customers) organization |
| Cluster Management | Cluster Operations Managers reports to the business manager and are responsible for operations in a cluster, combination of multiple OU's (Operating Unit) in a certain area. E.g. Cluster Benelux – Belgium, Netherlands, and Luxembourg. Aims for Operational excellence, delivery of right service and minimize customer complaints |
| Lecom community | Local Cards Operations managers, report to the Cluster manager and are responsible for all operations within the OU. Aims for Operational excellence, delivery of right service and minimal customer complaints |
| BSM Manager | Business System Manager, liaise with Business & IT and is direct partner for both departments. Responsible for strategic changes, demand management and all communication between Business and IT |
| IT Manager | Responsible for all Cards IT systems and applications in Europe. Aims for operational excellence on the systems and processes they support. Quality delivery with the right |

| | |
|---|---|
| | balance of people, work and budget |
| CCC Functional support | The Cards Competence Centre (CCC) team reporting to the IT manager and responsible for E2E functional support for the Cards IT landscape. Aims for operational excellence and smooth delivery of projects and business changes |
| Technical and Functional Support teams (e.g. ESI, CardsMI, PPI, Siras, Regression Testing and Postilion team) | Report to the IT Manager and is technically responsible for all operational IT incidents and requests for their IT systems and applications. Aims for high quality IT service according to agreed SLA |
| IT Cards Architect | Reports within the BSM 'project' organization. The Architect has functional and technical responsibilities to assess and approve changes within the Cards Landscape. Provides advice and approvals in the PIT governance body. Objective is to provide standard high quality IT landscape to support the business |
| Business Process Architect | Reports within the BAM organization. The Architect has functional responsibilities to assess and advise functional changes within the Cards IT Landscape. He is also currently reviewer in the PIT governance body. Objective is to provide high quality IT service and consultancy towards the business |
| Fulfilment team | Responsible for card production and invoice delivery. Reports to the business manager and aims for Operational excellence, delivery of the right service on the right time |
| StCC design and deploy team | Sell to Cards Customer Team, responsible for design of new standardized processes and deployment of streamline deliverables. For this research this team is out of scope |

**Table 1 Cards Roles and responsibilites**

### 4.1.2 Data collection

Collecting data within an organization depends on how accessible the information is. Does the organization share the information via email, intranet or maybe engagement sessions? There are different ways to get the information that is required for research. Objective of the Business IT alignment framework is to get details around the current situation, desired situation and possible gaps.

1. Start with a desk research to get acquainted with processes and procedures of the current situation and investigate the IT components within the Business processes. This includes the following elements:
   - IT systems and applications
   - Work processes and procedures regarding support and incident resolutions
   - Procedures and approval cycles regarding requests and project work
   - Business and IT processes in Cards IT landscape
   - Service Level Agreements

2. The assessment of J. Luftman, see Appendix A, is distributed to the actors to introduce them to the subject of Business IT alignment prior the interview. They have been asked to fill in the assessment purely from their roles perspective. By using this assessment the current maturity level can be found and will be used as part of the current and desired situation
3. The outcome is the overall organizational maturity level in the different areas. Results are presented in step 4 of the process in combination with interviews with different actors discussing the issues and bottlenecks
4. Performing interviews with experts is part of the data collection step. Interviews with application specialists & consultants and business & IT management give some additional 'verification' input next to the information coming from desk research. See Appendix B – the interview questions, setup by using the building blocks of the alignment methodology and structured in such a way that detailed questions are added dependent on role. This structured approach gave the interview the flexibility to focus on the areas, which were relevant for the interviewees. For example interviewing management, the subject of strategy alignment is broadly discussed and with the Architects the subject of scope and architecture. This way the time constraint of one and half hour could efficiently be filled in. Some interviews were done over the phone and some face-to-face. Interview data has extensively been used through the case study and is an essential source for referring. Presented current and desired situations are therefore partly compiled with interview data. The following people have been selected and interviewed to provide input to the case study:

    1. Business
        - Europe Cards Operations Manager
        - Cluster manager UK and Nordics Cards Operations
        - Cluster manager DACH Cards Operations
        - Local euroShell Cards Operations manager Austria
        - Fulfilment operations manager
        - Implementation manager Europe
    2. IT
        - Europe Business Application Manager Payment
        - Cards Competence Centre Team Lead
        - Postilion Team Lead
        - PPI Team lead
        - IT Service Manager
    3. Business IT
        - Business Systems Manager Latin Americas
        - Business Systems Manager Europe
    4. Architects
        - Cards IT Architect
        - Cards Business Process Architect

## 4.2 Step 2 - Understanding strategies

As mentioned in chapter 3, for understanding the strategies between Business and IT there is a Strategic alignment model from Henderson & Venkatran (1999) that can be used to identify the alignment possibilities. For this research a part of the model will be used as mentioned in chapter 1, the demarcation for Cards Business. Business and IT strategies as such are covered by a different business and IT departments and are not included for this research. That means focus lies between two areas of "organization infrastructure and processes" on the business side and the "IT infrastructure and processes" on the Information Technology side. The red rectangle in Figure 15 shows the demarcation of the model. As Henderson & Venkatran presented in their articles the strategy components are focused on the external domain, but for this area cannot completely be left out as operations have their own strategy even if it has a focus on internal processes and systems. In this figure it gives a simplistic abstract representation of Cards based on the Strategic alignment model by showing additional boxes on top and bottom of the model. On top it is showing the overall global strategy and at the bottom the alignment between people, processes and applications linked to all critical main processes.

### 4.2.1 Current situation

To assess alignment methods "strategic fit" and "functional integration", the introduction to the business and IT strategies & targets will be described in the next sections. This is essential to understand the way forward for the organization.

#### *4.2.1.1.1 Business Strategy*

The Cards business is part of the global Retail organization and will therefore need to follow their vision and strategies. Retail vision is to be "The Best Fuels Retailer in the World'. Mapping to the Cards world means:
By delivering our cards offerings to our customers excellently, every day

1. On time
2. Accurately (right and to right address)
3. Securely
4. Every time
5. At a price the business (customer) is prepared to pay

Managing change that continues to drive process and system simplification supports operational delivery and development of the CVP (Customer Value Proposition). In a way that ensures mutual alignment with our internal and external partners 'Run the factory'. In short that means 'operational excellence' in the operational world.

### 4.2.1.2 IT strategy

The Cards IT department is part of the global organization BAM. The organization and processes must be aligned with the global picture. That means also aligning the vision and targets of the central IT organization BAM. Because the Cards IT department joined the organization not long ago they have some additional time to apply the new processes and procedures. The BAM vision is to achieve "Top Quartile performance and has the following targets:

1. Work with the Cards business to deliver the IT Operating and Functional Plan targets
2. Attract, develop, and retain talent through support of key HR processes

3. Maintain our license to operate by continually improving our abilities to deliver operationally and functionally excellent, compliant IT, including continued improvement of applications sourcing strategies and processes
4. Optimize and ensure end-to-end applications supportability and sustainability, including process, vendor, portfolio and architectural management
5. Collaborate with the Cards Business to identify and capture additional innovation opportunities
6. Operational excellence

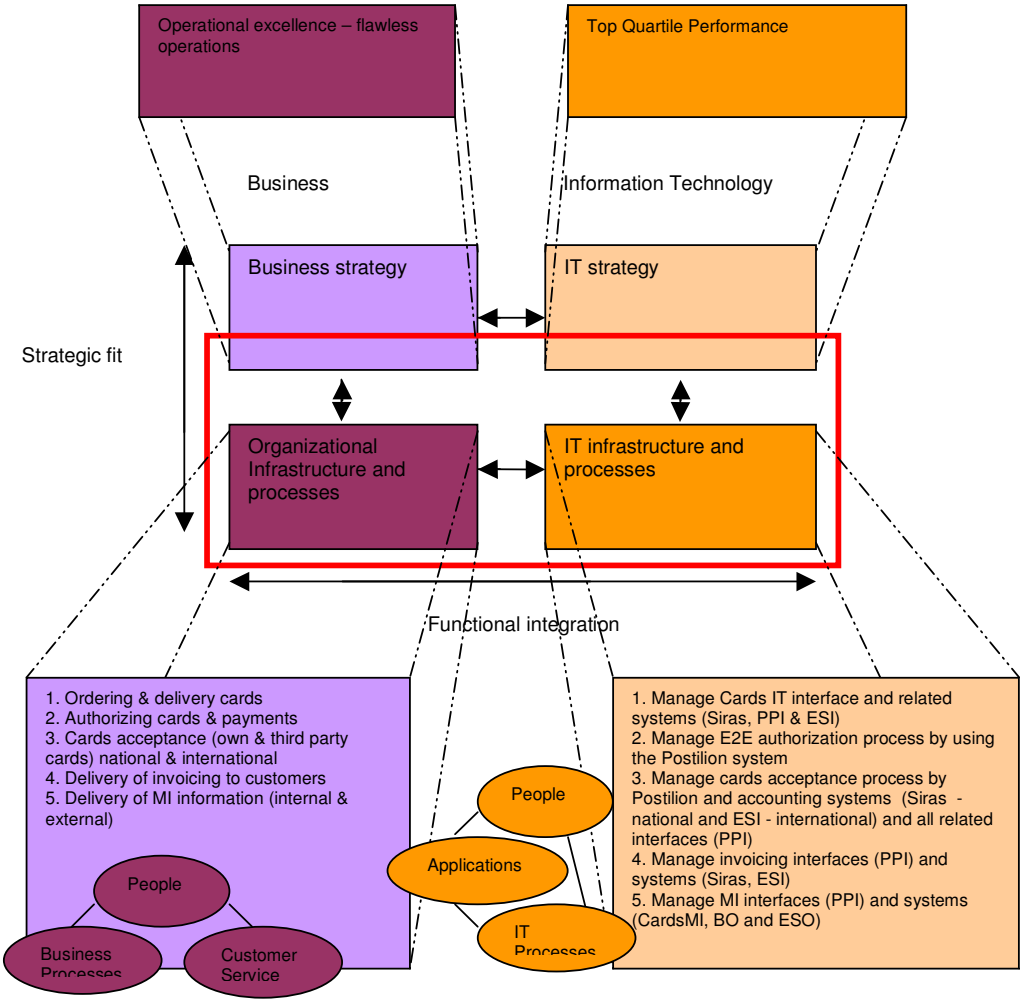


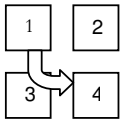

**Figure 15 Current Strategic Alignment model within Cards**

#### 4.2.1.3 Strategy perspectives

Based on the theory there are 4 different strategic perspectives and within Cards there is obvious a mix of these.

1. The main one with the biggest impact in the organization is strategy execution perspective, where business drives the new changes and rollouts with much or minimal IT impact

2. The second important one is the Service Level perspective. When IT is reporting in the global IT organization it has a strong focus to deliver high quality service. That means changes in processes and tools & the attention towards service contracts. It can be said this is the second strategy perspective within Cards
3. The third, Technology potential perspective is not common in Cards. There are some examples where Business and IT strategy have introduced some new opportunities but it is not in constant development. Some examples are web-application FCE (New web client interface managing new cards orders) and web-application e-Invoicing (external web tool delivering electronic invoices instead of paper invoices
4. And the last one what is missing in Cards is the Competitive potential. There are no strong IT drivers that can influence the current Cards business with new technologies




Based on the preceding definitions and discussions it can be concluded that currently the Cards business is very Business driven. Knowing that Business changes are easier than changing the IT infrastructure and systems (e.g. Siras or ESI) it is more logical this strategy execution perspective is followed. See figure on the right. To establish a performing strategic alignment between Business and IT calls for either creating an IT plan or identifying opportunities for business transformation or doing both (Luftman, Lewis and Oldbach, 1993, p117)

#### 4.2.1.4 Strategic fit

This vertical alignment aims for integration of the internal and external attributes of the model. The Business Operations strategy goals should be aligned with operational roles, tasks and responsibilities. This is partly exceptional because the operational organization has a limited external attribute.

##### *4.2.1.4.1 Business integration*

The vision of "Operational excellence" in the Cards business department is in this world clear. The end customers should get the most pleasant service without any issues. To achieve that the organization have looked at people – processes and customer service areas. Customer services must run smoothly without any incidents. Provide services on time, accurately and every time and that means constant monitoring of the service itself and provide quick resolution of problems. Currently there are enough areas for improvement (where it can be improved to monitor the services and processes to have a strong set of tools to operate more efficiently). Related to that are the roles and responsibilities of local operations managers. Due to day-to-day operations and involvement of many local and central projects it's difficult to cope with the workload. This is an important element that requires some additional focus.

##### *4.2.1.4.2 IT Integration*

The Cards IT department is applying the BAM vision and targets, and has therefore an aligned vision statement "Operational excellence in IT". Like the Business, IT is focusing in their areas to improve operations. That means constant focus on improvements in the people area like off shoring and outsourcing, moving people to different roles and reward them when needed. In the process and application areas improvements are in progress to increase performance, stability & availability and to aim for smooth delivery of IT processes. Systems and processes are under constant review and the IT teams prepare the overall Cards

landscape for future growth to provide the business a sustainable service for the longer term.

#### 4.2.1.5 Functional integration

Functional integration looks at the Business IT integration and checks if all attributes are aligned with each other.

##### *4.2.1.5.1 Level of strategies*

As already mentioned in the previous sections the visions are clearly aligned with each other and have an abstract high-level link. Despite the vision, real integration or alignment with regards to strategies between Business and IT is missing. Looking from a distance they operate more or less in silos. Decisions and directions are clearly coming from the business. IT will need to follow but there are examples where IT is not directly mapped to Business strategies. For example: IT compliancy projects and rollouts of new global processes. Due to constant business strategy changes and because of the globalization of the organization, the decision-making process is taking longer and longer. Next to that there is still no formalization of the IT plan that is mapped to a possible business strategy. There is a component missing that is translating the IT needs with regards to business requirements. IT has a good interpretation of the strategy and is committed to perform high quality service to their customers but a clear focus on priorities and clear defined performance indicators of operational excellence are missing.

IT is also working on compliancy rules like Sox and ISIP that requires fundamental changes in infrastructure, applications and processes. This is required to keep their license to operate. When these compliancy activities are in progress it is difficult to rollout business strategies.

Existing IT standardization of application and infrastructure architecture is also forcing business to follow these. Instead of business strategies they will adhere to IT strategies. This can lead to the advantage of better, maybe cheaper solutions.

##### *4.2.1.5.2 Level of operations*

By using the model, important processes from 1-5 in the business, listed in Figure 15 can be assed. By assessing the Cards business on an abstract level in terms of people, business processes and customer service it can be concluded that these are aligned. Cards services e.g. providing invoices, card acceptance, authorizing card etc is in line with the business processes supporting that. The operational organization, the staff, is in place that is mainly responsible for the processes and customer service. In addition they have more tasks (e.g. projects) and responsibilities thus if required there is a possibility to align that more effectively. Going into detail there are of course enough gaps because of various deviations, like different countries with different processes, but in general for this research this is aligned.

Listed in the same figure but on the right it is showing the IT systems that are part of the processes. The processes are directly mapped to the business processes and application on the systems directly mapped to the IT processes. People are currently not mapped to the processes but organized in teams based on the systems used in the processes. As this has grown historically it will be difficult to change. Besides teams are supporting projects that constantly look for improvements in their areas and that will be difficult if resources are only aligned with the processes.

### 4.2.2 Desired situation

Based on the current situation and performed interviews a desired situation can be described. Listed below the areas identified in the current situation:

1. Strategies. The strategy as such is already a desired situation, but it is desired to be constant up-to-date of each other strategy developments to understand the impact of changes on the organization and business. Also desired in both departments are high quality services, operational excellence and the focus on cost reduction.
2. Strategy perspectives. For the IT department the service level perspective has a high priority but business strategy should always be number one. Business defines the strategy and rolls this out in their organization and IT. That means the strategy execution perspective is desired in the Cards business.
3. Strategic fit
   - Desired within Business integration, the right balance of operational and project work and constant search for operational improvements in the monitoring the services and processes
   - Desired within IT integration, the right focus on cost reduction and search for constant opportunities in off shoring and outsourcing. In combination with operational excellence and high performing people and systems with a sustainable future
4. Functional integration
   - Desired within level of strategies, to be fully aligned and informed of target strategies. Clearly defined and translated IT requirements based on business requirements. In addition it is desired to have good understanding of important IT compliancy projects and alternative business architectures
   - Desired within level of operations, to be fully aligned with people, applications and processes in the various countries and align people in the organization to E2E processes

### 4.2.3 Gaps

Gaps can be identified based on the described desired situation and the current situation

1. Sharing of strategy information and developments, there is room for improvement in understanding each other strategies and sharing the challenges both department faces
2. Strategic fit. Within business integration right balance of local operations day-to-day work and project work is missing and the operational initiatives or IT plan to identify improvements. But initiatives are in progress to improve the controls to ensure issues will be prevented. In addition there is reorganization ongoing to improve allocation of resources to align with the overall strategy. Thus there are enough movements and initiatives to improve the 'strategic fit' alignment.
3. Functional integration
   - Within level of strategies a concrete strategy plan is missing that is translated into a Function IT plan with IT requirements based on the defined business requirements
   - Within level of operations the area of E2E needs to be investigated as it is such a broad topic, that can have impact on the organization, people and responsibilities

### 4.2.4 Conclusion

When discussing strategies with the business during the interview it is surprising to hear they have limited awareness of the IT strategy, in spite of the fact that the IT department has as its main function to provide service to their business. Because of the centralized organization, the IT strategies decisions are taken on higher level and people in the organization have the feeling that top management does not have the right contacts or that there is a lack of communication. Despite the use of the term "operational excellence" in the strategy statement it misses a concrete approach that people can take action on. When strategies are set it is important to define measurable goals that can be cascaded through the organization. Taking operational excellence as example, how does the operational department see this implemented? How much focus in which areas and what to improve? Especially this type of clarity will be important to set an IT strategy plan to define IT actions for a longer period. Short term actions and long term actions. Benson in the book 'From Business Strategy to IT action', sees a crucial link in setting the right IT Plan and IT budget and investment based on the Business strategy to get maximum value from IT. Also during interviews some questions arise. If operational excellence is our focus why are we not taking action? There is constant budget constraint & experienced and knowledgeable people are leaving. How does Cards fill that gap? Having the focus on operational excellence could change the mindset

To summarize the key findings of this section:

- There is alignment between the internal and external attributes (strategic fit)
- On higher level there is alignment between business and IT (functional integration), but this requires attention in defining the details
- No clear Functional IT plan based on business strategy and
- Limited communication regarding business and IT strategy

Important gaps have been identified and some suggestions are mentioned. Next chapters will continue the search to Business IT alignment and step 3 is next of the alignment process.

## 4.3 Step 3 - Understanding the organization

A new global organization has been setup as mentioned in chapter 2 discussing 'the Card Business Organization' and presenting the new structure between business and IT in Figure 5 Representations of Cards Business and IT. By using the generic framework of Maes, a mapping can be made to the Cards business roles and responsibilities.

### 4.3.1 Current situation

The question here is how to choose the right mapping. The middle communication line has been introduced as information management layer and that is not formally in place for Cards. Information management is the procedure of collecting data and processing, presenting and communicating information (Wikipedia, 2007). Also the vertical structure layer within Cards is missing. See in Figure 16 Current roles within Cards, the missing parts based on the generic framework.

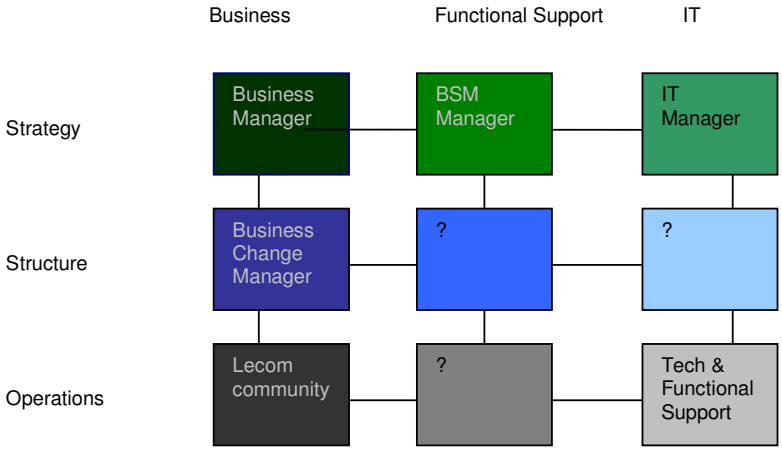



**Figure 16 Current roles within Cards**

This figure is showing a lot of gaps but the organization naturally fills them. Although formalization of roles is not complete, the Cards business is creative and flexible enough to manage that.

To begin with the first vertical line, on the left there is the Business Manager from Cards that has regular contact with the Business Change manager coordinating, planning and deploying business changes to the environment with help of the local Lecom community. These three roles can directly be mapped to the model. In the middle there is the information management layer with the BSM on top, with a liaising role between Business and IT Managers. Translating Business requirements to IT solutions and IT to Business opportunities. Based on information during the interviews it has been concluded this BSM role is in development. Communication lines between Business and IT need to be improved and responsibilities of the BSM formalized.

Technical and functional teams have direct contact with the Lecom community and discuss if necessary also with the change manager or his delegates. Also SLA management is partly done by the BSM Manager and is regularly asked to maintain and update the operational agreement.

The Cards IT organization, the technical and functional support, has a mix of differently organized teams. First of all the majority of the department is system oriented and secondly it is difficult to draw the line between functional and technical support. Currently every possible combination is available. The CCC Team for example is the only non system-oriented team and is responsible for the end-to-end functional support of the value chain of Cards IT processes. But teams like ESI and CMI are both functionally and technically responsible for their systems whereas teams like Siras and PPI are only responsible for the technical support. In addition the IT infrastructure support of operating systems and middleware is done by another central IT service provider and is out of scope of BAM. This variation of roles is not the best starting point to map to the generic framework.

Based on the model it can be concluded that there is high level of flexibility and adaptation, but some people are probably doing either more or less than what is expected from them.

### 4.3.2 Desired situation

Taken that as input to the model some certain roles can be filled in perspective of the ideal situation. See below in Figure 17 the theoretical framework mapped to Cards filling the gaps identified in the current situation.

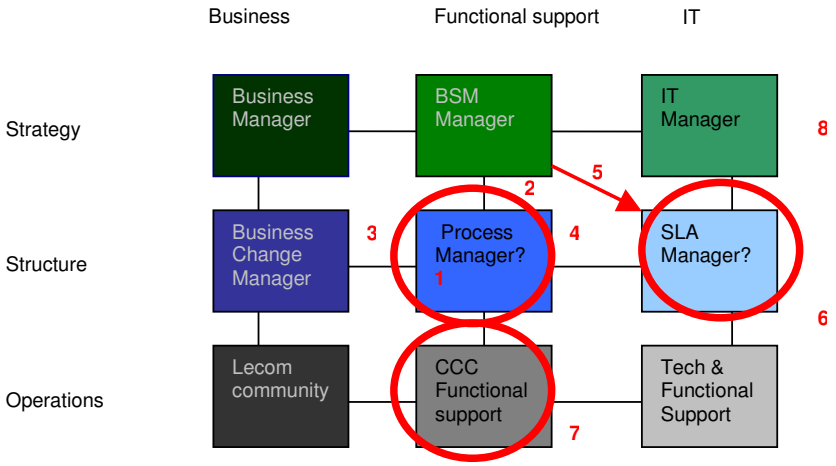



**Figure 17 Desired roles within Cards**

The roles that are unchanged in this model are the line of business (the first vertical line) and the line of strategy (the first horizontal line). So what are the differences?

1. The missing Process Managers role within operations. A role that is responsible for all IT processes within the operational environment. As this role does not formally exist in the organization it can be concluded the ownership currently lies in the StCC Design team that is out of scope for this

research. This team is very project and strategically oriented and has no direct communication lines with operations. The closest to this Process Managers role is the business process architect within the CCC and could act as process owner of all end-to-end processes within the operational environment.

2. The missing communication line between BSM and Process Manager. That means for new strategic changes the BSM could liaise regularly with the Business Process Architect. Currently there is no constant communication in place, as consequence the BSM manager does not have the information flow it requires.
3. The missing communication line between Business Change Manger and Process Manager
4. The missing communication line between SLA manager and Process Manager
5. The missing SLA Managers role. On the IT side in the right column, the SLA Managers role is not formalized and he is not discussing the SLA on regular basis with the IT Manager and with the Technical and Functional Support teams in the department. But the business and IT departments prefer constant reviews and improvements regarding the SLA
6. The BSM has a direct link to the SLA Managers role. The BSM is currently responsible for setting up and managing the SLA between the Business and IT, but is formally not the SLA Manager
7. The functional support team between business operations and IT operations. There should be a specific group responsible for interfacing with the business directly but should we therefore split the teams? The CCC Functional support team is in place but it can be concluded that the organization is not using the CCC resources and knowledge for any strategic intentions (In a formal perspective). In addition the responsibilities of the CCC team are not entirely clear. Since much knowledge of the business process lies in that team, it sometimes takes the responsibility to (re) design and implements business processes
8. The IT Manager is the direct line manager for all the functional and technical support and has a direct open informal communication line with the business.

### 4.3.3 Gaps

Below identified gaps based on previous sections:

1. Un-formalized process managers role within the operational environment, that understands the E2E processes and business and technical complexity
2. Missing communication lines around Process Managers role. The Process Manager requires direct lines with the BSM, Business Change Managers, the functional support analysts and SLA manager. Responsibilities of this role are: 1) develop organization's information and knowledge architecture and 2) (re) design the critical information and communication processes. To realize that, formalization of the role and communication lines need to be established
3. The SLA Manager role is not explicitly defined in the current organization, but partly covered by the BSM Manager. Is this ideal? This role should regularly maintain and monitor the current KPI's & (re) design the critical IT processes. In addition discuss the operational results with IT management and IT technical analysts. It can also be concluded that SLA management is only useful in a completely organized operational environment and the Cards IT department currently is not. The mix of operational & project work is not ideal in this type of model l and project work cannot be integrated in the SLA.
4. Functional and Technical analysts are in the same department and mixed in different teams. This model prefers a clear separation between functional and

technical people with technical operations people reporting to the SLA Manager and IT manager & functional people to the process manager.

5. BSM role between Business and IT is currently not a strong communication line. Based on this model constant and direct communication is required. Discussions about issues, changes and strategies should take place in this forum.
6. As identified the structure layer is missing in the information and technology dimension. What impact does this have for coming strategies?
7. The IT department has been organized with a systems view, with direct application specialists and support analysts. A process oriented view could be a benefit if Cards delivery is all process oriented

### 4.3.4 Conclusion

This generic framework provides an interesting analysis tool to look at roles and responsibilities between Business and IT. The organization depends on capabilities, skills and knowledge of the people and that makes the difference. The people working in Cards are not easy to map because they like to think 'out of the box' instead of 'inside the box'. They like to take responsibility and ownership and take additional work to support the organization to make the business a success. This type of model is not taking that into account and has a narrow abstract view on reality.

To summarize the key findings of this section:

1. BSM role in development and should define scope and responsibilities
2. Missing a Process Manager who can take ownership of all changes and issues of all processes
3. Missing SLA Manager within IT
4. Functional and technical support teams in IT are not organized as strategic assets
5. Limited formal communication lines between the different roles and disciplines

## 4.4 Step 4 - Understanding the alignment competencies

This step starts with determining the maturity level of alignment. By using the assessment in Appendix A, information could be gathered from people in the organization to provide input regarding the different aspects of alignment. In addition, as described in the methodology different areas will be assessed to look at the different competencies of alignment. In the next sections all the areas will be described with respect to Cards in more detail. And these are 1) Communication, 2) Competency and value measurement, 3) Governance, 4) Partnership, 5) Architecture and 6) Skills.

### 4.4.1 Alignment maturity level assessment

The assessment is providing a structured set of questions to determine the maturity level from 1-5. With level 1 as "not well" aligned and level 5 as "optimally" aligned. By using the different alignment competencies, various questions can be asked which require assessor to give his or her assessment of the current situation. This assessment has been distributed to some key people from the business e.g. Business and IT Management.

#### 4.4.1.1 Current situation

Most of the selected people have filled in their assessment and therefore the result could be gathered and calculated in a sheet see Appendix C. Calculations could be made e.g. average per area, Business average, IT average and the overall average. This has been calculated by taking the sum of all values divided by the total number of entries (participants) per area.

> The overall current average of the maturity level has the value of **2.8**

With a standard deviation of 0.62 based on the averages per area this is a robust calculated average. As we can round this up to level 3 in overall in the context of alignment this is a good average as it can be concluded it's not bad and not perfect. In some areas the average is between 2 and 3. This means there is in general alignment between business and IT with e.g. communication, partnership and value measurement etc on acceptable levels. This is a good basis to improve to a more effective alignment.

#### 4.4.1.2 Desired situation

As the current situation is 2.8 the question will be, what is an acceptable and realistic target level? Increasing the level with 1 or 2 is a possible option but can the suggested levels be implemented? Base requirements of the alignment levels can be found in the assessment sheet and can be used as guidance what is needed to increase the level.

> The overall desired average of the maturity level has the value of **4.0**

By using the following criteria the maturity level of 4.0 is chosen:

- The target was to improve Business IT alignment to increase the level of maturity. Changing the level from 2.8 to 4.0 meets the target
- Level 4 goals are more realistic and can better be implemented comparing with level 5. This level is also saying that there is complete alignment with mutual understanding between business and IT. Including established relationships with partners and external partners with complete trust and sharing of risks and rewards. In addition towards the outside world there is competitive advantage, systems are all strategy enablers & drivers and the business are enabled to response fast to changing markets. To get to this level 5 first some steps need to be made.
- 75% of the total alignment model will be inline with the BAM Top Quartile Performance Range and with level 4.0, 80% range is covered

### 4.4.2 Communication

General perception of the business is that new IT demands from the business are taking too long to implement and requires too much resources and money. On the other side, IT has the perception that business doesn't understand the technology and complexity that is involved when changes are required. Why is there such a gap? Is there lack of communication?

#### 4.4.2.1 Current situation

The average maturity level for communication, as result from the assessment is 2.5 with a standard deviation of 1.2. With a (-0.1) difference, the Business has almost the same perception as IT. Both conclude that IT knowledge or IT strategy within the business is limited and that communication in the different areas like sharing of information and informal communication can be improved.

##### *4.4.2.1.1 Business knowledge of IT*

The question here is how good the business knowledge of all IT staff is and can they understand the context and business criticality of issues. Based on the assessment there is an average of 2.6, where business thinks it is less (-0.2). Based on the interviews, within Cards the IT community is a worthy partner because of its experience, skills and knowledge. On strategic level with regards to investment proposals of new projects there are regular meetings discussing priorities and upcoming projects. IT representatives of the project group will give advice with regards to possibilities and planning of new projects and translate business requirements to IT solutions. IT staff from operations are not always involved in these steps and there is some doubt if they should be involved. Management is convinced this responsibility is moved to the BSM organization but is missing transparency. The BSM organization, the interface between business and IT has the responsibility to monitor IT performance and advise business about application and infrastructure problems based on their business and IT knowledge. Hence it is more suitable for this group to take ownership of new demands.

Looking at the teams for BIM and BAM there is a good basis of business knowledge to answer all different kinds of questions or requests and give advice for their systems. The CCC team is the functional group looking at all demands and requests coming from the business. This requires business knowledge to understand and translate questions to the IT environment and coordinate all technical implementations of all teams. The majority of the IT teams are therefore

only technical trained and oriented and leave the functional responsibility to the CCC. Except the CardsMI and ESI teams have their own functional knowledge and skills. For their areas they need to advise business if they have direct requests or questions.

Information about business and how business develops are all in the interest of IT. The level of involvement seems to be low. The perception from the interviewees is that this can be improved and IT should be more involved in the business decision-making process. Operational process owners or architect are not formally involved in new strategic initiatives. Also the business mentioned the importance of involvement of IT regarding the change of strategies and took outsourcing as example. Currently the business is not always informed about on 'how' and 'who' is taking the responsibility of the future resource plan. In terms of continuation of the quality service it is in the best interest of the Business.

#### *4.4.2.1.2 IT knowledge of Business*

In this section the question is how good is the IT knowledge of Business people? Based on the assessment there is an average of 2.0, where business thinks it is even less (-0.2). Different parts of the business organization are differently involved in IT. Both confirmed the IT knowledge from Business is not at the required level. Within the business there are people with IT knowledge, but the majority is unfortunately lacking. On the business side there were quite some job changes lately and is therefore difficult to develop and keep the knowledge in the organization.

As result from the interviews, the business is happy with the level of business understanding that lies in IT. The situation that functional IT-support teams have more knowledge than Business is awkward and should be picked up by the business. Also during the interviews, the question arises how to deal with the gap of technical knowledge within the Fulfilment team. Can this be the responsibility of IT? It is clear that business operations are struggling with resources and knowledge in their organization. If we look further than Cards Business and mention the business representative of CRT and Fleet, then the gap is even bigger. In their view IT is just a service that should work without any problems and they don't show interest of understanding the technology and complexity.

Despite the lack of IT knowledge, the business is nowadays quite IT oriented. New strategies are difficult to implement without any IT involvement, but their focus will be less on the technical part. IT knowledge lies with certain people in the business organization and is missing in most of the organization. Basic knowledge of the Cards IT landscape is present but detailed in-dept knowledge about the systems they will need to contact the project team, CCC or specific representing teams. People from the business are therefore very depended on the people in IT.

In addition the aspect of stakeholder management can be improved. There is a perception that IT isn't flexible enough but expensive and should control IT cost more. In the area of project support, implementation of production changes and deployment of new processes, the interaction between business and IT can be improved. Longer term planning is desired instead of short notice, adhoc projects that are difficult to manage within the customer's expectation.

#### *4.4.2.1.3 Communication between Business and IT*

On management level there is direct communication between business and IT as there is a dotted reporting line for the IT manager to the Business Director of Cards. The IT Delivery Manager is part of the Management team and discusses on frequent basis operations, projects and budget. But the global organization is changing and communication should now go via the BSM line. An additional communication layer has been added to translate IT to business and from business to IT. This change introduces an unpleasant situation as people from both sides appreciate the direct informal communication and there are too many unclear formal arrangements around the roles and responsibilities. In the alignment assessment this is currently assessed with the average of 2.8 – defined as two-way formal communication. The need for informal communication lines is mentioned as critical. In the dynamic Cards world with constant changes it requires a short communication line with fast responses. Formal communication with the BSM is currently at its starting phase and still needs to demonstrate the importance of that role.

These experiences are shared via the interviews and this is a critical area that requires some attention. Clear communication on what, when and who needs to be agreed between BAM and BSM organization. Who takes on the ownership for different situations and processes, and when do they need to send out communication. An example raised from the interviews is the need for E2E ownership & communications and especially in the area of Postilion there is room for improvement

For IT there are direct communication lines. By using the Lecom community there is an interface for contact for questions or advice on their side. The Lecom is the operational manager responsible for issues and projects in their country.

Another element of communication between business and IT is sharing of information and providing regular feedback to the organization. In the alignment assessment the organization learning has an average of 2.3 whilst business thinks it is better (+0.2). On regular basis they provide feedback, but only for a limited group of people. For example there are weekly incident meetings with the cluster management and IT management. The highlights and lowlights are discussed in this forum to ensure action on problems and requests is taken. The perception of feedback around IT people is surprisingly limited and they see a mid-year feedback as desired.

Within the organization there are clear procedures in place to control and manage all requests or questions toward the IT department. Business need to create service tickets via an internal website where they can raise questions and issues. To avoid overload of informal and not registered work small requests or changes to the systems will need to be registered in the service management tool. Requests above 4 hours work will need to follow an alternative route called Demand management. This process will be discussed in section Governance of this chapter

### 4.4.2.2 Desired situation

Based on the assessment, the average maturity level is 2.8 and it is desired to have 4 (80%) as target. That means what is desired in the current situation of Cards in the area of communication? From the assessment sheet the following items can be found:

1. Better IT knowledge and understanding by Business

2. Better understanding of IT strategy by Business
3. Better understanding of Business strategy by IT
4. Organization learning and sponsored by senior management
5. More informal communications from Business to IT and from IT to Business
6. Facilitate relationship-building of IT and Business staff

Next to the assessment data and based on the interviews there are some other related items that are desired:

1. More IT involvement in future strategy and business initiatives
2. Better stakeholder management and customer expectation within projects and production changes
3. Formalize unclear roles and responsibilities, resources and procedures. It's a formalization that need to be developed and need to grow in acceptance of the community. Desired is that the first main responsibilities will be in place like formal communication towards business regarding operational problems and incidents. For highly critical systems this is mentioned as an area to improve
4. Formalize ownership of communication in specific areas & processes and formalize
5. Regular service feedback

Ideal situation would be that technical and business people would understand each other completely and they will connect easily and frequently. Business people that can trust IT and involve IT in operational issues or / and future strategies. In that case IT people would engage more and takes ownership and initiative to achieve a shared understanding. Important elements are trust and commitment between the departments to achieve maximum collaboration

#### 4.4.2.3 Gap Analysis

The following gaps are identified and listed below:

1. IT knowledge from business is lacking and needs to be encouraged
2. Lack of involvement for IT in business strategy and business in IT strategy
3. Unstructured and irregular business and IT knowledge sharing between the people. Sharing of information and experiences between the departments as organizational learning
4. More formal communication lines and difficult to build relationships with business
5. Manage and improve stakeholder management and customers expectations
6. Missing clear roles and ownership of communication lines in different processes
7. Missing regular feedback from business towards IT and IT towards business

#### 4.4.2.4 Conclusions

After the reorganization the BSM organization (2 resources) was introduced and put in between Business and IT. This awkward change requires time and acceptance of both departments. The global model for business requires one contact person and that should be the BSM. Because of the existing and informal relationships between the departments the change is difficult to implement. The informal communication between the departments will stay as is but the BSM needs to develop the communication plan step by step. Concluded from the gap analysis to improve IT knowledge, sharing of information, regular feedback, facilitate relationship-building and encouraging informal communication lines it

can be said that the BSM role is a critical factor to get optimal alignment and must be established as soon as possible. Business and IT Management mentioned communication as most important element for the alignment process as this is the basis for all the other Business and IT alignment areas.

### 4.4.3 Competency and Value measurement

The IT department is acting as service provider and manages the operational issues with the best of their knowledge and capabilities. But to monitor IT performance business requires reports of incidents, requests and problems, managed & raised by the business organization. Agreed KPI's (Key Performance indicators) needs to be in place and shown in the weekly/monthly reports send to the business. Further in this section the SLA (Service level agreement) between Business and IT will be discussed. In addition this section looks at the competitive edge of the Cards business & IT components and assesses the current barriers that are in place to avoid imitation and to be competitive.

#### 4.4.3.1 Current situation

The average maturity level for Competency and Value measurement, as result of the assessment is 3.1 with a standard deviation of 0.5. With a (+0.4) difference the Business has a different perception of how the organization measures the services and how to review investments. It can be concluded that Business thinks they are further in the process of measuring the effectiveness. But another element in this is that IT has no view on customer value as they have minimal contact with direct customers.

##### *4.4.3.1.1 Competency*

Like every business, the IT department should assess their market position and look at opportunities and threats. How competitive is the current Cards IT department comparing with their competitors and how unique is this IT service? The firm achieves competitive advantage when the value it creates in an economic exchange is greater than the value that could be created if the firm did not participate (Brandenburger & Stuart, 1996 (Luftman, 2003)). In other words to be competitive it should have added value and it should contributes something unique.

There are 4 different barriers to imitation 1) IT Project barrier, 2) IT resources and capabilities barrier 3) Complementary resource barrier 4) Pre-emption barrier (Feeny, Ives & Piccoli, 2003). See below the outcome of Cards:

1. IT Project barrier, the IT core of Cards is difficult to copy because of the unique infrastructure in the local OU's (Operating Units), legacy customized IT systems as Siras and ESI (accepting business model in whole Europe) and the data used through all the systems. IT complexity is integrated in the many processes e.g. different business processes with different business rules implemented in different countries. E.g. complex discount & rebate constructions and variation in for different customers, customer groups & countries. Knowledge about processes, business and technology is therefore required. That includes integration with third parties and integration with all internal systems (ERP, MI etc). The underlying IT core of the Card Business is also not transparent for the outside world.
2. IT resources and capabilities barrier, the Cards business has a unique polling infrastructure with a unique set of data. The petrol station infrastructure is only implemented for this company and uses other unique application infrastructure with regards to local (Siras) and cross border transactions (ESI).

In addition there is an authorization system (Postilion) with new features to control different restriction levels (e.g. card, products, product ranges etc.). Transaction data is captured and sent to the central MI system storing customer information and related purchase (transaction) information. Not to forget, IT and business skills from staff are also part of the resources. IT and business is integrated in the processes and has an important relationship between the departments.

3. Complementary resource barrier, required for IT-enable strategic initiatives. 1) Tangible physical assets like cards, infrastructure and customized applications 2) non tangible resources like top management commitment, corporate culture and 3) unique business processes and 4) external resources like IT suppliers, fulfilment and cards production supplier.
4. Pre-emption Barrier (switching cost – contract (including rebates), relationship). The Card Business is using a customer matrix to determine the type of customer mapped to the various services they are providing. The more services the customer will have the higher the switching cost will be. There are numerous services that are customized to customer's requirement and when they would like to move to a competitor it is difficult, costly and a cumbersome process. Examples are registration of international VAT reclaim, acceptance on international motorway tolls and ferry services. In addition the information flow to manage the transaction data like the online tool via the Internet or EID (electronic invoice data) are easily accessible by customers. To replace these types of services have also impact on customer's organization and internal processes.

#### *4.4.3.1.2 Value measurement*

The card operations business is measuring their performance by using a scoreboard showing the different areas of the departments e.g. fulfilment, security or IT with their most important delivery areas. Instead of measuring IT cost based on monetary benefits like projects, the service of the IT department will be assessed on performance and delivery of the current IT services. Operations have a fixed annual budget that covers the complete service end-to-end. Every year it's taking over the legacies of previous years. Return on Investment (ROI) is therefore not applicable in this situation. Based on the assessment the average maturity level of business metrics is 3.2. Where business and IT respectively have 3.7 and 2.7. As already mentioned in the introduction the difference of perception is also dependent on what area you working in. IT can't determine if customer value is measured and should maybe be more communicated by business operations. Today customer satisfaction, quality, flexibility, cycle time reduction, and employee morale must also be considered, Luftman (1993, IBM System Journal Vol. 32, page 4).

Performance measurement, promote continues improvements, viewing the business from the customer's perspective when establishing measurements is a key factor (Luftman 1993). To be sure all targets are met; the global Service Level agreement (SLA) between Business and IT has been established. The SLA describes the IT services towards the business. This is measuring the infrastructure, applications and processes, describing IT's responsibilities. Part of the service is resolving issues; managing requests and analyzing problems. These types of services are incorporated in the ITIL framework. Information Technology Infrastructure Library (ITIL) is worldwide accepted as reference guide to setup an IT service as a running factory. Main goals are improve efficiency and effectiveness, reduce cost and increase quality. A couple of years ago the IT

department successfully introduced and deployed ITIL processes like incident, change, and problem. New global BAM processes still need to be applied for IT. But how is ITIL currently organized and does the current SLA cover all the services?

- Incoming work is logged, managed and controlled via the service management tool. All operational teams accepted the new processes and implemented pragmatic solutions that are fit for purpose. But there are some inconsistencies as result:
  - Problem tickets are mixed with incident and request tickets
  - PPI team coupled their own change management tool next to the Service Management tool
  - Changes are interpreted differently in the different teams (when to log changes, what to do with e.g. data changes etc)

  An area that is still in development is Problem Management, with a focus on proactive problem identification and correction. Related to this are the findings based on the assessment question regarding continuous improvement practices where business assessed the average of 3.7 (measuring frequently effectiveness) and IT 3.1 (starting to measure effectiveness). This gap is an interesting one as not everyone in the organization shares the same view.

  Despite these differences and small remarks it is a working service environment that delivers high quality service with satisfied 'internal' customers. As seen from the interviews, the quality of IT services is recognized and Cards business is very pleased with the current IT service. They look at stability, reliability, and performance and growth with the current systems and they think IT is trying to get the maximum out of the IT systems. They see the people, the individuals in the organization, commitment and business knowledge as important factors that make it all a success
- The Global SLA is the service level agreement describing the key performance indicators of what IT should deliver to run the business efficiently and cost effective. This is a document that is signed off by the IT Delivery Manager, the Business Manager and Business System Manager (BSM). In the current state this SLA has been setup with Cards processes as basis e.g. cards production, invoicing cycles, management information etc, in direct relation with the Cards systems within the landscape. In summary:
  - Describing all applications within scope e.g. Siras, ESI, CardsMI etc and categorizing the criticality of the service
  - All contact details of teams and focal points
  - With respect to incidents and request different reporting requirements e.g. number of problem and incident tickets raised, number changes implemented
  - On detail level the delivery times of files from one system to the other e.g. SIIF (Management information file) generated by Siras via PPI to CardsMI
  - Response and resolution agreements incidents and requests

  Based on the interviews it can be concluded the quality of the SLA is acceptable for the business, with the idea it is in constant improvement in terms of level of details, new criteria and completeness (covering all different scenarios of the various applications) in the near future. It has been stressed that the SLA is missing the E2E component that is very visible for e.g. the authorization process. In this area it is very important to find out how to integrate the different systems that are even out of scope of the IT

department. The business focus on the SLA is a bit missing looking at the figures IT provided. The perception is that there is not a lot of challenge coming from the business to improve. In addition the SLA has been initiated based on the current situation but a vision and some targets for the future are missing. Another interesting point is that the SLA can only be a success when services are operationally stable and directly measurable. With the current department there are too many different responsibilities outside scope of operational work that are not measurable as services in the SLA.

- Reporting of IT services. In addition to the standard ITIL reports of incident, problem and request management there are monthly BPR (Business Performance Reports) -- reporting outages and high profile incidents, monthly Postilion and CardsMI/eSO performance reports, daily E2E reports -- showing telecom and infrastructure issues related to Postilion authorization process etc. It is clear that there are enough quality reports of the overall IT service. The only issue, confirmed by the interview with the Business Manager, is that there are too many different reports and not integrated as such that business can check them on weekly/monthly basis as a whole.
- Integrated compliancy processes (Sox, ISIP). Sox introduced financial controls in the whole Cards landscape integrated in the systems and business processes that are now part of operations. There are controls in place, which requires approval from the financial departments if changes are needed. Process around application or data changes is therefore critically monitored ensure all Sox procedures are followed. In addition there are ISIP rules and guidelines, which are related to data and information compliancy and security. Like Sox when changes in the Cards landscape have been made it requires ISIP approval. This is of course in certain extend. That means if the change impacts the data compliancy or security then ISIP rules should be applied and in terms of Sox, are there financial processes impacted then Sox rules must be followed. If not in both cases the approval cycle can be ignored. In the current operations compliancy processes cannot be forgotten and is now seen as 'the license to operate'.
- Transition to Support. This is a process that assesses all production changes that are related to certain projects. It will try to prevent any unnecessary or not approved changes from being implemented in the operational environment. Despite the business pressure all projects need to deliver the mandatory documents and required approvals. That includes IT, business, project and BSM approvals. This way there is a certain control for higher management to keep stability on the environment and prioritize the changes. On monthly basis there will be reports of the number of projects accepted to operations and the number of projects, which are still in the process. This is an important process but is introducing additional bureaucracy and less flexibility for the business. As mentioned in the interviews, Business feels sometimes that IT is blocking them because of formal procedures

#### 4.4.3.2 Desired situation

Based on the assessment the average maturity level regarding competency and value measurement is 3.1 and can take level 4 (80%) as target to improve Business IT alignment. That means what is desired in this area. From the assessment sheet the following items can be found:

1. Measure effectiveness of IT activities and projects
2. Measure customer value of business projects
3. Link business and IT metrics to be reviewed and acted upon
4. Introduce enterprise wide service level agreement

5. Continuous improvement practices that frequently measure effectiveness
6. Routinely benchmark the service

Next to the assessment data and based on the interviews there are some other related items that are desired:

1. Stay unique but with global, standardized tools and infrastructure.
2. Within ITIL there are some improvement areas the IT department would like to see: First line of contact (helpdesk and service desk). Currently in pipeline is setup of Application Service Desk Service level agreement and constant interaction with service level manager regarding KPI and reporting
3. Improved SLA that includes
   a. All services and work incorporated in the SLA
   b. Constant improvements in the area of SLA
   c. Extended SLA with an E2E approach
   d. Formally linked, reviewed and acted upon
4. Reporting of IT services and KPI is an area the business wants to improve. The different ways of communication via different report and email are not desired. An aligned communication strategy should be developed to discuss and show the required information in standard way.
5. Constant structural changes based on problem management
6. A pro-active approach of improving the systems for the future
7. Performance of project support and deployments are difficult to track and to monitor. What are the priorities within the IT department? Communication and partnership regarding this topic is more required
8. Introduce formal feedback, ensures that management's visions are translated into strategies for middle management. Assess how effectively the business strategies are being carried out

E2E processes and E2E SLA's are getting more and more important in operations. The way of thinking of delivering the IT service gets a different perspective. With the idea of various teams in different organization and technologies that are not in scope there are problems about authority, approvals and commitment. Maybe BPM, Business Process Management is the answer. The question the organization needs to ask is "Are we functional based or process based organization", (BPM, Skillport). The top six partner objectives for BPM initiatives are: 1) To better align the organization with new business priorities, 2) To increase productivity, 3) To improve work force performance, 4) To increase customer satisfaction, 5) To reduce costs and 6) To change organizational culture.

"As with the BPM framework, enterprise process models are called names such as "blueprint," "model," "architecture," and "framework," but all represent the same thing: a clear picture of the work an organization does". Traditional financial measures (forecast, revenues, return on investment) are no longer in tune with the internal and external conditions of today's business environment.

#### 4.4.3.3 Gap Analysis

The following gaps are identified and listed below:

- Effectiveness of IT activities and projects are currently not well measured. Measurement is a constantly evolving processes and is under discussion
- Missing link business and IT metrics that can be reviewed and acted upon
- Missing continuous improvement practices that frequently measure effectiveness
- Missing regular benchmarks

- There are still non standard (global) processes
- There no standard aligned reports towards business
- Missing E2E SLA and SLA Management. That leads to problems with reporting of E2E processes and support
- No knowledge or experience of BPM within the organization and should first perform research what the possibilities are
- There are difficult KPI measurements as not all incoming work e.g. phone calls, direct questions are logged into the service management tool

#### 4.4.3.4 Conclusion

This integrated Cards business is a market where not many players can compete with this kind of service especially not on this scale. With all the legacies it can be said the Cards business has a unique infrastructure with customized applications that are very difficult to imitate but the threat of being taken over or sold is always there. Cost will need to be reduced to be competitive and to be flexible to keep up with all the market changes.

Performance of overall Cards IT service is good and confirmed by different business representatives so structural improvements are not desired but some suggestions in the smaller areas. To summarize the key findings of this section:

- Improve link between Business and IT metrics so that it can be reviewed and acted upon
- Introduce regular benchmarking
- Establish SLA Management, with a dedicated SLA Managers monitoring and updating the SLA regularly
- Establish E2E Delivery including reporting, SLA and people
- Improve service delivery communication and stakeholder management
- Define and improve reporting requirements by IT

### 4.4.4 Governance (Business and IT)

The IT department executes new IT projects and requests, covering functional and technical changes. But how does Cards manage these in terms of prioritization, budget and architecture. In this section the IT Governance within Cards Business will be discussed.

#### 4.4.4.1 Current situation

The average maturity level for Governance, as result from the assessment is 2.9 with a standard deviation of 0.7. With a (+0.1) difference, the Business has almost the same average perception as IT. Differences are for business comparing with IT in formal Business strategy planning (+0.7), organization structure (-0.6) and how IT is budgeted (-0.7).

In overall IT Governance is all about (Luftman , 2003):

1. Who has the power to make the decision?
2. Why they make them?
3. How do they make the decision?

We define IT governance as "specifying the decision rights and accountability framework to encourage desirable behaviour in the use of IT". (Weill & Woodman, 2002, p1)
All three questions will be answered in the next sections

#### 4.4.4.1.1 Who makes these decisions - Power

Within the Cards IT environment there is a split of new projects and the work above a certain threshold. This separation is done based on the size and budget of the change. Due to this there are two streams with different governance bodies discussing the changes on the Cards IT landscape. First one, discussing the bigger sized projects is the responsibility of the Project Management organization, but this is out of scope of this research. Second, the smaller projects and changes are managed through the Demand Management process.

In addition there is a functional governance body, PIT (Payment Improvement Team) that is looking from a business point of view how business processes are impacted and if the new business standards are allowed & followed. On functional level even a small change can have enormous impact on the existing business processes.

In every governance body there are different stakeholders involved. To start with the PIT, there are business representatives, process owners from StCC Design team and the Cards IT Architect that look at the impact of changes and projects. Involvement of IT is currently in development as the Cards Process Architect from the CCC team has joined this PIT team shortly as reviewer of new changes. Currently a formal approval role for IT is still not in place.

For the bigger sized projects – these are actually out of scope of this research – that have business involvement from CRT & Fleet executives and with the Project Management lead from the Project Organization, they called it the XPalet (Payment and Loyalty Executive Team). Approved projects will be discussed in the next stage with the IT Managers who are responsible for operations to discuss strategy and planning. The same goes for the Demand Management governance body, where the BSM organization is taking the lead of making IT decisions together with the business owner. Again the IT Manager from Operations is not part of the approval cycle, but is in the position to challenge the requirements and to provide advice and estimates of the change.

Related to this subject, based on the alignment assessment in the area of formal Business strategy planning, IT gave the average input of 2.4. That means slight IT input in strategy planning. Business has a more positive view and has an average of 3.3 that means some IT input and cross-functional planning.

The question is now, should the IT Manager or if necessary a delegate not be involved when projects are initiated and discussed? Because when business managers make their IT investment decisions without active involvement of IT management – or vice versa – the inevitable result is an investment that performs poorly or not at all (Luftman, 2003). Business and IT managers should be organized in a central way. Bigger projects need to be monitored and in addition they need to avoid that projects are chopped in smaller pieces that are not visible for the organization. This prevents project work from being moved to the operations budget (Bahadur, Desmet , van Bommel, 2006)
Current project issues within Cards are indeed:

- Partial project requests but done within operational budget
- Missing project prioritization
- Mismatch of IT expectations and resources

These signals are very clear and the right governance body can reduce the impact of project issues.

But how is Cards Business currently organized. Reflecting the matrix "IT Governance Patterns" provided by Weil to the Cards IT environment the governance structure can be identified. Effective IT governance is the single most important predictor of getting value from IT (Weill & Woodham, 2002, p2).

Based on the framework it can be concluded that the implemented governance structure in general is "Business Monarchy" where business leadership dominates the decisions about IT investments and IT infrastructure strategies with minimal input from IT. But in addition there are also some aspects of "IT Monarchy" in place as there are some critical IT projects (ISIP, TD, Hardware replacements) where IT has their decision rights and business has minimal input.

#### *4.4.4.1.2 Why making the decisions – Alignment*

Already introduced in the preceding section the objectives of the different governance bodies that exist in the Cards environment:

1. PIT, this governance body discusses and approves functional & business process changes and sometimes also technical changes that can impact the Cards landscape. Business and IT related requests will be handled and will constantly be compared to the future target design and verified if they are still within strategy goals
2. XPalet, this governance body discusses possibilities, planning and priorities of new IT projects above a certain size. They focus on 'must have' and 'should have' projects taking into account the business goals & deadlines and decide which projects need to be put on hold and will be postponed
3. Demand Management, this governance body discusses and approves small project work and Cards IT changes above a certain threshold with the objective of monitoring the incoming changes and requests to see if they still fit within the IT budget and strategy.

When approving and discussing these projects there is a clear priority list available they can follow. The following 5 priorities are identified: 1.) Asset integrity, 2.) Compliancy (ISIP, Sox), 3.) GSAP project, 4.) Streamline activities and 5.) Other (local business changes). From the interviews it could be concluded that IT investments are in line with business strategy.

But the rationale for IT spending appears to be different. With a difference of 0.7, Business has an average score of 3.7 (process driver and strategy enables) and IT 3.0 (process enabler).

It can be concluded that IT has clearly a different perception of how the systems are functionally used. The business believes it is using systems and applications to enable strategy and not only for process enabling. More communication and feedback within this area can improve that.

#### *4.4.4.1.3 How they make the decisions – Decision process*

What is the decision process behind PIT and Demand Management, and how does this add additional value for the business. Project work or Demand management are two different streams and need to follow two different processes.

If there are any functional changes in scope that has impact on a system within the Cards IT landscape, the business should first go to PIT and describe the business

case in detail and ask for PIT approval. This team will check the request or projects on strategic and architecture level as it can have direct impact on current strategy. To prevent IT putting any effort in requests that are not part of the strategy this team verifies and checks all incoming requests. In scope are changes on strategic infrastructure and applications or processes will require approval of this governance body.

Demand management is the process whereby all discretionary IT spend is identified, reviewed and approved by the business and BSM before any work is begun. Discretionary work is defined as IT work that is not part of keeping an application or service up, and running (Intranet, 2007). This process is to distinguish the additional work the IT department needs to perform next to their day-to-day operations as it has direct impact on the annual fixed budget. Based on the estimates (provided by BAM) and operational impact the BSM and Business leads can decide to approve the requests.

Project work has a slightly different approach. Business identifies the project and discusses first with PIT the right processes. When PIT approves, the investment proposal (business case) need to be prepared and sent to the Investment council for approval. Within the process of preparing the investment proposal also BAM is asked to provide ballpark (rough) estimates.

Unfortunately not everything goes perfectly:

- Current Governance process of PIT and Demand Management is in place and both thinks, IT and Business Management, are able to make the right choices. Only the process and agreements of Demand Management need some attention. Due to the limited of resources in the BSM line, the business and IT experiences some delays in managing the local requests. Desired communication and customer expectation were not met and complaints around this have been increased
- Unclear process and requirements locally, communication to the local business regarding governance processes and criteria should be improved.
- Project Managers experiencing difficulties in finding the right people to support project work
- No clear communication to the project organization what BAM can do and project teams can do
- There is a lack of transparency of project work within BAM
- Difficulties with planning of IT resources because of a missing centralized IT planning
- Minimal project information sharing through the organization.
- Limited project resources with the risk that project work will continue without a project manager

#### 4.4.4.2 Desired situation

Concluding from the current situation different aspects of the governance area can be improved to align business and IT. Based on the assessment, the average maturity level is 2.9 and it is desired to have 4.0 (80%) as targets. Next to the assessment data and based on the interviews there are some other related items that are desired. There is a mix of findings identified based on the current situation, theory and alignment competencies divided in the three main questions:

1. Who makes the decision?

- Within the PIT governance body it desired that someone from operations is formally involved. With an eye for operational impact this can have added value for business and process owners (Level 4 as target)
- Within the Xpalet governance body where new projects are prioritized it is desired that someone from operations is formally involved. Someone from IT Management who can provide input and feedback regarding impact, planning and prioritization (Level 4 as target)
- Within the Demand Management governance body it is also desired that someone from operations is formally involved. To monitor the incoming requests and to have decision rights over the smaller project work and avoid projects being chopped into different pieces.
- Based on the study results from Weil and Woodman the majority of companies have the Federal structure in place where the different parties provide input in the decision process. With regards to decision rights of IT related domains e.g. IT Principles, IT architecture and Infrastructure the majority is done by IT, 50%-33% and 58% respectively. But regarding IT investments the business decides (58%). Firms with higher growth in market capitalization typically had very decentralized IT governance structure with federal archetypes for investments. But taking into account the primary role of IT within Cards, enabling future business strategies it requires a different governance approach. Based on their statistical analysis decisions on IT principles were made by business monarchies, and IT infrastructure and architecture decision were made by federal structures. This pattern reflects the strategic role of IT and is well designed to meet the need to share decision–making between business and IT. Federal decision-making structure tend to take longer to reach decisions than monarchies but, if well implemented, enable the type of dialog between the business and IT that results in effective strategic use of IT (Weil & Woorman, 2002, p9).

2. Why making the decision?
- Treat all IT projects and requests as investment (Level 4 as target) rather than cost centre
- Consider IT as process driver and strategy enabler (Level 4 as target) and not only for reducing cost and to improve productivity and efficiency
- Improve prioritization of project work. Based on the priority list people could say making priorities is not the issue within Cards but the reality is that it still clashing with the amount of project work coming from Streamline and other projects. Due to the limited project resources and the high number of incoming projects, extra attention towards prioritization of other project work is required.

3. How they make decisions?
- By formal steering committee(s) that is proven to be effective (Level 4 as target)
- Integration of existing service tools is not efficient and optimal. Business need to raise many different requests instead of this being centralized into one tool.
- Clear process to help Project Managers to find the right people, that includes formalization of what projects can expect from BAM involvement
- There is a lack of transparency of project work and difficulties with planning of resources. Ideally this is centralized planning where an IT planner maintains the planning and liaises with the technical team leads and project focal points the availability of resources

- Alignment of PIT, Demand management and ITIL processes is desired. The business is experiencing a lot of overhead in executing the process
- Integrated portfolio management, to understand cost and make under performing applications visible. New projects and investments should be aligned with the latest portfolio showing the services, infrastructure and applications and their performance, quality and dependency levels

#### 4.4.4.3 Gap Analysis

Based on the current and desired situation a list of gaps can be summarized:

- Missing formal IT Management involvement in new initiatives, projects and Demand Management
- Missing formal IT involvement in functional governance body
- Business monarchies for IT principles are in place but no Federal archetype for IT architecture and infrastructure. No formal process where IT provides input or has decision rights regarding Infrastructure or Architecture.
- Most projects are still seen as cost centres and some project as investment
- Missing formal prioritization process
- Missing tools and technology to improve process alignment of PIT, demand management and Heat
- Missing formal communication of BAM involvement in projects
- No formal portfolio management of IT services
- Missing centralized information area and distribution regarding project estimates and communication
- Missing centralized IT resource planning

#### 4.4.4.4 Conclusions

There are currently structured and well defined processes in place to control incoming projects, project budgets and new demands. Higher management has a good view on the workload of IT, but still there are areas that can be improved. To sustain a reliable IT service towards the business some small changes can be considered. The organization has a long history of decision makers and it has moved from one organization to the other. Now 3 important governance bodies have been established and business is following the latest processes. But it can be concluded from the gap analysis that IT and sometimes business feels that IT is not always involved enough. But taking into consideration that BAM strategy has changed their objectives and cascades the strategy as run and maintain organization. Take that as given the roles within BAM of process specialists and consultants are currently maybe not on the right place hence also the decision process can be reconsidered. Further discussion regarding desired decision process and the new BAM strategy is maybe desired.

Suggestion for improvement in the area of Governance:

- Improve involvement of IT in projects and changes (Demand Management process, Payment Improvement Team process, Investment Proposals process)
- Change rationale for IT spending and treat IT as investment rather than cost centre
- Improve IT resource planning, by making the project resources visible through the whole organization
- Improve prioritization of requests and projects. For example create the right forum to discuss both requests and project e.g. the integrated planning meeting

- Improve alignment between PIT, DM and IT process. By implementing an integrated tool or interface that automates the process of registering the business request

### 4.4.5 Partnership

Partnership between people and groups is about mutual trust and agreeing sharing risks and rewards for achieving specific goals. In reality IT people are sceptical about Business demands and business people have difficulties to be dependent on IT.

Depending on the level of integration and added value of IT in the end product, the level of partnership can be determined. Current business perception of IT is more than only reducing cost, but it is an asset within Cards that enables future business activities. Partnership is expected in the area of product and markets with rapid technological development (Broersma, 2007) and Cards business is a complex environment with a dynamic market. Partnership between Business and IT needs extra attention and this requires constant sharing of knowledge, support and consultancy of both sides. Advantage is that the core of IT relies in the organization itself and can be classified as ' in-house' service provider.

#### 4.4.5.1 Current situation

The average maturity level for Partnership, as result from the assessment is 2.7 with a standard deviation of 0.8. With a (+0.6) difference, the Business believes it has a better partnership than IT thinks. Differences are in the areas of Business perception of IT (+0.8), the role IT (+0.6), sharing risks and rewards (+0.7) and managing the relationships (+0.5).

Luftman is not going into detail "how" to look at partnership in general but looks at interpersonal skills in combination of influence skills of IT Managers closely. In spite of the importance of these soft skills for managers, the focus in this section will be more on the conditions for partnership (Broersma):

1. Cooperation on the basis of equality. Within Cards it can be said that the formal and informal relationships between peer executives are in place, but the situation has changed and it has now a more un-balanced formal partnership. All communication from Business to IT should go via the BSM line as first entry of contact, and vice-versa. Like the Japanese network model the contractor only communicate with his main contact (Broersma 2006). This BSM role can support the business with their technical knowledge and take care of all incoming operational issues and changes for IT. From a European model (many different smaller network contacts) to a Japanese model it is a huge cultural change. This transformation phase is still in development and requires time and attention. Of course disallowing contact from Business and IT is not possible and not realistic but the BSM need to be more involved in the future to improve partnership. Looking at the assessment results of Relations and trust style an average of 2.9 has been achieved where business believes it is even better as it scored 0.5 points higher than IT. This means IT is becoming a valued service provider.
2. Provide insights in main processes and management. Currently there is enough insight of services, projects, changes, IT cost and people. Both Business and IT Management works hard at making all the information transparent. The high amount of information that is distributed makes it difficult, but sharing of information is in place. Due to many changes in the

Cards environment e.g. global changes, strategic implementation and initiatives a new steering group has been initiated to discuss priorities and planning of projects and implementations, called the integrated planning meeting. This group consist of IT and Business management, Project leads and BSM. Within the assessment results, the scope of IT's role in strategic business planning has an average of 2.0. IT alone scored 1.7. And that means in terms of the assessment 'not involved' and 'enabling business processes'.

3. Good organization of the main process by supplier and client. Looking at business process knowledge and technical knowledge too much information lies at IT. As mentioned before there is a lot business process knowledge within the IT but not within the business. The client – in this case Cards Business – needs to improve their organization to support their main processes and to keep & maintain the knowledge. E2E ownership of business is therefore required
4. Share together fortunes and the bad lucks. Current perception is that fortunes are shared within business and bad luck within IT. When projects are successful the people within Cards have the feeling the business receive all the rewards, but when something goes wrong IT get the blame. Also reflected in the assessment where IT scores 2.4 (IT takes most risks with little reward) and business had a score of 3.2 (Business start sharing risk and rewards)
5. Minimize the use of power and opportunistic behaviour. The use of power within the organization is minimal and decisions are most of the times taken in agreement

In addition partnership is about helping each other shaping and supporting business strategy (Luftman, 2006). Strategy alignment is therefore an important aspect that needs to be taken into account. See - Step 2 Understanding strategies - for more information.

#### 4.4.5.2 Desired situation

Concluding from the current situation, different aspects of the partnership area can be improved. Based on the assessment, the average maturity level is 2.7 and it is desired to have 4 as target.

1. Changed business perception of IT. Instead of cost, IT must enable and drive future business activities as strategic asset (Level 4 as target)
2. Improve IT's role that enables or drives business strategy (Level 4 as target)
3. Share together fortunes and the bad lucks by taking ownership of projects (Level 4 as target). As discussed in the interviews improve partnership with trust and sharing of risks and rewards. Involve IT experts more often in new initiatives and discussions regarding business strategies for the future and reward IT as part of the business team. IT is general easy to blame when implementations are slow or went wrong, but business should take more ownership of the E2E processes and systems as it is their responsibility to control it
4. Planning and prioritization of project and demand management requests (Level 4 as target)
5. Long term partnership with a good relationship and trust style (Level 4 as target)
6. Manage the IT-Business Relationship -process-wise (Level 4 as target)

Next to the assessment data and based on the interviews there are some other related items that are desired. Depending on the desired situation of what type and

what level of partnership the organization requires some improvements are identified based on the current situation analysis

- Cooperation on the basis of equality can be improved – More integration of the BSM and clear roles and responsibilities regarding communication is desired. Additionally mentioned in the interviews - encourage the use of informal network and communication lines to manage the relationship and to optimize interaction between the departments
- Good organization of the main processes by supplier and client. By improving business ownership of all E2E business processes to sustain quality. Suggested in the interview is to create a new forum to discuss issues to improve partnership between IT and fulfilment
- Recognize IT more often by making the people and organization more visible and to involve them more in business sessions
- Make clear to the business what IT is delivering by formalizing the services and responsibilities to avoid confusions regarding tasks between the departments. In relation to formalize the roles in operational processes it will be essential to make it clear what everyone can and cannot expect

#### 4.4.5.3 Gap Analysis

Based on the current and desired situation a list of gaps can be summarized:

- IT does not drive future business activities, but is currently enabling business activities
- Cooperation on the basis of equality - No established equal partnership and no structural communication towards business
- Missing clear roles and responsibilities regarding communication, stakeholder management and governance
- Missing total quality control in the whole process
- Sharing risks and rewards is not always in place and IT has the feeling having the risks and minimal rewards
- Strategies are aligned on higher level but missing direct actionable IT plan

#### 4.4.5.4 Conclusion

The partnership on both sides is changing and will move to the formal setup with the BSM. The role of the BSM will be more important to manage the quality control in the whole process. Now it is a critical role to keep the trust and open communication between the parties. In this view to have the ideal partnership the BSM need to coordinate all incoming work and communication towards the delivery teams and business but that will take time and energy.

To improve partnership relation

- Change business perception of IT. See IT as strategic asset that will drive future business activities
- Be 'open minded' towards each other and encourage informal communication
- Share knowledge, IT should have functional knowledge, process knowledge and business should have IT and IT process knowledge
- Constant engagement regarding service, quality to seek improvements
- The organization has to think 'process oriented', by steering the primary process between business and IT and fine tuning the process between both (Broersma, 2006)
- Share always risk and rewards
- Improve ITs role that enables or drives business strategy

### 4.4.6 Scope and Architecture

As described in the methodology this area is covering the technology aspect of alignment. In the following sections the subject integration and innovation within Cards are discussed. Architecture is a very broad area but with Business IT alignment in mind it is valuable to look at how the business is integrated within the existing IT architecture and if it is fit for purpose. There are 4 levels of integrations that is discussed 1) Data integration, 2) Data level integration, 3) Process integration and 4) Technical integration. In figure 20 the graphic representation of this model.

#### 4.4.6.1 Current situation

The average maturity level for Scope and Architecture, as result from the assessment is 3.1 with a standard deviation of 0.3. With a (+0.5) difference, the Business again has a more positive view of technology than IT thinks. Differences are in the area of architectural integrations (+0.5) and how IT infrastructure is perceived (+1.1). In the latter business believes the IT infrastructure begins to help business responds to change.

As already mentioned, the perspective of architecture in the Business IT alignment context is different. Because of the importance of infrastructure and applications it is interesting to mention what people's perceptions are. During the interviews all people acknowledged the systems used in Cards for national and international accounting of card transactions are old and outdated. Systems like Siras and ESI are old applications as result that changes to the system are expensive and cumbersome. In addition people believe a different system should have been selected for the critical authorization process – referring to Postilion, as stability and performance are the highest priorities. Operational budget and investments are always the issue.

##### *4.4.6.1.1 Integration*

As presented in figure 18 a summary of the overall analysis of integration.

*Data integration.* Is the data definition of transactions and master data consistently implemented across the various applications within the Cards landscape? The answer to this is question is No. Unfortunately there are different definitions of the fields across the systems that increase the complexity of the landscape. Consequence of having these non-standard deviations is that application changes are more difficult to implement across the systems, hence support and maintenance of this landscape is very costly.

*Data level integration.* How accessible is the data in the main applications that store the card transaction data? There are different data access possibilities for system like Super Siras, ESI, PPI and CMI. ESI is a batch oriented application server on a file-oriented mainframe. Because of this integration with other systems has been applied differently. Different tools and specific file format is required to share data. PPI is built as file transfer application but has grown to a middleware tool within the landscape. All systems are connected to this and the data is therefore easy to access by using their web tools.

*Process integration, Integration of business processes & IT processes* J. Luftman is mentioning 3 types of business process integration 1) Internal process integration, 2) Cross function integration, 3) External process integration:

- Internal process integration, how are people and software integrated within the process. In every business processes the various systems are embedded and integrated. The whole Cards landscape must be seen as part of the overall business chain and is therefore very difficult to split up. The human intervention of business and IT is spread over the complete process and therefore also vulnerable to user mistakes
- Cross-functional coordination. Is there a cross departmental dependency. For example the authorization process has a cross delivery team responsibility. The local site system support (supporting POS systems), network support and the authorization system, Postilion are all part of the E2E service delivery. These service teams are spread over the whole delivery organization and are now in the process to integrate them. Because they are in the beginning of the processes subjects such as ownership, authority, communication, people and E2E SLA are now under discussion. All these items are critical for success
- External process integration, how are processes integrated with suppliers and customers. For Cards there are three external processes 1.) Cards production, 2) Invoice printing and delivery and 3.) Customer Management Information. For Cards production and invoiced there is full integration with 3rd suppliers and goes via IT systems like Siras and ESI. For external customers requiring Management Information there are services like reports, the external online website and Electronic Transaction Data (ETD).

*Technical integration.* The card landscape is integrated with files transfers between the different systems and mostly done by using the PPI interfaces. Disadvantage of the PPI interfaces set-up is the all-or nothing set-up. When the application logic of PPI finds incomplete or incorrect data in the files it rejects everything and it needs to be corrected and processed again. This is not only a time-consuming task but it also increases the support cost overall. From business point of view it's not desired that the complete financial process can be stopped waiting for resolution.

This type of point-to-point interfaces have the disadvantage the mechanism becomes apparent as the number of systems in the enterprise grows. The number of files will increase when new connections are established. The incremental cost of each new interface is low, but the combined ongoing cost to the organization is high. Replacement costs of the interfaces are in this case substantial (Luftman, 1993) and difficult to change.

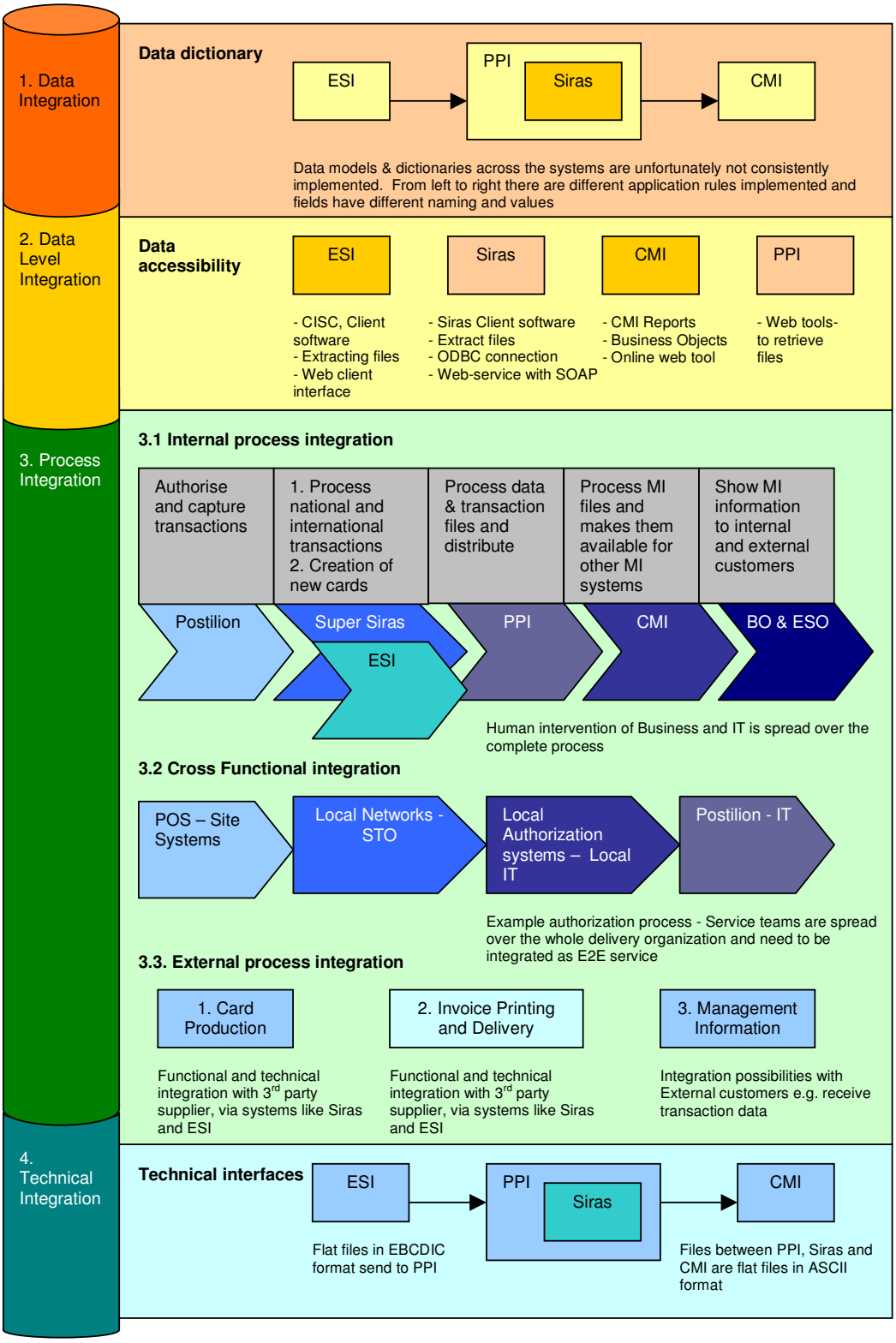



**Figure 18 Architecture - Level of integration**

#### *4.4.6.1.2 Innovation*

Luftman is mentioning in his book the Enterprise Architecture and Integration, developing and using new technologies to find new opportunities of improving the infrastructure and create new triggers for business. But Cards is a different kind of animal and is not aiming for the latest and innovative emerging technologies, but looks for stable and reliable systems. The business is not encouraged to invest in the latest technologies, as the perception is that the current systems landscape is good enough to be used for further business roll-out. Competitive environments should be evaluated for opportunities of redefinition before technology is applied (Luftman 1993, page 12). They compare the situation from a couple of years ago when every country had its own card systems and IT department. The business rollout over the whole of Europe was therefore a very cumbersome and costly operation. A project called Cascade has led the countries to the new 'standard' Super Siras system to reduce cost (by removing local IT systems and resources). Now a couple of years further most of the countries are using the central Cards systems. Except Switzerland, Turkey and Russia. People still see this as a very important achievement and show the benefits of their current situation. Therefore the Cards business has a different view on innovation than you would expect. But what level of innovation is currently in IT. Still within scope of operations, a number of new technologies possibilities could make the difference.

- Use of new technologies in web front end-ESO
- New type of reports service
- Better integration of Siras, ESI and CardsMI towards other systems e.g. web services, with as goal to reduce duplication and additional complexity

### 4.4.6.2 Desired situation

Concluding from the current situation different aspects of the scope and architecture area can be improved. Based on the assessment, the average maturity level is 3.1 and it is desired to have 4.0 (80%) as targets. From the assessment sheet the following items can be found:

1. Use current primary systems as business process driver instead of business process enabler
2. Improved standards defined and enforce across functions
3. Change how IT infrastructure is perceived, beginning to help business respond to change

Next to the assessment data and based on the interviews there are some other related items that are desired

- Data integration, full data integration and transparency through the different systems (Level 4 as target) with aligned data dictionaries and consistent data models
- Process integration
  - Internal process integration, No human errors and flawless processes
  - Cross-functional integration. There are many different systems fragmented and spread out in the organization (Level 4 as target). Desired is an integration of the technical systems and integration of the support organization. Collaborative functional teams, with mutual understanding and focus on the same direction. That includes clear reporting lines with a E2E delivery manager
  - External process integration, Agreed integration and improved internal technical and business knowledge

- Technical integration,
  - Integration mechanism will not create performance bottlenecks and it will be easy to change (Luftman, 1993) that means less complexity and more standardization. Use of emerging technology to improve integration of systems like Siras and CMI can reduce project and maintenance costs
  - Flawless PPI interfaces, System like PPI is working but not desired in its current form. Sending and processing the files on the right time should be the goal of PPI. Less Business logic and complexity is desired in the area of PPI. Business mentioned the batch problems how PPI is handling the files. Rejection of the whole batch based on one wrong transaction should be handled differently
  - Stop growth of new files distributed through the systems by reusing interfaces or merging interface logic
  - New integration possibilities for new applications and systems
- More innovation by building more prototypes. Rapid prototype can help to integrate emerging technologies in the environment (Luftman, 1993) – quickly demonstrate the value of the application to the organization
- The business expects innovation from IT and new ways to improve the service. Despite the limitation of BAM as service provider, extra attention in this area is desired
- The Cards systems are in line with business strategy but are on his max of their capability. Structural investment on an expensive system like Siras is desired.
- System like Postilion is critical and business should look at alternative technologies to be more reliable and stable
- Current systems have many workarounds implemented. As a result of many implementations of different countries it introduced more business logic and rules because of the deviation of many businesses in different countries. The lack of standards and rules what can and cannot be implemented seemed to be the root cause what happened in the past. Removal of old business logic and workarounds to simplify the infrastructure is desired.
- Missing long-term architectural plan of what will be improved the coming 5-10 years. New technologies and long term planning is in constant discussion with the business.
- Organization is constantly looking to their own systems, but should focus more on the outside world what they offer

#### 4.4.6.3 Gap Analysis

Based on previous sections some gaps and alternatives are listed below. For example

- Primary systems are currently business process enabler but are not ready yet to drive business process
- Lack of standards in infrastructure and processes. Current StCC design team and the IT architect are in constant discussion regarding improved standards
- Data integration through the different systems. Remove data inconsistencies and deviations and align data dictionaries in the different systems
- Internal process integration, to avoid human errors processes must be more formalized and strictly monitored. By introducing formal steps per process everything can be captured and assigned to a role
- Cross-functional integration, rethink the most efficient E2E organization of service delivery and how to integrate the different organization. Introducing a

dedicated team to support E2E processes is desired, but maybe together with business and IT

- External process integration, improve Fulfilment E2E invoicing process by developing, maintaining and sustaining business and technical knowledge within the team
- Technical integration,
  - Ideal situation is that integration mechanism will not create performance bottlenecks and it will be easy to change (Luftman, 1993) that means less complexity and more standardization
  - Remove PPI interfaces failures, by changing the way how files are treated
  - Avoid growth of files that are generated within the organization
  - Integration technologies like web services can decrease the number of files and speed up the processes with direct access to data
  - In addition create generic web-services in such a way other application or systems can reuse

#### 4.4.6.4 Conclusions

Based on the interviews it can be said that the overall landscape is very successful and is fit for purpose despite the technical flaws. "*Business experiencing a stable architecture landscape with Siras, PPI, ESI & CardsMI and sees a reliable system that is flexible enough to make functional changes.*"

The people within the organization, business and IT, know the history of the current systems and they know where it started. Project Cascade has made significant changes by integrating the different countries into one Siras system. They are aware of hidden functionalities and non-standard business rules but that requires time to remove and standardize. Future focus should be therefore on better technical integration and removal of hidden and complex business rules. Business knows there are enough possibilities to remove complexities but a balance between budget vs. improvements needs to be made.

Still E2E delivery has currently the highest priority. The process integration - cross functional - is difficult, but to make it a success some important changes need to be made. Reorganizing the delivery organization is maybe too rigorous but having a separate E2E team aligned with the process is maybe desired.

To summarize, some recommendations in the area of Architecture:

1. Continue with successful integration of all Cards systems and improve performance and stability
2. Defined standards for infrastructure and business/IT processes enforced across the functions
3. Integrate systems more E2E.
4. Remove old business logic and components in the different systems. With as goal to simplify and standardize the Cards landscape
5. Encourage innovation to seek for new business opportunities and encourage the search for new technologies and prototypes. People should spend time to looking for opportunities to increase creativity alongside their day to day work

### 4.4.7 Skills

This chapter is about people, the employees within the organization. With organizational changes people are worried and hesitant about what will be become of the organization and their own positions. This can have impact on people's

work, career and motivation. Therefore it is important to look at the motivational drivers of people and how well these are aligned with future business strategy.

#### 4.4.7.1 Current situation

The average maturity level for Skills, as result from the assessment is 2.7 and a standard deviation of 1.2. Differences are in the areas of Career cross over opportunities (+0.6) and Key IT HR decisions (+0.7).

Like many other companies the Cards business recognized the importance of highly skilled and competent people. During the interviews, people want to stress how important some key people are within Cards and because of the many changes in the organization it would like to have some stability. Also the key skills are in most cases on an individual basis and are difficult to maintain or to develop. In comparison with the business, the IT department has a lot of temporary resources, also called contractors and a small number of own staff. That means the motivational factors or HR (human resources) strategy is therefore not completely valid for most of the resources. Within the business, roles like Lecoms, Cluster Managers, security roles are almost all own staff. In addition the HR strategy for own staff is on global level and that means standard processes and guidelines centrally and is some cases these are out of scope for Cards. Line management is responsible to look for talent and to manage the staff reporting to them. That includes coaching, development and career guidance. But the individual employee is still responsible for his of her own career.

##### *4.4.7.1.1 People*

People within the IT department are highly skilled people and trained in this specific market. Because of many old customized complex systems there is huge scarcity in for example Siras experts or IBM mainframe experts. But Cards can offer them the challenge and the environment that is interesting enough to develop. As Luftman (1993) said - Knowledge workers are the highly trained, customer focused and self disciplined employees, working in complex and high demanding environments. These employees require intellectual challenges with constant training and new learning's. The question here is what does the company need to make the organization smarter and can leverage our intellectual capital to gain more competitive advantage?

As Cards is in constant change it is difficult to keep skilled people within the departments. Due to the globalization of BAM and Cards Retail, people are constantly moving. And in BAM, positions are identified to be candidate for offshore or maybe even for outsource. Based on the support model, describing the existing roles with offshore possibilities, the technical support and development is the area to offshore to countries like Malaysia and India. Roles involving business consultancy, process specialist or application specialists, will be kept in-house.

Within the business they are now in a phase to reorganize all their roles and responsibilities to operate in a globalize way. They want to attract more skilled people but spread over the world.

##### *4.4.7.1.2 HR Strategy*

As already mentioned in the introduction, the overall HR strategy is out of scope of the Cards business, but there are some specific tasks delegated to line

management like managing and motivating of people. The following items are part of that:

- Encourage to own staff to set-up development plans including
  - Development of required skills (e.g. Web knowledge, business process knowledge, technical knowledge, functional knowledge of applications, consultancy skills, PM skills, development skills)
  - Development of soft skills (communications and negotiating skills, leadership, accountability and teamwork)
- Set-up of mandatory training e.g. communication skills and ITIL, to develop a good level of basic understanding through the whole organization
- Motivate people by give more autonomy and variety of work
- Team building with a set of diverse people in different locations

Luftman mentioned a couple of human motivation theories. Some individuals probably prefers the stimulus theory - seek rewards and avoid punishment, that is maybe more done by contractors staff but in general most people prefers the job characteristics theory - 5 core characteristics: skill variety, task identity, task significance, autonomy and feedback. IT workers tend to have very low social needs and very high self-fulfilment needs; thus they are likely to be very high in the Maslow's hierarchy of needs and therefore more likely to be motivated by satisfiers than by basic or intrinsic needs. And in this case satisfaction involves achievement advancement and authority (Luftman 2003)

And the last element that is relevant for Business IT alignment is the HR strategy how to hire and retain highly qualified people. Luftman mentioned 4 different strategies:

1. Resource based view (RBV), a HR strategy to best fulfil corporate goals, that is very human resources –its employee competencies- dependent and can have a human capital advantage against competing organizations
2. Uncertainty HR strategies, human resources need to be tightly controlled to maximize gain with minimal cost. That includes more formalization and less personal autonomy
3. Portfolio HR strategies, balance the personal needs of the individuals versus the business needs of the corporation by e.g. continual job rotation and as goal optimal balance of human resources
4. Expertise oriented view, nurture and support employee creativity and measure success more by corporate performance than by individual performance, In this sense, hr practices seek to inspire and empower employees more than regulate them

Within Cards the current strategy is the closest to a combination of the resource base view and uncertainty HR strategies, where HR gives line management the responsibility to manage their staff directly with enough autonomy to have a very highly skilled independent resource base, but in contrast there is also the off-shoring targets and standardization where control and formalization starts. Based on the assessment results IT believes there is no retention program and very poor recruiting (score of 1.7).

#### 4.4.7.2 Desired situation

Concluding from the current situation different aspects of the skills area can be improved. Based on the assessment, the average maturity level is 2.7 and it is desired to have 4.0 (80%) as targets. From the assessment sheet the following items can be found:

- For IT workers it is attractive to work in a dynamic, learning and innovative environment (Level 3 as target). With constant developments and challenges

to work with. But unfortunately the budget for operational projects is minimal and the biggest investment will go to the global projects like GSAP and Streamline. As consequence that innovation and new technologies have to wait.

- Career crossover opportunities, where regularly occur at all unit levels. Looking at HR strategies it is by most people desired to have strategy 3 'Portfolio HR strategies', that looks for constant interesting challenges and give the opportunities to change over time
- Cross-functional and Job rotations across the enterprise and give the chance to look in different areas in the same company
- Social interaction – trust and confidence achieved
- Formal program for hiring and retaining

Next to the assessment data and based on the interviews there are some other related items that are desired. As described in preceding sections due to constant changes and new targets the roles and responsibilities are also changing. With the new support model, new roles need to be applied to the organization. For this it is desired to have clear roles and responsibilities that are reflecting the current situation and without significant changes in the organization. An element that is missing is a structural skill-set of all the roles that exist that can be used for development of new staff or as tool for hiring new people. The system of having people managing their own career and training via their own development plan should be continued.

#### 4.4.7.3 Gap Analysis

Based on the current and desired situation a list of gaps are identified:

- Lack of roles and responsibilities. Required focus to setup clear job descriptions and organization so people can take ownership and responsibility for their actions
- Lack of clear defined skill-set for the technical and functional analysts
- Lack of new technologies or integration possibilities, and thus lack of innovation, hence most IT workers does not feel attracted to the department.
- Missing formal program for hiring and retaining
- Missing cross over opportunities and the encouragement to switch in the different departments

#### 4.4.7.4 Conclusions

In general people are very satisfied with the opportunities how to develop further in their competence, skills and career options.

- Setup of clear defined Cards skill-set for functional and technical analysts roles
- Clear roles and responsibilities and formalized job descriptions
- Hire and retain skilled and knowledgeable Cards people based on formal program
- Keep working environment interesting with innovation new technologies and challenges

## 4.5 Step 5 – Recommendations

The Cards organization is in transformation. Changing from an autonomous regional business organization split into two separate global units. With new global strategies being put in place, one in Retail and the other in BAM (Business Application Management) IT, they are facing new organizational reorganizations, cost reductions and offshoring and outsourcing targets. These changes result in further formalization of roles and responsibilities & processes and procedures. New roles have been introduced and business and IT need to manage communication through the new BSM (Business Systems Management) organization.

Unfortunately there is an increasing gap perceived between business and IT. Instead of a collaborative, informal and effective group, business and IT are being looked at as independent silos with new formal processes & procedures and formal communication lines.

To get both departments working more aligned and to have mutual understanding of maximizing IT value, the area of "Business IT alignment" can help to improve this. This alignment can be done at various levels and it is a very broad subject in the academic world. Therefore a new pragmatic Business IT alignment methodology has been set-up, which is taking into account 1) business context and data collection 2) strategy alignment, 3) organization roles and responsibilities and 4) alignment competencies.

As case study, the European Cards business has been selected. In a series of several structured interviews with business and IT, the information could be gathered. This research started last year hence it is possible some of the identified recommendations during this study are already initiated and executed.

By using this newly defined methodology the following recommendations in the various areas have been found. First step of the methodology that is not part of the recommendations is investigating the business context and gathering of information e.g. performing interviews.

**Strategy alignment**
By using the strategic alignment model, the 2nd step of the new methodology could be performed. It includes the alignment between the business & IT processes, people and applications. In general there is good alignment in terms of strategic fit. Both departments are currently adapting the new global IT processes & procedures and are closing the potential alignment gaps. Also there is good functional integration between business and IT, especially in the internal area, but attention is still required in defining the details. The focus on Top quartile performance, operational excellence and cost reductions to keep the competitive advantage are shared goals in both global organizations. Improvements can be found in the following recommendations:

- Implement Functional IT plan, defining the priorities and long term IT strategy plan based on business strategy and business goals
- Establish a better harmony between IT and business as part of the strategy
- Share strategy goals and challenges, and involve each other in global strategies & targets setting

**Roles and responsibilities**

For step 3, an extended strategic alignment model has been used, the generic framework based on nine fields. This model is introducing the 'communication' layer between business and IT and the 'structure' layer between strategy and operations. By using this model a theoretical mapping of roles is presented to identify the gaps between Business and IT. Listed below the most important recommendations:

- Define and communicate scope and responsibilities of the BSM role
- Introduce a Process Manager role who takes ownership of all changes and issues of all processes and application changes
- Introduce formal SLA Manager role within IT, that is monitoring, negotiating and changing the SLA on regular basis
- Organize and further develop IT, functional and technical support teams, as strategic assets
- Encourage formal and informal communication lines between the different roles and disciplines

**Alignment competencies**

By assessing the Business IT alignment with the alignment competencies model a more pragmatic approach has been found. Various areas like 1) communication, 2) competency and value measurement, 3) governance, 4) partnership, 5) scope & architecture and 6) skills are part of the model. Every area has been researched in combination with an assessment. By using the assessment, the level of alignment could be determined by the assessor from level 1-5 and the average can be calculated. The overall current average of the maturity level has the value of **2.8**.
As result, the following numbers for the current situation (per area) are shown in Figure 19. With the orange spotted indicators it is showing the current situation and with the green striped indicators the desired situation.

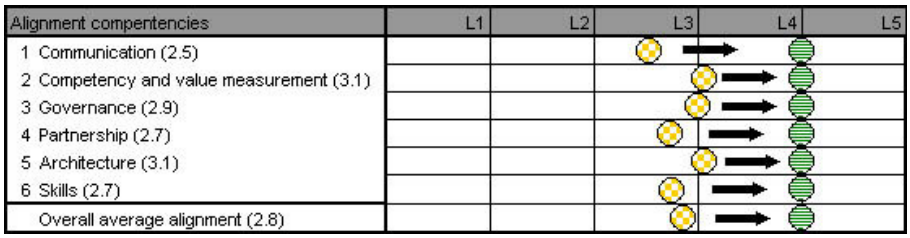



**Figure 19 Overall assessment results and targets**

The overall desired average of the maturity level has the value of **4.0.** By using the following criteria the maturity level of 4.0 is chosen:

- The target was to improve Business IT alignment to increase the level of maturity. Changing the level from 2.8 to 4.0 meets the target
- Level 4 goals are more realistic and can better be implemented compared to level 5. This level is also saying that there is complete alignment with mutual understanding between business and IT. Including established relationships with partners and external partners with complete trust and sharing of risks and rewards. In addition towards the outside world there is competitive advantage, systems are all strategy enablers & drivers and the business are enabled to response quickly to changing markets. To get to this level 5 first some steps need to be made.

- 75% of the total alignment model will be inline with the BAM Top Quartile Performance Range and with level 4.0, 80% range is covered

1. **Communication**
   For some interviewees this area is seen as most important and they would like to improve quality of communication within the department. In addition this research has looked at knowledge of business in IT and IT knowledge in Business. In combination with level 4.0 as target the following recommendations in the area of communications are listed below:
   - Understanding of IT encouraged among business staff
   - Sharing of knowledge and information from Business to IT and IT to business
   - Introduce regular feedback
   - Encourage informal communication lines as this type of communication is seen as critical for success.
   - Facilitate relationship-building between Business and IT staff

2. **Competency and value measurement**
   In the competency area the research has looked at the competitive position of Cards and checked how unique the products, services and resources are. The Cards business is a market with a unique set of services, infrastructure and resources that is difficult to imitate. In addition the value measurement has looked at how IT services is measured and is reported. The service level agreement and ITIL are the elements in scope. In combination with level 4.0 as target the following recommendations in the area of competency and value measurement are listed below:
   - Improve link between Business and IT metrics so that it can be reviewed and acted upon
   - Introduce regular benchmarking
   - Establish SLA Management, with a dedicated SLA Managers monitoring and updating the SLA regularly
   - Establish E2E Delivery including reporting, SLA and people
   - Improve service delivery communication and stakeholder management
   - Define and improve reporting requirements by IT according business requirements
   - Introduce constant performance measurements regarding strategic alignment by next to standards KPI (Key Performance Indicators) e.g. introducing formal feedback

3. **Governance**
   Governance is about who, why and how to make decisions. In combination with level 4.0 as target the following recommendations in the area of governance are listed below:
   - Improve involvement of IT in projects and changes (Demand Management process, Payment Improvement Team process, Investment Proposals process)
   - Change rationale for IT spending and treat IT as investment rather than cost centre
   - Improve IT resource planning, by making the project resources visible through the whole organization

- Improve prioritization of requests and projects. By creating the right forum of people to discuss both requests and projects e.g. the integrated planning meeting
- Improve alignment between PIT, DM and IT process. By implementing an integrated tool or interface that automates the process of registering the business requests

**4. Partnership**

Partnership is changing in Cards and with the relatively new BSM organization new partners need to be established. With two global organizations with global targets it is a challenging job for the BSM to manage governance, stakeholders and communication. In combination with level 4.0 as target the following recommendations in the area of partnership are list below:

- Change business perception of IT. See IT as strategic asset that will drive future business activities
- Open and informal communication with business is desired
- Formalize each others roles as already mentioned in the "roles and responsibilities" section
- Manage quality control E2E. Be 'open minded' towards each other, share knowledge and have constant engagement regarding service and quality to seek improvements
- Share always risk and rewards
- Improve IT's role that enables or drives business strategy
- Change mindset – to process oriented – instead of system oriented

**5. Architecture**

Within this broad subject only integration on data level, applications and processes have been covered. Despite the old, costly legacy systems most people are still happy with the current architecture and systems as they still perform well for operations and strategy. In combination with level 4.0 as target the following recommendations in the area of scope and architecture are listed below:

- Continue with successful integration of all Cards systems and improve performance and stability
- Defined standards for infrastructure and business/IT processes enforced across the functions
- Integrate systems more E2E (End to End).
- Remove old business logic and components in the different systems. With as goal to simplify and standardize the Cards landscape
- Encourage innovation to seek for new business opportunities and encourage the search for new technologies and prototypes. People should spend time to seek for opportunities to increase creativity next to their day to day work

**6. Skills**

In this area it is about people to understand their motivation and how to get the right people at the right place. HR strategy is therefore an important element but within Cards line management is responsible for coaching and development of the staff. To keep IT talent and people motivated the organization need to take action. In combination with level 4.0 as target the following recommendations in the area of skills are listed below

- Setup of clear defined Cards skill-set for functional and technical analysts roles
- Clear roles and responsibilities and formalized job descriptions
- Hire and retain skilled and knowledgeable Cards people based on formal program
- Keep working environment interesting with innovation, new technologies and challenges

Further research possibilities recommended changing the system-oriented organization to a process-oriented organization:

1. Further research is advised to look into BPM (Business Process Management). First suggested research is about the possibilities of implementing BPM into Cards. And second to look into the possible benefits and efficiency the organization could have if BPM is implemented
2. Further research to new service tools supporting process-oriented environments

## 4.6 Step 6 - Implementations plan

The recommendations in overall are presented in a structured way, but what are the next steps for the organization and how to start with this? The recommendations are concrete and management can take actions, but it is not translated and prioritized to a specific implementation plan. Therefore the following approach is advised as short implementation plan with the following assumption:

- Take into account some of the suggested improvements are already picked up
- Business and IT Leads need to take the initiative to start with the implementation to include in their strategy
- New strategic developments of both departments (Retail and IT) need to taken into account for overlapping elements that is already on the agenda

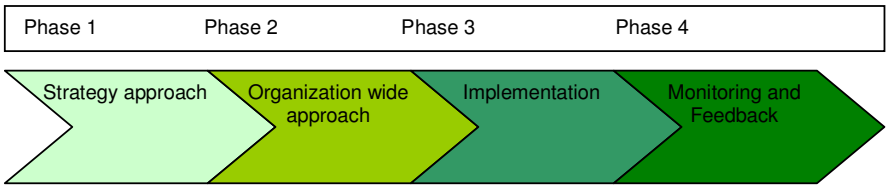



**Figure 20 Business IT Alignment implementation plan**

### 4.6.1 1st phase – Strategy approach

To have an aligned approach and a common understanding, discussions are needed between Business and IT. Overlapping strategy elements that could be related to alignment need to be identified and filtered out for this specific alignment approach. Therefore the first step is:

- Discuss approach and recommendations with management from Business and IT to find synergy between the strategies
- Discuss and agree on alignment strategy direction (s) and proposed roles and responsibilities
- Prioritize next steps and agree on approach based on recommendations

### 4.6.2 2nd phase – Organization wide approach

In parallel in phase 2, discuss Business IT alignment in the overall organization. It is advised to arrange workshops with people from different work levels (mixed business and IT). To avoid the alignment strategy is only discussed by management, everyone in this process should be involved with as goal to engage with each other to share experiences and generate new ideas to improve. The workshop (s) can create a mutual understanding between people and can therefore trigger open discussions. Therefore the following steps are advised in the 2nd phase:

- Arrange workshop(s) and share ideas and potential improvements
- Discuss potential list of improvements with management from Business and IT
- Prioritize and communicate ideas as part of strategy

Concrete examples are:

- How to improve communication and partnership? What are the possibilities to update each other with the most important news elements that are related to the work? Is it possible to have regular and structured news updates from business and IT? In addition in what way can we share knowledge? Do we have knowledge sharing possibilities about business models and definitions or maybe about information architecture etc?
- How to improve architecture; what are the possibilities to formalize an architectural advice body. For questions, guidelines, standards and best practices. Currently an unstructured communication flow to different people is causing confusion and unclear approaches

### 4.6.3 3rd phase - Implementations

When strategies are aligned and information is gathered from Business and IT workshop(s) the implementation of alignment improvements can start. Advice is to gain the following benefits as quick wins:

- Create a work environment with more face-to-face contact between Business and IT. In addition encourage more informal contact to build relationships. For example:
  - Arrange business information meetings for IT and IT information meetings for Business
  - More face-to-face meetings and less teleconferences
- Define the central BSM role and make clear what everyone can expect from this role/position. This is the role between Business and IT that is the key for success in communication, demand management, stakeholder management and future agreements. Communication of this role is crucial for success
- Define the SLA Position /role. The business organization desires a high performance IT service provider that is measurable and transparent. The IT organization has the same goal but translate that to their Top Quartile performance strategy. The SLA is the basis agreement for success and need all attention from both organizations to finalize this. The SLA should include
- An up to date applications and business processes portfolio
- E2E support and delivery agreements (including escalation, authority and communication agreements)
- Clear and straight forward reporting agreements
  - To gain more business value from IT, expectations need to be managed and priorities need to be clear and communicated. The functional IT plan is the basic building block to have a clear direction for business and IT. Avoid uncertainties and discussions about prioritization of new projects and initiatives
  - Start involving IT stakeholders like process architects or IT Management in important governance groups like project planning, pit and demand management

### 4.6.4 4th phase – Monitoring and Feedback

Advise on monitoring on the implementation of alignment improvements are:

- Measure maturity level on annual basis to monitor the perception of the overall organization
- Gathering feedback from Business and IT
- Regular evaluation is needed and follow up actions need to be taken to keep the focus on alignment

## 4.7 Step 7 - Validation

As part of the validation there is feedback from management and business and IT representatives after reviewing the recommendations to improve business and IT alignment. When recommendations have been provided the question has been asked if important elements are missing or need to be added. Management from Business, IT and BSM have been asked to review the recommendations and provided remarks and feedback:

*Cards Business*

- Confirmed that recommendations show insight and a structural analysis of the situation, and is fully understandable. The recommendations are realistic.
- Provided some consideration to strengthening the recommendations:
  - The definition of business ownership and the responsibility of IT to communicate incidents to the business owner and gain agreement for changes from same. Self-authorization to be removed from all process steps to ensure business risks and customer requirements are fully incorporated
  - The professionalism and global standards applied as a result of joining a functional IT line, again allowing external market pressure and best practice to be applied to improve internal performance

*Cards IT Operations*

- A remark in the area of communication - Understanding of IT encouraged among business staff – how to look at this. This is explained within the context of new projects, initiatives and changes in the IT systems where basis IT knowledge can have added value. To understand what is and what is not possible in IT
- A remark in the area of Partnership where it is not clear who is meant by this - Formalize each other roles. In this case the recommendation is referring to BSM and IT roles, looking at communication there were and are no complete agreements taking on ownership and responsibility. In addition he disagrees on the recommendation to establish the partnership between BSM and IT. As fv this is currently already in place but needs improvement
- Remark on the presented desired maturity level. The desired situation of the Business IT alignment competencies has been challenged. As he would like to have a better understanding of the criteria why level 3 has been chosen instead of level 4. He wants to understand the level and the required step changes between the levels – This has been updated
- In overall the provided recommendation was clear and understandable and appreciate the pragmatic approach of the recommendations

*Global BSM*

- Remark on Luftman model, as he believes this model is a good representation of all responsibilities of the BSM. Shell Downstream is going through a process of revisiting the current Business Relationship design (esp. focused on the future BSM role). And he thinks the models and this study provide them with excellent input to structure and streamline the discussions about potential new alignment models
- Remark on transformation, Globalization has more impact on business and IT alignment than the functional change (splitting the organization) as such

- Remark on communication, as he believes this is a challenge, especially within the business. Sales and marketing are two different business groups that are not completely aligned with respect to goals and targets.
- Remark on Service Level agreements, he confirmed Global SLA is indeed an IT responsibility, but BSM can be seen as IT and BSM has this on their responsibility list
- Remark on Service Management as he confirmed the IT organization is indeed very system –oriented and must focus on e2e processes. He suggested to look into pilot process tools
- Additional remark on overall transformation change, everything need to be measured and recorded, to understand resources and workload

*BSM Europe*

- Remark on strategy alignment recommendation "Establish harmony between IT and business as part of the strategy". Although she thinks this is a good point it is difficult to develop and could happen if there are clear rules (SLA) to follow up what is required from both parties thanks to regular reviews.
- Remarks on roles and responsibilities regarding the role "process manager". Although she likes the idea it will be difficult to introduce as in reality there are enormous number of issues and changes in too many different areas. Question will be how to organize them per application, per area (invoicing, dealer reimbursement) etc. Second is the "SLA role", this must be typically the role of the BSM
- Additional suggestion about communication, where she suggests deciding on location where information can be shared or what kind of newsletter can be introduced.
- Remarks on competency and measurement, where she agrees on the recommendations but Four Tier model implementation makes us looking at this differently
- Nothing to add to the area of Governance and she agrees with the recommendations
- Remark about partnership, she thinks BSM must act as communication facilitator, because BSM must not forget to involve the right parties for any discussion. In case one party is not invited to one meeting, it can be seen as excluding one party. Just to be careful with this.
- Remarks on skills, where she thinks the right material need to be in place that knowledge is shared and kept somewhere. Because in case people move to another role (which is part of motivation of our people) we need to make sure that handover happens well. We also know that most of time handover doesn't happen, that means that by advance we need to take care that knowledge is not lost when people change job.
- In overall very satisfied with the results and suggested recommendations

In overall it can be concluded that provided recommendations are appreciated. They confirmed recommendations are clear, understandable and realistic. Also they think this structured approach can have added value to existing processes and models.

# 5 Validations of alignment methodology

The alignment methodology is presented in previous chapters and is used to perform a case study. This chapter is to look back at the methodology. Did it meet the requirements –a pragmatic approach to assess and understand Business IT alignment - and what are the experiences of using this on the Cards business case study? Because the methodology cannot be validated to another existing methodology or by Business IT alignment experts this validation is limited and is more an evaluation. Based on own findings and experiences the developed methodology is tested if it can be used in any other situation. This is presented by listing a personal overview of pros and cons. First the different models will be discussed and followed with an overall methodology validation.

## 5.1 Strategy alignment model

Using this strategic alignment model gives the researcher a good abstract view of the current and desired situation. The strategy can be assessed from top – to down from business to IT. In addition it gives the researcher the flexibility to what level the alignment of elements goes and limits to the context relevancy. In short some advantages and also disadvantages:

Pros:

- Presenting a flexible model to select alignment components at various levels
- Flexible in use and is not restricted for a certain type of organization
- Showing transparency of overall strategy direction from top to bottom
- Showing alignment attributes where to align and what to align and it gives the opportunity to drill down in different levels

Cons:

- Limited focus on business, management and organizational structures as it can be aligned in the known areas but limited in 'hidden' areas e.g. human aspects like communication or human handling and not to mention the importance of roles and responsibilities
- The strategy component is mainly externally focused and is limited to use for operational environments
- No clear demarcation of how far to go with aligning components and to what level to drill down
- No clear answer how and when Business IT strategies are aligned. Vision and strategies can be set but how to determine the maturity level of alignment
- No clear answer when alignment is most efficient for the organization or not. Questionable if strategy alignment really makes the difference in the organizational performance over time (Maes 1999, Tallon and Kraemer, 1998)

To conclude the Strategic Alignment model can be used for different cases and different scenarios e.g. overall Business IT organization or just an operational organizational.

## 5.2 Generic Framework

Like the strategic alignment model this extended framework gives the researcher a tool to get an abstract view of the situation but this time from a nine-field perspective, mapping to roles and responsibilities. Again the model provides the

researcher a basis to find his or her direction what is relevant for research. Also with this approach in short some advantages and disadvantages.

Pros:
- This framework is generic in such a way it can be used for different purposes and is not depended on the type of organization, the people or processes and complexities
- Identify missing critical roles and provides the tool to formalize roles and responsibilities
- Showing the roles how they could be organized and linked to each other including the responsibilities and ownership
- Showing important informal/formal communication lines between Business and IT

Cons:
- For mapping roles it is limited with nine fields and is therefore difficult to map to an dynamic organization like Cards
- Limited roles and responsibilities as the presented model requires skilled and knowledgeable people to cover the roles which is in some case maybe not realistic
- No clear answer how to deal with informal roles and work
- No clear answer what is most efficient in terms of alignment and how to deal with organizations that is organized differently. Model can be interpreted in many different ways and guidelines is required if using it for an assessment

To conclude this Generic Framework can be used for different areas and different scenarios.

## 5.3 Alignment competencies

Executing the interviews in combination with the distributed assessment it has been discovered these are powerful tools to gather the information. For the interviewees it is sometimes even an eye-opener and gives them the opportunity to think about the important aspects. The model of Luftman includes clear subjects that cover the important elements of Business IT alignment.

Pros:
- Clear and concrete areas to identify gaps to improve alignment
- Flexible in use and is not restricted to a certain type of organization
- Flexible in extending the assessment with new criteria reflecting the theory
- Good start for initiating assessment, but can maybe be extended with more practical subject to research

Cons:
- Missing the 'right' answers in several areas and in different scenarios e.g. small vs. big companies, complex vs. less complex IT organizations
- Missing guidelines to scope Business IT framework within the organization
- Despite the clear subjects they have all a strong overlap of interest and are in some cases difficult to categorize and separate.
- Missing areas like 'compliancy' and 'security', which can be relevant in the area of alignment
- Missing area like 'culture' as cultural differences can have impact on alignment

As this model is build for business and IT sharing common goals with mutual understanding and trust it can therefore be used in different scenarios with different type of management or organizations and is not depending of strategy direction. To conclude this Alignment competency Framework can be used for different areas and different type of organizations.

## 5.4 Overall Alignment methodology

As described in the preceding sections every model has it advantages and disadvantages and together they are a strong set of tools to create an approach to improve Business IT Alignment. In short a small summary of conclusions of previous models:

- The Strategic alignment model can be used for different cases and different scenarios e.g. overall Business IT organization or just an operational organizational
- The Generic alignment model can be used for different scenarios but need some adjustment in the different roles that is fit for purpose
- Alignment competencies can be used for different cases scenarios and different type of organizations.

The new overall alignment methodology has introduced a step-by-step plan how to start researching Business IT alignment. Based on previous case study it provided the research a pragmatic tool that is flexible enough to execute a comprehensive investigation of the Cards business. Below in short some advantages and also disadvantages of the alignment methodology:

Pros:

- Defined methodology is a workable tool and it gives the researcher a clear and pragmatic guidance in the area of alignment
- Flexible in scope and demarcation & in setting up the research and interviews
- Possibility to extend 'optional' frameworks related to the subject

Cons:

- The maturity model is limited to alignment competencies and therefore strategy and organization roles cannot be measured
- The model is flexible in such a way it is easy to add and remove new details. With the risk the scope is constantly changing and the research field become bigger than expected
- Difficult to asses during organizational transformations
- Missing cost management as separate research attribute

Even though there are no clear guidance how to perform research in different cases and different scenarios it gives the researcher enough freedom and flexibility to add & remove, relevant and less relevant areas from the research

Important to mention, in an organization where IT has no role and is not significantly part of the business this model will not be sufficient.

# 6 Conclusions and recommendations

In this research, different approaches have been examined to understand the subject Business IT Alignment to measure and improve alignment in such a way recommendations can be presented. Unfortunately no concrete and no complete pragmatic approach could be found and therefore the following research question was defined in the beginning of the research:

*"What pragmatic approach can be used to improve Business IT Alignment towards a desired maturity level?"*

With the objective to develop a new methodology, presenting a pragmatic approach how to deal with Business IT Alignment. Within this question three main key sub-questions are incorporated which are important for the final conclusions to answer:

1. *How acceptable and realistic are the recommendations in the Case study?*
2. *How pragmatic is the developed approach?*
3. *Can this pragmatic approach be used in other situations?*

To check the developed approach and to perform research in an organization, the Cards business has been selected for a case study. Within the Cards area the business and IT departments have the perception the alignment gap is increasing. Due to re-organizations both departments are now reporting to global organizations. As results new global strategies need to be followed with new roles & responsibilities and changed processes and procedures. They would like to keep the Cards business aligned despite the organizational changes and to get maximum value from IT.

To answer the first sub-question: The provided recommendations are found by identifying the gaps between the current and desired situation of the alignment areas. The case study presents a current and a desired maturity level based on accepted criteria by Business and IT stakeholders. By using the new methodology the current perceived maturity level can be calculated and a desired maturity level can be agreed with involved stakeholders. The different levels of alignment provide good reference in what areas can and need to be improved, to increase the maturity level. In the validation step of the methodology they confirmed the relevance and importance of this structural approach and were satisfied with the results. Even though some recommendations are less tangible e.g. improve informal communication or improve relationships. As results different interpretations can be made, but even though these are 'open door' suggestions, they cannot be ignored. To conclude the validation step by Cards, stakeholders confirmed that this approach brought more insights of how management can reflect and deal with these different subjects

Recommendation to improve

- With as goal to improve the delivery of recommendations it is recommended to investigate the possibilities to present the results more effectively. As consultancy tool there is a need to summarize and to visualize
- Future research how to benchmark the alignment results with other companies

- Introduce an in-depth implementation plan how to perform the actual organizational change. This is a topic on its own and require further research

To answer the second sub-question: The developed methodology is a clear step-by step guide to understand Business IT alignment within the organization and to identify the gaps to improve the different areas. It is a combination of understanding the existing theory and models, but also the approach to gather the information and assess the maturity level of alignment. By using the assessment the average alignment perception can be measured and calculated. And by using the frameworks concrete mapping of e.g. roles and responsibilities is possible. But there were some practical constraints in this research such as:

- Difficulties to scope with only an operational IT environment, as it is part of the overall IT organization
- Take 'as is' situation and not re-scope the research. Ongoing changes that are impacting the research are difficult to manage

To conclude because of this practical guidance it is a well-designed pragmatic approach to deal with alignment.

Recommendation to improve:

- Gain more experience of this developed approach - by performing this type of case studies in different organizations – it is desired to test the methodology in a broader context and include more business stakeholders and different parts of IT.
- Recommended is to define best practices how to deal with alignment issues in different companies. List down common issues and experiences that came across during investigation
- Perform research to extend the maturity model how to measure strategies and organizational roles and responsibilities
- Perform research to maturity model possibilities how to deal with interview and assessment data. Get more understanding and practical guidance how to perform analysis in this area

For the third sub-question, based on the validation of the framework it can be concluded it can be used for generic purpose for different type of organizations with business and IT departments. For limited research, scooping will be very important and boundaries need to be agreed prior investigation starts.

Recommendation to improve:

- Gain more understanding of different types of organizations where business and IT are differently organized to make the methodology more robust to use in every type of situation
- Perform research to develop an approach how to categorize and scope the alignment areas that are relevant for research
- Perform research to work-flow mechanisms how to perform the case study most efficiently

Overall the methodology is a good new approach to understand the subject and how to perform Business IT alignment analysis. Not only it is identifying gaps but it is also a good starting point for discussions where and how to improve alignment.

# 7 Reflection

When looking back on the different theoretical methods and frameworks used during the research, the questions arise if things could go differently and if the performed approach is the right one.

The search to Business IT alignment models and approaches was not a straightforward task. It was difficult to find a unique set of tools that are not overlapping, but are adding value to the other tools. Maybe the current developed approach is not complete yet, but I think it a good basis that is free to be extended. Further research could enrich this model with new alignment elements or tools. Taking into consideration the world is changing and the alignment is not the same alignment from 10 years ago (different business models, more IT complexity and involvement).

In the beginning I was worried that some approaches (e.g. Luftman) were dominating the overall research and therefore I was trying to balance it with insights from others. Looking at the final results I think it is now a good mix of different approaches.

Main goal for the methodology is to develop a pragmatic approach to measure and analyze the alignment. This is done by setting up the step-by step plan, but if I look at it with a critical view I think the framework background could be overwhelming for beginners who wants to start with Business IT alignment. The basic set of required knowledge is a lot and that can slow down the start of the research. A pre-analysis linked to research elements could be something to be added.

For readability and relevance of this research, maybe some certain areas could be left out. The case study became very big and is maybe not in complete balance with the developed theory. But I think that is the risk of having clearly 2 different deliverables 1) developing the pragmatic approach and 2) providing recommendations to Cards. From a scientific perspective the case study could be less detailed.

During the case study of the Cards Business scoping of the project appeared to be the biggest challenge. Starting the project of what and how to research was time-consuming, because of the wide range of tools and the complexity of the organization. The Cards business appeared to be the right type of business to perform the analysis. Because of 2 reasons:

- The organization already had a certain level of alignment between the departments. If that was not in place more in-depth analysis was probable required. E.g. using the strategic alignment model more extensively
- Type of integrated IT systems. Within Cards the main critical applications are legacy systems and are identified as strategic. If that was not the case the technical research could be much broader and more complex. Research probable had to be extended with portfolio management and research to different type of technologies

In addition the approach could be different with e.g. e-Commerce companies. In that case focus would be more to alignment with suppliers, looking at better deployment of technologies and more research to IT and business processes standards. Cards have no or minimal internet strategy and therefore gave me the

opportunity to look into other areas. Personally I also had the preference to include the project organization and maybe higher management (one level above). But that would impact the size and planning of this research.

The interviews went successful, but the time-constraint of 1-1.5 hr was in my point of view a bit short to retrieve all the information about the assessment. Performing 2 hours interviews could resolve the problem. Also the interviews were 1-1 meetings and to get full understanding of the situation, a workshop should have taken place, e.g. with a mixed group (Business and IT) of 6-8 people. Different perspectives could trigger more open discussions and better understanding of the subject. In addition it would help to understand the maturity assessment, because it caused a lot of confusion due to different interpretations of definitions and scoping of the research.

As already mentioned the Strategy alignment model could be used in more detail. Maybe a detailed in-dept alignment analysis in connecting the infrastructure, application business processes etc is interesting to see. That way management from business and IT can quickly visualize the alignment in their Business IT landscape.

I'm also happy with the results, that I kept objective when performing the case study. Because as member of the CCC team I experience the organizational change from very close and I share the worries in our department. Not only the alignment gap is increasing, but the organizational mindset is changing. The previous mindset was to help and improve the business with a certain level of standardisation. Now the mindset is about formalizing and registering the work to get better control and understanding by our management. Globalizing has its consequences and I think this alignment can help in more a formal way, but if the mindset is not the right one there will always be a gap.

# 8 References


[1] R.J Benson, T Bugnitz and B.Walton (2004), "From business strategy to IT Action: right decisions for a better bottom line"
[2] Bjorn Cumps, Stijn Viaene and Guido Dedene, "Managing for Better Business-IT Alignment ", 2006, IEEE
[3] Jan Duffy, "CIO: IT/Business Alignment: Delivering results", 2005, http://www.cio.com
[4] Susan Cramm, "CIO: Alignment the business of IT is business", October 2005, http://www.cio.com/article/12560/Alignment_The_Business_of_IT_Is_Business, http://www.cio.com
[5] Art Jahnke ,"CIO: Why is Business IT Alignment so difficult", June 2004, http://www.cio.com/article/32322/Sound_Off_Why_Is_Business_IT_Alignment_So_Difficult, http://www.cio.com
[6] R. Fulton, 2003, "Defining the business value of IT", http://www.gartner.com
[7] M. Gerrard, 2005, "Business/IT Alignment a Critical Factor When Determining IT's Role", http://www.gartner.com
[8] Henderson and Venkatraman, "Strategic alignment: leveraging information technology for transforming organization", 1999, IBM System Journal
[9] Knowledge transfer, "Business IT Alignment", 2006, http://knowledgetransfer.net/dictionary/ITIL/en/Business_IT_Alignment.htm
[10] J.N. Luftman, "Assessing IT/Business IT alignment" , 1992, IBM System Journal
[11] J.N Luftman, P. R. Lewis and S.H. Oldach, "Transforming the enterprise: The alignment of business and information technology strategies", 1993, IBM System Journal
[12] J.N Luftman, 2003, "Competing in the information age"
[13] R. Maes, "Reconsidering Information Management Through a generic Framework, 1999, Universiteit van Amsterdam
[14] J. Mahoney, M. Gerrard, 2006," IT Value propositions must link to business/it alignment", http://www.gartner.com
[15] P. Weill and R. Woodha, "Implementing Effective IT Governance", 2002, Massachusetts Institute of Technology
[16] G. Kearns and R. Sabherwal, "Strategic Alignment between Business and Information Technology: A Knowledge-Base View of Behavious, Outcome and Consequences, 2006, Journal of Management Information Systems Vol 23
[17] C. Nap, " Kloof tussen ICT klant/lijn groeit", 2007, Automatiserings Gids
[18] S. Yogendra, "Aligning Business and Technology strategies: a comparison of established and start-up business contexts, 2002, IEEE
[19] Krystl Campos,Paige Leavitt, "BPM", 2005, American Productivity & Quality Center (APQC)
[20] The Beta Group, "New Information Economics, NIE", 2004, http://www.the-beta-group.com/about/methodm.html
[21] Wiki Grop, "Information management definition", 2008, http://en.wikibooks.org/wiki/SA_NCS_Computer_Application_Technology:Glossary
[22] R. Broersma (2006) "Partnership – relationship between client ant supplier"
[23[ Bahadur K.D, Desmet E. van Bommel, (2006), Smart IT spending:Insight from European banks. The McKinsey Quarterly, Web exclusive
[24] Regina Costa, "Intranet - Cards intranet demand management", 2007 http://sww.shell.com/downstream/retail/sales_operations/europe/cards/pbi/pbi_demand_management.html
[25] An Vandermeersch, "Intranet - Cards intranet BAM", 2008, http://sww.shell.com/downstream/it/delivery/bam/
[26] Iris Walenkamp, "Intranet - Cards intranet BIM", 2008, http://sww.shell.com/downstream/it/delivery/bim/
[27] Brandon Dupre, "Intranet - Cards intranet, Retail IT BSM , 2008, http://sww.shell.com/downstream/it/news/RetailNews/1063046950/Article.aspx
[28] Alison Greig, "Intranet - Cards intranet AD & P", 2008, http://sww.shell.com/downstream/it/delivery/adp/
[29] Marijke van Steenbergen, "Intranet - Cards intranet Retail Payment & Loyalty" , 2008 http://sww.shell.com/downstream/retail/sales_operations/europe/cards/

# Appendix A: Assessment to Business IT Alignment

| Communication | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|---|---|---|---|---|---|
| Understanding of Business by IT | IT management lacks understanding | Limited understanding by IT management | Good understanding by IT management | Understanding encouraged among IT staff | Understanding required of all IT staff |
| Understanding of IT by Business | Managers lack understanding | Limited understanding by managers | Good understanding by managers | Understanding encouraged among staff | Understanding required of staff |
| Understanding of Business Strategy by IT | IT management lacks understanding | Limited understanding by IT management | Good understanding by IT management | Understanding encouraged among IT staff | Understanding required of all IT staff |
| Understanding of IT Strategy by Business | Managers lack understanding | Limited understanding by managers | Good understanding by managers | Understanding encouraged among staff | Understanding required of staff |
| Organizational learning | Casual conversation and meetings | Newsletters, reports, group e-mail | Training, departmental meetings formal methods | Sponsored by senior management | Learning monitored for effectiveness |
| Style and Ease of Access | Business to IT only; formal | One-way, somewhat informal | Two-way, formal | Two-way, somewhat informal | Two-way, informal and flexible |
| Leveraging Intellectual Assets | Ad-hoc | Some structured sharing emerging | Structured around key processes | Formal sharing at all levels | Formal sharing with partners, cross-functional teams, training, risk/reward sharing |
| IT-Business Liaison Staff | None or use only as needed | Primary IT-business link | Facilitate knowledge transfer | Facilitate relationship-building | Build relationship with partners |
| **Value measurement** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** |
| IT Metrics | Technical only | Technical, cost; metrics rarely reviewed | Review, act on technical, ROI metrics | Also measure effectiveness | Also measure business ops, HR, partners |
| Business Metrics | IT investments measured rarely, if ever | Cost/unit 5; rarely reviewed | Review, act on ROI, cost | Also measure customer value | Balanced scorecard, includes partners |
| Link Between IT & Business Metrics | Value of IT investments rarely measured | Business, IT metrics not linked | Business, IT metrics becoming linked | Formally linked; reviewed and acted upon | Balanced scorecard, includes partners |
| Service Level Agreements | Use sporadically | With units for technology performance | With units; becoming enterprise wide | Enterprise wide | Includes partners |
| Benchmarking | Seldom or never | Sometimes benchmark informally | May benchmark formally, seldom act | Routinely benchmark, usually act | Routinely benchmark, act and measure results |

| | | | | | |
|---|---|---|---|---|---|
| Formally Assess IT Investments | Don't assess | Only when there's a problem | Becoming a routine occurrence | Routinely assess and act on findings | Routinely assess, act and measure result |
| Continuous Improvement Practices | None | Few; effectiveness not measured | Few, starting to measure effectiveness | Many, frequently measure effectiveness | Practices and measures well-established |
| **Governance** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** |
| Formal Business Strategy Planning | Not done, or done as needed | At unit functional level; slight IT | Input Some IT input and cross-functional planning | At unit and enterprise, with IT | With IT and partners |
| Formal IT Strategy Planning | Not done, or done as needed | At unit level; slight business input | Some bus. Input and cross-functional planning | At unit and enterprise, with business | With partners |
| Organization Structure | Centralised or decentralised | Central/Decentral some co-location6 | Central/Decentral or Federal | Federal | Federal |
| Reporting Relationship | CIO reports to CFO | CIO reports to CFO | CIO reports to COO | CIO reports to COO or CEO | CIO reports to CEO |
| How IT is Budgeted | Cost center; spending is unpredictable | Cost center by unit | Some projects treated as investments | IT treated as investment | Profit center |
| Rationale for IT spending | Reduce costs | Productivity, efficiency | Also a process enabler | Process driver, strategy enabler | Competitive advantage, profit |
| Senior-level IT Steering Committee(s) | Don't have | Meet informally as needed | Formal committees meet regularly | Proven to be effective | Also includes external partners |
| How projects Are Prioritised | React to business or IT need | Determined by IT function | Determined by business function | Mutually determined | Partners' priorities are considered |
| **Partnership** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** |
| Business Perception of IT | Cost of doing business | Becoming an asset | Enables future business activity | Drives future business activity | Partner with business in creating value |
| IT's Role in Strategic Business Planning | Not involved | Enables business processes | Drives business processes | Enables or drives business strategy IT, | Business adapt quickly to change |
| Shared Risks and Rewards | IT takes all the risks, receives no rewards | IT takes most risks with little reward | IT, business start sharing risks, rewards | Risks, rewards always shared | Managers incentives to take risks |
| Managing the IT-Business Relationship | IT-business relationship isn't managed | Managed on ad hoc basis | Processes exist but not always followed | Processes exist and complied with | Processes are continuously improved |
| Relationship/Trust Style | Conflict and mistrust | Transactional relationship | IT becoming a valued service provider | Long-term partnership | Partner, trusted vendor of IT services |
| Business Sponsors/Champions | Usually none | Often have a senior IT sponsor/champion | IT and business sponsor/champion at unit level | Business sponsor/champion at corporate level | CEO is the business sponsor/champion |
| **Technology** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** |

| | | | | | |
|---|---|---|---|---|---|
| Primary systems | Traditional office support | Transaction oriented | Business process enabler | Business process driver | Business strategy enabler/driver |
| Standards | None or not enforced | Defined, enforced at functional level | Emerging coordination across functions | Defined, enforced across functions | Also coordinated with partners |
| Architectural Integration | Not well integrated | Within unit | Integrated across functions | Begins to be integrated with partners | Integrated with partners |
| How IT infrastructure is perceived | A utility; run at a minimum cost | Becoming driven by business strategy | Driven by business strategy | Beginning to help business respond to change | Enables fast response to changing market |
| **Skills** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** |
| Innovation, Entrepreneurial Environment | Discouraged | Somewhat encouraged at unit level | Strongly encouraged at unit level | Also at corporate level | Also with partners |
| Key IT HR decisions made by: | Top business and IT management at corp. | Same, with emerging functional influence | Top business and unit management; IT advises | Top business and IT management across firm | Top management across firm & partners |
| Change Readiness | Tend to resist change | Change readiness programs emerging | Programs in place at functional level | Programs in place at corporate level | Also proactive and anticipate change |
| Career Crossover Opportunities | Job transfers rarely occur | Occasionally occur within unit | Regularly occur for unit management | Regularly occur at all unit levels | Also at corporate level |
| Cross-Functional Training & Job Rotation | No opportunities | Decided by units | Formal programs run by all units | Also across enterprise | Also with partners |
| Social interaction | Minimal IT-business interaction | Strictly a business-only relationship | Trust and confidence is starting | Trust and confidence achieved | Attained with customers and partners |
| Attract & Retain Top Talent | No retention program; poor recruiting | IT hiring focused on tech skills | Technology and business focus; retention program | Formal program for hiring and retaining | Effective program for hiring and retaining |

# Appendix B: Interview questions

**Research introduction**
This is an analysis to Business IT alignment for my master thesis to System Engineering, Policy Analysis & Management. With as goal to define a Bita process to find recommendation to improve Business IT alignment and improve the organizations efficiency

**Scope**
Research is limited to the Cards business in Downstream and only focusing on Cards Business within Europe. Out of scope, Cads business in Americas & Asia, projects work, people and processes & and Streamline, GSAP initiatives

**Objectives of interview**

- Discuss current situation regarding BITA, find issues, worries and structural problems - areas to improve, to define recommendations

- Discuss desired situation regarding BITA, in terms of strategy, IT architecture, process & collaboration etc.

- Tools using the assessment form send to you

- Get personal & business views as representative from the business

**Information**

Treat information on behalf of groups (IT, Lecom, Management, Architecture), do not mention individuals with management as exception.

==========

In **red (D)** – questions regarding desired situation
In **blue** – some specific area questions e.g. management, architecture

==========

**Strategy Alignment**

1. Can you tell me overall Cards strategy in your own words… or the strategic intentions
2. Is the IT strategy known to you
3. Do you think business & IT strategies are aligned
4. How do you experience the partly conflicting strategies? On one side the business aiming for stability & continuation of the service and on the other side standardization of processes and outsourcing on the agenda
5. What would you suggest to improve the alignment **(D)**

**Organizational - Roles and responsibilities**

1. What is your view are we well organized in terms of operations and strategy
2. How did you experience the new organization, the split of euroShell it and business e.g. roles, service, it support, cost
3. Any positive any negative experiences with BAM/BSM
4. Do you think we miss a role like process management and a formal SLA manager?
5. What is your view about the mix of functional & operational support if you reflect it to the new BAM operational model?
6. What would you suggest to improve this **(D)**

**Communication**

1. Do you have examples of communication problems between business and IT (e.g. escalation, situations, sharing of information)
2. Does IT understand the business and does business understand IT?
3. Is there sufficient input from senior management regarding it projects
4. Do we share info, provide feedback with regards to our service. Regular surveys?
5. What do you think what can be improved? **(D)**

**Performance**

1. What is your view of IT performance, do you think IT can do better
2. Do you think we get maximum value from IT
3. What is your view regarding the SLA? Are we organized to measure our service to a SLA?
4. Don't you think Business should put more focus on the agreement?
5. What do you think if I say we should improve our marketing component? Is that desired? In terms of

availability, reliability, compliancy and stability you can mention the numbers and compare with industry competitors? **(D)**

6. Do you think service can be improved, in terms of communication, service, reporting & processes? **(D)**

**Governance**

1. How did you experience the move to a centralised organization
2. Does the company choose the most valuable IT investments
3. Do our business managers completely understand our processes & application portfolio
4. Do you think our IT spend is aligned with business strategy
5. Are we able to effectively control our IT cost
6. Do you think IT should be more involved in technical design & Advise?
7. What can be improved in the area of Governance **(D)**

**Partnership**

1. Does IT fulfill his role in achieving strategic business goals
2. Do we trust each other, and how do we share risks and rewards – any examples
3. How do you rate our business & IT partnership (incl. Management)
4. In what areas do you see we work well together and where not
5. Do you think IT should be more involved and instead of advise direct business in the right direction
6. Any suggestion to improve our partnership **(D)**

**Architecture**

1. How do you rate the architecture (infrastructure, application & processes) we are using
2. My own experience there is limited info with respect to architecture, can this not be improved **(D)**
3. How does architecture provide input into prioritization in terms of business strategy (GSAP, Siras)
4. Does the architect have a functional and/or technical responsibility?
5. How accessible is the architecture team?
6. As architect can you tell me the level of quality with regards to
    a. Data integration
    b. Process integration
    c. System integration (why are systems so fragmented, FPS + Site systems + MI
7. What is your opinion regarding PPI, PPI failures, PPI Business logic e.g. reconciliation problems, rejected batches
8. Can you tell me how unique we are with our IT systems comparing with our competitors
9. What is your experience with collaboration between other departments
10. What can IT do to be completely aligned with architecture **(D)**

**Skills**

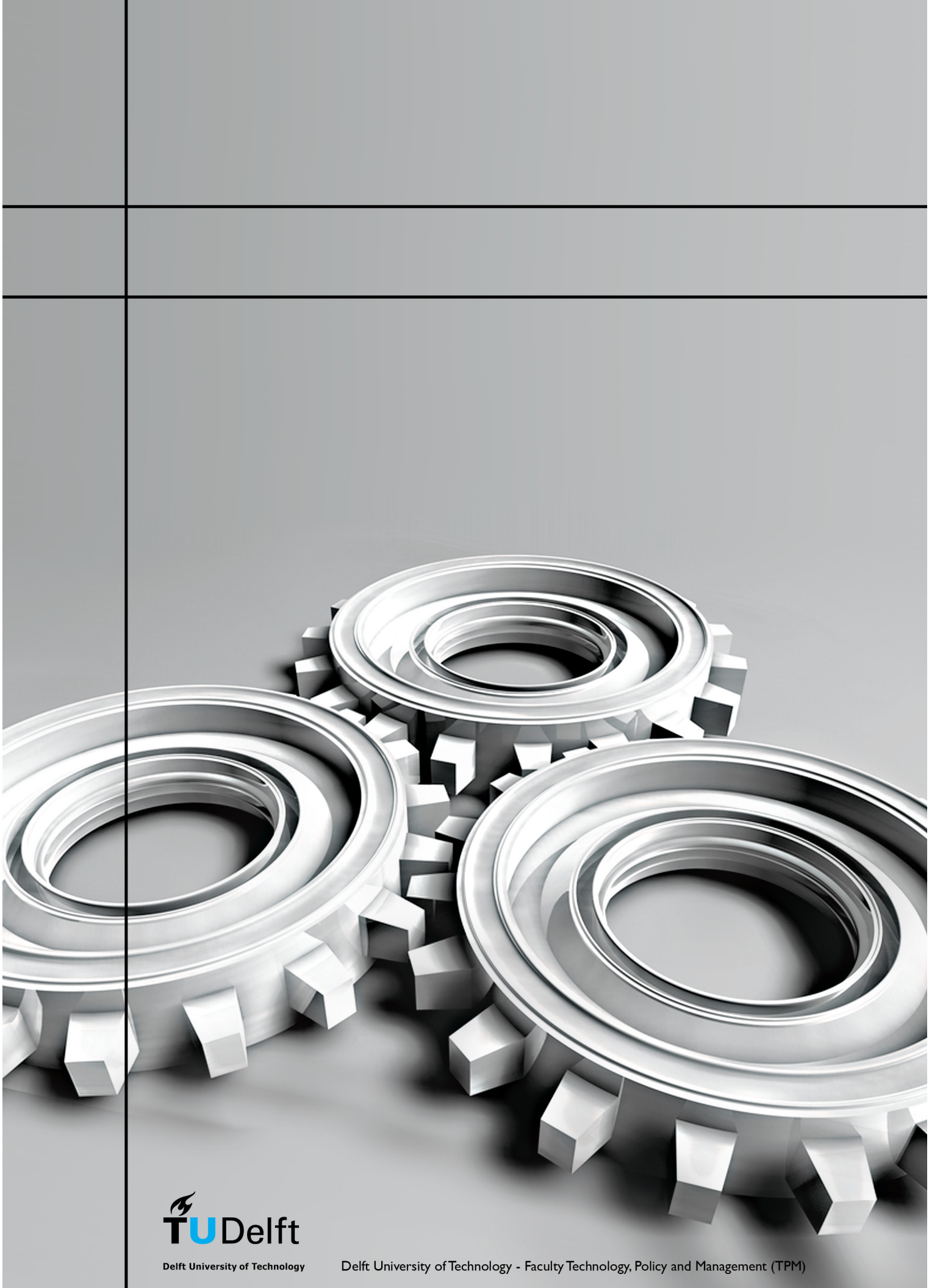
1. Are all resources (business & IT) on the right place
2. Do we invest enough in skills, knowledge and the right people
3. What can be improved in the area of skills & people **(D)**

1. Do we focus on the right things
2. Do we understand IT cost
3. Do we make the right decisions
4. Do we plan the right results (in architecture, strategy & innovation)

What is in your view the most critical area that needs attention

# Appendix C: Assessment results

| | Communication | | | | | | | | Value measurement | | | | | | | Governance | | | | | | | | Partnership | | | | | | | Technology | | | | Skills | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLUSTER MNG | 4 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 4 | 2 | 4 | 3 | 3 | 3 | 4 | 4 | 2 | 4 | 4 | 4 | 3 | 3 | 1 |
| CARDS OPS MNG | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 3 | 4 | 4 | 3 | 3 | 2 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 2 | 4 | 4 | 4 | 3 | 3 | 2 |
| CLUSTER MNG | 4 | 2 | 3 | 1 | 2 | 5 | 5 | 4 | 5 | 5 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 3 | 1 | 1 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 1 | 5 | 4 | 1 | 4 | 1 |
| ILECOM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| FULFILLMENT OPS MNG | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| STCC | 3 | 2 | 2 | 3 | 4 | 1 | 3 | 1 | 3 | 5 | 2 | 5 | 4 | 5 | 5 | 3 | 1 | 1 | 2 | 3 | 4 | 4 | 3 | 5 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 2 | 4 | 4 | 5 | 3 | 3 | 2 |
| BUSINESS SYSTEM MNG | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 4 | 3 | 2 | 3 | 2 | 2 | 3 | 4 | 3 | 5 | 5 | 3 | 4 | 2 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 4 | 4 | 2 | 4 | 2 | 3 | 2 | 2 | 1 | 2 | 1 |
| BUSINESS SYSTEM MNG | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 3 | 3 |
| IT MNG EUROPE | 4 | 2 | 2 | 2 | 3 | 3 | 2 | 4 | 4 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 4 | 3 | 2 | 2 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 4 | 3 | 2 | 3 | 4 | 2 | 4 | 2 |
| CCC TEAMLEAD | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 1 | 2 | 4 | 5 | 3 | 1 | 3 | 4 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 1 | 2 | 2 | 3 | 3 | 1 | 1 | 3 | 2 |
| PPI TEAMLEAD | 4 | 2 | 4 | 2 | 2 | 3 | 2 | 2 | 3 | 0 | 2 | 0 | 1 | 2 | 1 | 0 | 4 | 3 | 0 | 0 | 1 | 3 | 3 | 1 | 1 | 2 | 3 | 3 | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 3 | 2 | 2 | 3 | 2 |
| SERVICE MANAGER | 3 | 3 | 2 | 2 | 2 | 3 | 4 | 2 | 2 | 4 | 3 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 5 | 3 | 4 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 4 | 2 | 3 | 4 | 3 | 1 | 5 | 4 | 4 | 3 |
| TEAM LEAD POSTILION | 4 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 |
| IT ARCHITECT | 3 | 2 | 3 | 2 | 3 | 4 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 5 | 4 | 4 | 4 | 4 | 2 | 3 | 5 | 3 | 4 | 4 | 2 | 3 | 4 | 3 | 4 | 5 | 2 | 3 | 3 | 4 | 3 | 4 | 4 | 2 | 3 | 2 |
| PROCESS ARCHITECT | 3 | 2 | 3 | 2 | 2 | 3 | 1 | 2 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | 2 | 2 | 4 | 1 | 4 | 5 | 4 | 3 | 3 | 1 | 2 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 5 | 1 | 4 | 1 | 4 | 3 | 1 |
| Business | 3.0 | 1.8 | 2.5 | 1.8 | 2.5 | 2.8 | 2.8 | 2.2 | 3.5 | 3.7 | 2.8 | 3.0 | 3.3 | 3.5 | 3.7 | 3.3 | 2.8 | 3.0 | 2.7 | 2.7 | 3.7 | 3.2 | 2.8 | 3.2 | 2.3 | 3.3 | 3.2 | 3.2 | 2.8 | 3.2 | 3.5 | 3.2 | 3.7 | 2.2 | 2.8 | 3.5 | 3.5 | 2.2 | 3.0 | 1.7 |
| IT | 3.4 | 2.1 | 2.7 | 2.0 | 2.1 | 2.9 | 2.3 | 2.1 | 3.0 | 2.7 | 2.7 | 3.0 | 2.9 | 3.3 | 3.1 | 2.4 | 3.1 | 3.6 | 2.6 | 2.7 | 3.0 | 2.9 | 2.7 | 2.4 | 1.7 | 2.4 | 2.7 | 2.7 | 2.4 | 3.1 | 3.3 | 2.7 | 2.6 | 3.3 | 2.1 | 2.9 | 2.9 | 2.6 | 3.3 | 2.1 |
| | 3.2 | 2.0 | 2.6 | 1.9 | 2.3 | 2.8 | 2.5 | 2.2 | 3.2 | 3.2 | 2.8 | 3.0 | 3.1 | 3.4 | 3.4 | 2.8 | 3.0 | 3.3 | 2.6 | 2.7 | 3.3 | 3.0 | 2.8 | 2.8 | 2.0 | 2.8 | 2.9 | 2.9 | 2.6 | 3.2 | 3.4 | 2.9 | 3.1 | 2.8 | 2.5 | 3.2 | 3.2 | 2.4 | 3.2 | 1.9 |
| X AVG | 2.5 | | | | | | | | 3.1 | | | | | | | 2.9 | | | | | | | | 2.7 | | | | | | 3.1 | | | | 2.7 | | | | | | |
| (X-X AVG) | 0.8 | -0.5 | 0.2 | -0.5 | -0.1 | 0.4 | 0.1 | -0.3 | 0.1 | 0.0 | -0.4 | -0.1 | -0.1 | 0.2 | 0.2 | -0.1 | 0.1 | 0.4 | -0.3 | -0.3 | 0.4 | 0.1 | -0.2 | 0.1 | -0.7 | 0.2 | 0.2 | 0.2 | -0.1 | 0.0 | 0.3 | -0.2 | -0.1 | 0.1 | -0.3 | 0.4 | 0.4 | -0.3 | 0.4 | -0.8 |
| S (DEVIATION) | 1.2 | | | | | | | | 0.5 | | | | | | | 0.7 | | | | | | | | 0.8 | | | | | | 0.3 | | | | 1.2 | | | | | | |
| Overall Average | Average per area | | | | | | | | Average per area | | | | | | | Average per area | | | | | | | | Average per area | | | | | | Average per area | | | | Average per area | | | | | | |
| Business | 2.4 | | | | | | | | 3.4 | | | | | | | 3.0 | | | | | | | | 3.0 | | | | | | 3.4 | | | | 2.7 | | | | | | |
| IT | 2.5 | | | | | | | | 3.0 | | | | | | | 2.9 | | | | | | | | 2.4 | | | | | | 2.9 | | | | 2.7 | | | | | | |
| 2.8 | 2.5 | | | | | | | | 3.1 | | | | | | | 2.9 | | | | | | | | 2.7 | | | | | | 3.1 | | | | 2.7 | | | | | | |



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