

ROTTERDAM SCHOOL OF MANAGEMENT  
ERASMUS UNIVERSITY

# The Customer facing back office

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*Demystifying the Customer Centricity Paradigm in a front- back office configuration*

Charlington Martis  
(Afstudeerder)



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configuration*

Afstudeerscriptie  
als onderdeel van het doctoraal bedrijfskunde

September 2014

door

Charlington Martis  
(Afstudeerder)



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## **Preface**

*'Change is the only constant. As such, even best practices have a limited time frame for being best practices.'* (Khalid, 2010, p.108)

This is my master thesis, the culmination of a two-year academic journey that started in September 2012. It was not an easy journey, a journey that I could not have finished without the support of my colleagues and my co-students. Above all, I would like to thank all the Project Managers who reserved a space in their busy agenda to answer my questions. Without your support I wouldn't have been able to conduct this research. I also would like to thank the Commercial Operations Organization of Philips Healthcare for giving me the opportunity to conduct this research.

This report describes my research into the Customer Centric paradigm in a front office back office setting. I will briefly describe each chapter:

Chapter 1 provides a brief introduction into the CFC EMEA back office organization and the problem statement followed by the research questions.

Chapter 2 is the theoretical section where the literature is explored and presented.

Chapter 3 describes the methodology research design and the data collection.

Chapter 4 is where all the initial field findings are presented in a comprehensive manner.

Chapter 5 presents the conclusions and discusses the implications for management, ending with a discussion that evaluates the achievements of this research.

Ing. Charlington J. Martis

Eindhoven, August 2014

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## Summary

A Customer Centric organization is an organization that is able to create value and satisfaction for its customers, by identifying the desired outcomes that its customers are looking for, and use this knowledge to create and deliver meaningful customer oriented services.

Broekhuis et al., (2009), concluded in their research that front office back office configurations contribute to the provision of both efficient and client-centered service.

The literature suggests that all service customization or innovations that aim to create customer centricity should be done in the front office part of the service system.

The Commercial front office organization in the key markets is where all the customer contact takes place. Customer contact provides opportunities for customization that can create value and satisfaction for the customer, while all innovation and standardization activities in the back office organization should focus on creating efficiency.

The Voice Of the Customer interviews with the project managers have revealed a list of 19 desired outcomes. In order to create a short list with the top 3 desired outcomes, the theory of the enchanting myth of customer sovereignty was used to prioritize and select the top 3 desired outcomes that would influence customer satisfaction and promote customer centricity in the service system. The top three desired outcomes:

- 1. Increase the likelihood of a Sales Handover during which all agreements made between the Account Manager and the End Customer that may impact the progress of the project is shared with the project Manager.**
- 2. Minimize the Likelihood that the application training will be delayed due to the lack of available application trainers.**
- 3. Minimize the number of times that the configuration description on the customer acceptance form will not match the configuration description on the order that the customer signed or contains misleading information.**

The initial findings of this research revealed that 90% of all the activities listed as part of the project cycle are being executed in the front office. Three possible activities performed by the project managers were identified that do not require customer contact and if moved to the back office organization could free up substantially more time for the project managers. Possible front office activities that can be moved to the back offices are:

- Perform post-calculation
- Close Missing items
- Maintain Clarity and DMS

According to Korczynski (2004), if organizations want to compete on the basis of customer oriented service quality, they also have to organize their back office along 'the dual logics of customer-orientation and bureaucratization.' Korczynski (2004) tells us that this can be achieved by creating an empowered learning organization, where the workers are asked to 'step inside the customer's shoes, and think about what they (the customer) will be wanting'. This is a culture in which the empowered workers 'adopt the customer's perspective, by addressing the questions: 'who is the customer', 'what is the customer's situation' and 'what will we do for the customer'.

# 1. Introduction

## 1.1 Introduction and Problem statement

The Customer fulfillment Center EMEA (CFC EMEA) is the Philips Healthcare Commercial Operations back office organization for the EMEA region located on the high-tech Campus in Eindhoven. The CFC EMEA organization supports the local Philips Healthcare Commercial Organizations in the European region.

The mission of the Customer Fulfillment Center (CFC EMEA) is:

*'To enable the front office Commercial Teams in the Key Markets (these are CFC EMEA's internal customers within Philips Healthcare) to spent more time in front of the customers'.*

To achieve this the CFC EMEA, focuses on achieving efficiency in the lower customer-touch functions, i.e. Order Management, Export control, Third Party purchasing, Physical Distribution, Site planning, Contracting and Master Data management.

The Order Management department is responsible for managing the customer orders after receiving the orders from the sales support teams in the Key Markets up to delivery at the end customers Site.

The Site planning department is responsible for creating the Site layout drawings, which are used during the installations and quote preparation. The other departments perform support activities for the Site Planning and the Order Management department.

The CFC EMEA supports the Commercial Teams based in the following thirteen European Key Markets:

UK & IE (i.e., The United Kingdom & the Republic of Ireland);

SCANDIC (i.e., Norway, Sweden, Finland & Denmark);

BENELUX (i.e., Belgium, Netherlands & Luxemburg);

DACH (i.e., Germany, Austria & Switzerland);

FRANCE (France and its oversea territories);

IBERIA (i.e., Spain & Portugal);

ADRIA (i.e., Italy & Greece)

Since its initiation in 2009, the Customer Fulfillment Center EMEA has tended to be a back office organization where direct contact with the end customer is not needed (Metters & Vargas, 2000), and where process standardization was seen as the best way to achieve efficiency. As a result of this mindset, the CFC EMEA was more internally oriented, with its attention focused on process standardization and achieving efficiency.

With the launch of the new “Accelerate Healthcare” program in 2013, the Customer Fulfillment centers (EMEA, APAC & NA) were ordered to improve the efficiency in the commercial supply chain and become more Customers centric. Using Operational Excellence as one of the main support pillars, the Customer Fulfillment Center EMEA embarked on a LEAN Journey in 2013 with the purpose to optimize and standardize the internal processes by reducing complexity and creating value for the customer in the Supply Chain. The use of LEAN will help the organization to look at the Supply Chain in terms of a Customer Value Chain in which the goal is to fully meet the customers quality, cost, delivery and service requirements (George, 2003), and making the CFC EMEA a truly Customer Centric Organization”

Some academic researchers argue that the key challenges to becoming a customer centric organization is for the organization to understand and match their customers’ quality requirements (Shah, Rust, Parasuraman, Staelin, & Day, 2006).

A well-known mantra in Lean Six sigma is that, “only the customer can define quality and value” (George, 2003) In order to provide quality as defined by the Customers, the CFC EMEA must be able to understand how the Project Managers judge, what the CFC EMEA does, and don’t do or lacks in service.

As the CFC EMEA has no direct contact with the end customer, the Project Managers become the main source for the Voice Of the Customer input. One of the objectives of this research is to understand what the Project Managers want and need from the service provided by CFC EMEA. By asking the Project Managers how current services match their needs, will enable the CFC EMEA to discover requirements for service improvements that will add value for the Project Managers, and so allow them to spend more time in front of the customer.

This leads us to the main research question:

## **1.2 Research question**

*“How can CFC EMEA become a Customer Centric organization when using the Voice of the Customer as input to create value and Service innovation?”*

Another important aspect for the CFC EMEA management is to understand the benefits versus the tradeoffs that come with a customer centric alignment of a back office Organization. Lee et al. (2012), found evidence that support the widely accepted assumption that organizational structures aligned with customers (Customer Centric organizations) do indeed improve customer satisfaction, but at the same time their internal efficiency is reduced.

The following sub question is derived from this:

*“How will a Customer-Centered designed organization structure theoretically impact the efficiency in the CFC EMEA?”*

## **1.3 Research objectives and implications**

The objective of this descriptive single case research is to contribute to the theoretical knowledge of the CFC Management regarding:

- Transforming the CFC into a Customer Centric organization;
- Understanding how the current services provided by CFC EMEA match the requirements of the Project Managers.

The information obtained will be used to transform the CFC EMEA within the next three years into a Customer Centric organization.

## **1.4 Research scope**

The back office service organization of Philips Healthcare that is tasked with supporting the front office Commercial Teams in the Key Markets that sell and install technological advanced medical systems in West Europe.

## 2. Theoretical section

*'Customer Centricity is a market sensing capability which manifests itself in the key organizational processes and values (i.e., a customer orientation in which primacy of buyer's interests serves as the guiding principle) that allow the Voice Of the Customer (VOC) to be heard throughout the organization.'* (Day, 1994, 2006)

### 2.1 The Customer-Centric Organization

The true essence of the Customer Centricity and the market driven paradigm is not in how to sell products or services, but on creating value and satisfaction for the customer and, in the process creating value for the firm itself (Day, 1994; Shah, Rust, Parasuraman, Staelin, & Day, 2006). In the Academic research, the term market driven is preferred rather than Customer Centric (Galbraith, 2005). In this research, terms like customer orientation and customer focused are used interchangeably with customer centricity. For Shah et.al (2006) the ideal Customer Centric organization is the organization that is able to integrate and align all their functional activities to deliver superior customer value. According to Galbraith (2005), *"to be customer centric, a firm must literally organize around the customer"* (p. 3).

Homburg et al. (2000 p. 467) define a customer-focused organizational structure as *"an organizational structure that uses groups of customers related by industry, application, usage situation, or some other nongeographic similarity as the primary basis for structuring the organization"*.

Day (1994) proposes that organizations can become market oriented by building special Market-Driven capabilities. These Capabilities (skills and accumulated knowledge) or more commonly called core-competencies must enable the organization to deliver superior value as defined from the customer's perspective. Deshpande, Farley, and Webster (as cited in Hartline, Maxham III, & McKee, 2000, p. 35) tell us that market orientation is, *"the organization culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for business"*.

Hartline et al. (2000, p. 35) define customer orientation as, *“the set of beliefs that puts the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, and employees, in order to develop a long-term profitable enterprise”*.

It is important that Customer Centric processes in an organization are able to match the customer's requirements with the right product or service (Shah, Rust, Parasuraman, Staelin, & Day, 2006). A Customer Centric organization structure should aim to reduce the deficit between the Service offered and the problems the customer is trying to solve (Homburg, Workman, Jr., & Jensen, 2000) In order to achieve this deficit reduction, research has to be conducted to identify the different needs and expectations that customers have. Galbraith (2005) states that in-depth customer knowledge is needed to identify and develop solutions that will be valuable to the customer.

#### **2.1.1 Culture, Reward systems and People in a Customer Centric organization**

Shah et al. (2006) see culture as the biggest impediment for the change of an organization into a Customer Centric organization, and suggests that to be able to change there must be senior management commitment, persistence, and communication in order to overcome the unavoidable challenges. Next to this a culture of continuous improvement has to be fostered, as continuous improvement is credited for breeding innovation in customer centric organizations. Reinartz et al. (2004) suggest that the use of outcome-based contracts a critical determinant is to influence customer centered management processes and behaviors in an organization. It is important to align reward systems with the customer centric paradigm based on mutually agreed customer management metrics (Shah, Rust, Parasuraman, Staelin, & Day, 2006). Day (1994) proposes that the use of customer satisfaction metrics for evaluating and rewarding employees is the most influential determinant, and things like share of customer spending, customer satisfaction and ways to retain customers can be used to measure the success of a customer centric firm (Galbraith, 2005).



### **2.1.2 Customer Centric Asset Manager**

Another way to create a customer-focused structure is to work with customer asset managers who can coordinate and liaison and represent the needs of the customers within the organization (Homburg, Workman, Jr., & Jensen, 2000) Customer Relationship management are well-conceived actions by (service-) suppliers to create Customer Centricity within an organization and develop collaborative partnerships (Homburg et al., as cited in Senn, Thoma, & Yip, 2013) and to foster co-creation with customers. In B2B environments, co-creation opportunities can be perceived as strategic options for creating value and reducing risk.

### **2.2 Voice Of the Customer (VOC)**

Peng et al. (2012) state that, in order to become more customer-centric, it is important that organizations not only capture and analyze the Voice Of the Customer (VOC), but also are able to quickly turn the data into actionable knowledge that will help them to gain competitiveness and growth.

A much-accepted definition of VOC is the one proposed by Katz (as cited in Bharadwaj, Nevin, & Wallman, 2012) Voice Of the Customer is:

*A complete set of customer wants and needs, expressed in the customer's own language, organized the way the customer thinks about, uses, and interacts with the product and prioritized by the customer in terms of both importance and performance [in relation to] existing alternatives. (p. 1014)*

According to George (2003), only the customer can define "quality and value", and in order to provide value for both the customer and the firm the service supplier needs to understand how the customer evaluates service (Bitner, Ostrom, & Morgan, 2008).

For Tuli et al. (2007), customer requirements are not only about functional specification of products and services, but it is also understanding the customer's business needs and -model so that these can be included in the development of goods and services for the customer. To be able to create value for the customer, the supplier needs to know, what are the customer requirements that need to be satisfied.

*“Value is the capacity of good, service, or activity to satisfy a need or provide a benefit to a person or legal entity”.* (Baier, as cited in Haksever et al., 2004, p. 292)

This definition for value is much broader than the common definitions used for example in the Oxford Dictionary (2005, p. 1692) or the widely used price quality ratio versus the difference between perceived cost and perceived benefits (Lindic & da Silva, 2011).

Baier’s definition is one of the definitions that best describes the transactional relationship between a customer and the service supplier.

### **2.2.1 The Outcome-driven approach**

Ulwick (2005) warns against being too overenthusiastic about customer proposed solutions. He argues that a customer driven approach can introduce too much variability into the innovation process, as customers lack knowledge about this part of the innovation process. For Tuli et al., (2007) the customers are not cognizant enough and therefore cannot easily translate their business needs to a service supplier.

So they advise to ask the right questions and to interview multiple stakeholders in the service system. Bettencourt et al., (2012) and Ulwick (2005) propose a “job-centric” or “outcome- driven” approach to service innovation. Both approaches imply the same modus operandi, which is not to focus on customer evaluation of existing solutions, but to focus on the job that the customer is trying to get done. According to Bettencourt and Ulwick (2008), by understanding the job a customer is trying to get done, a supplier can discover opportunities for new Service Innovations. Ulwick (2005) proposes that when capturing customer requirements the focus has to be on finding the criteria customers use to measure the value of a product or service. So a good customer input contains the metrics used by the customer to define successful execution of a job. These metrics are the customers desired outcomes.

Ulwick conceptualizes metrics as, *“being the fundamental unit of measure (e.g., number of time, frequency or likelihood) of performance that is inherent to the execution of a specific job”* (Ulwick, 2005, p. 26). Others like, Britner et al. (2008) suggest the use of the “Service Blueprinting” technique to find innovative service solutions.

The service blueprinting technique has been labeled by Bettencourt et al. (2012) as lacking the ability to identify and prioritize opportunities for groundbreaking service innovation concepts.

### 2.3 Value added Service innovation

Service Innovation is seen by many academics as a strategy for through which firms can obtain competitive advantage (Bettencourt, Brown, & Sirianni, 2012; Bitner, Ostrom, & Morgan, 2008; Kindstrom, Kowalkowski, & Sandberg, 2013; Chae, 2012).

According to Kaplan & Norton (2006), today's business advantage has less to do with the management of physical and financial assets, but more to do with how well companies can align their intangible assets (e.g., knowledge workers and IT) to the demand of their customers. The VOC and customer satisfaction measurements are the best indicators for how well companies are aligning their intangible assets, to meet the demand of their customers. Rogers describes service innovation as, "an idea or practice perceived as new by a buyer" (as cited in Coutelle-Brillet *et al.*, 2014), while Gremyr *et al.*, (2014) define Service Innovation as: "*any change that affects one or more service characteristics*".

Greenhalg *et al.* (2005), see innovation in service delivery and organization as:

*'The coordinated implementation of a set of new behaviors, routines, and processes that are directed at improving administrative efficiency, cost effectiveness, and users' experience.'*

A service supplier can create both financial and non-financial value for his customers. Financial value is created when the supplier is able to provide his customer with service that meets or exceed the expectations at a reasonable price. Non-financial value is created when the provided service has a useful and helpful effect for the customer (Haksever, Chaganti, & Cook, 2004). Coutelle-Brillet *et al.*, (2014) confirmed this with their study into "the value of service innovation in a B2B environment", they report that next to the well-known efficiency value (financial & non-financial) and functional value, there is also a non-utilitarian value to Service Innovation. They defined non-utilitarian value as of experiential (emotional nature), symbolic (social nature), and ethical dimension. Again the VOC and customer satisfaction surveys are the best instruments for measuring and finding non-financial and functional values.

## 2.4 The Customer Centric front office/ back office organization

In their research Broekhuis et al. (2009) raised two important points regarding the creation of a Customer Centric front- back office organization. It concerns the effect on operational performance and the trade-offs associated with it. They argued that the extant literature informs us that the main contribution of a back office is, that because it is shielded (Shielding reduces uncertainty) from customer contact, it is able to focus on improving process efficiency (Metter & Vargas 2000; Zomerdijk & de Vries 2007) at low cost (Safizadeh, Field, & Ritzman, 2003), while the front office offers opportunities to customize the service (Larsson & Bowen, 1989).

Galbraith as cited in Larsson & Bowen (1989, p. 216) defines uncertainty as: *“the difference between the amount of information required to perform the task and the amount of information already possessed by the organization.”*

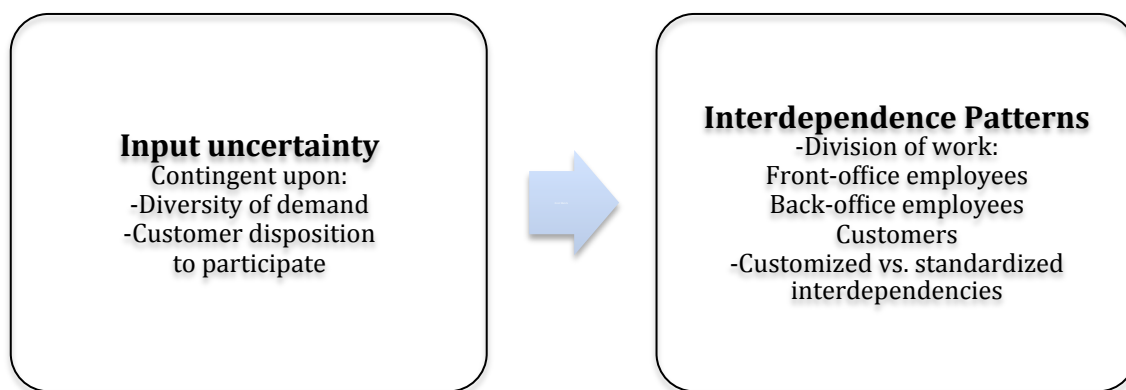


Figure 1. A framework for the design and coordination of service interdependencies.

Adapted from “Organization and Customer: Managing Design and Coordination of Services” by Rikard Larsson & David E. Bowen, 1989, The Academy of Management Review, Vol. 14, No. 2, p. 214, Copyright Academy of Management.

According to Larsson et al., (1989), input uncertainty is caused by the customer, as the customer sometimes unwittingly omit information regarding the desired service outcome, and his ability to participate in service delivering process.

The diversity of the demand has to do with the uniqueness of the desired outcome, for example how the customer wants his medical system configured according to his needs or the room layout. This can be different than the needs or layouts of other customers.

Larsson et al. (1989, p. 219) summarize that: *'Customers are a source of input uncertainty relative to the diversity of their demands and their disposition to participate. These characteristics external to the organization, constituting constraints and contingencies to which the design of the organization must adapt'*

According to Larsson & Bowen (1989), the customization logic dictates that, the higher the demand diversity, the greater the need for customization instead of standardization, and vice versa, hinting that uncertainty in the service delivery system can be reduced through service customization. While reducing customer participation will also reduce uncertainty. The interdependence section of the frame work is based on the propositions of Chase & Tansy (1983) regarding the decoupling of front and back office operations in case of standardized services and that in case of service customization more interaction is required between the customer/front office and the back office.

The second point according to Broekhuis et al. (2009) that has been reviewed in the literature is the structure of front office and back office work activities.

Increase in productivity is achieved by separating these activities in distinct jobs.

The trade-offs arises when assigning tasks as either a front office or back office task, by coupling (this facilitates interaction with customers) or decoupling (increases productivity) activities that are linked to the organizations goal to deliver customer centered service without increasing or decreasing costs.

Table 1 on the next page is a summary of the pros and cons (trade-offs) associated with coupling and decoupling as proposed by Broekhuis et al. (2009)

Table 1

	<b>Effects</b>	<b>Impact on performance</b>
Coupling activities within one job	Concentration of knowledge on clients wishes and needs	Quality (customer centered)
	Facilities interaction	Quality (fewer mistakes)
	Decrease in number of handovers	Quality (fewer mistakes)
	Reduce idle time in cases where back office activities are performed during idle time	Optimal use of resources
	Employees have broad tasks	Work satisfaction
Decoupling activities within more than one job	Specialized workers	All effects increase quality and satisfaction
	Better match between task and worker	
	Lowering costs in cases where back office activities are sealed off	

Note. Adapted from "Improving client-centered care and services: the role of front/back office configurations" by Manda Broekhuis, Carolien de Blok, and Bert Meijboom, 2009, *Journal of Advanced Nursing*, 65(5), p. 973. Copyright by Blackwell Publishing Ltd

#### **2.4.1 The Customer contact approach**

According to the customer contact approach proposed by Chase (1978, 1981) as cited by Zomerdijs et al. (2007) and Larsson et al. (1989), customer contact activities need to be segregated (decoupled) from non-contact activities in order to fulfill their different design requirements and maximize the efficiency of the service delivering system.

The customer contact approach states that:

*"A service system's potential operating efficiency is a function of the degree to which the customer is in direct contact with the service facility relative to total service creation time for that customer"* (Chase, 1981, p. 700).

In the extant literature back office activities are defined as activities where no contact with the customer is needed while front office activities are activities where the input of the customer is needed (Metters & Vargas, 2000). Chase & Tansik (1983), advise to minimize the ratio of high contact versus low contact work in order to maximize

efficiency in the service system. Adapting Chase's 1978 definition of customer contact for today's modern communication technology, Zomerdijk et al. (2007, pp. 113 -114), define customer contact as: *"A direct encounter between a customer and a service provider that takes place in the same time but not necessarily in the same place, and has the opportunity for interaction."*

Zomerdijk & de Vries (2007 p. 110) proposed in their empirical research three design decisions that influence how front and back office work can be structured, these are:

- *Deciding where customer contact should occur in a service delivery process;*
- *Deciding which activities in the process should be decoupled from each other;*
- *Deciding how the employees that are involved in the process should be grouped together.*

#### **2.4.2 Front and back office design structure**

The first design decision as proposed by Zomerdijk et al. (2007), is to decide which activities can be justified as front office activities. Front office activities are justified when:

1. Service production and consumption are absolutely inseparable;
2. Marketing benefits are afforded by contact with the customer;
3. Contact with the customer is in principle avoidable but in practice necessary;
4. The speed and efficiency of service delivery improve through the elimination of follow-up work.

The second design decision is to decouple front and back office work by separating front office and back office activities. Zomerdijk et al. (2007), propose to decouple activities based on the activities requirement for customer contact, while Metters & Vargas (2000) use the strategy oriented decision matrix in figure 2 to decouple activities. They decouple based on cost oriented reason or service improving objectives.

Strategic Operational Focus	Service	<p><b>Personal Service</b>          (Each branch nearly a company unto itself, dedicated to high service levels.)</p>	<p><b>Focused Professionals</b>          (The back office does all the non-contact work so the front office can focus on sales)</p>
	Cost	<p><b>Kiosk</b>          (Competing on geographical convenience. Non-contact tasks handled in the front office to lower front office idle time costs.)</p>	<p><b>Cost Leader</b>          The traditional view of the back office. Decouple to lower costs.)</p>
		Low	High
Level of back/front office decoupling			

Figure 2. Back office/front office Decoupling Strategies. Reprinted from “A typology of decoupling strategies in mixed services” by Richard Metters and Vicente Vargas, 2000, *Journal of Operations Management*, 18, p. 665. Copyright 2000 by Elsevier Science B.V.

The third decision is how to group the front office and back office employees.

For grouping the employees Zomerdijk et al., (2007) use Minzberg’s marketing factors, these are: grouping by market (i.e., output, client and place) and by function (i.e., knowledge, skill, work processes and function).

Table 2 shows the trade-offs associated with the three design decisions as proposed by Zomerdijk & de Vries (2007)



Table 2

Customer contact decision: determining which activities are carried out with customer contact and which ones without	
<b><i>Front office activities</i></b>	<b><i>Back office activities</i></b>
Cross-selling (sales opportunities)	Efficiency potential
Customizing or personalizing service	
Decoupling decision: organizationally separating activities by allocating them to different employees	
<b><i>Coupled process</i></b>	<b><i>Decoupled processes</i></b>
Maximum flexibility and responsiveness	Employing experts
High degree of front office utilization	Sealing off back office activities from uncertainties
Broad tasks	Specialization effects
Grouping decision: grouping employees that are consecutively involved in a service delivery system in market or functional groups	
<b><i>Market groups</i></b>	<b><i>Functional groups</i></b>
Workflow coordination	Economies of scale
	Cross-fertilization
	More specialization and uniformity

Note. Adapted from “Structuring front office and back office work in service delivery systems: An empirical study of three design decisions” by Leonieke G. Zomerdijk and Jan de Vries, 2007, International Journal of Operations & Production Management, Vol. 27(1), p. 111. Copyright by Emerald Group Publishing Limited

### **2.4.3 The back office bureaucracy vs. the front office customer oriented bureaucracy, a sociological view**

Korczynski's (2004), research supports the findings of an earlier research performed by Batt's in 2000 (as cited in Korczynski, 2004), that concluded that back office work is still being organized according to Weber's ideal bureaucracy. Weber argued in 1924 that bureaucratic rationalization would promote organizations to focus on creating internal efficiency in the same manner as the rationalized influence of technology on the economy (Hatch & Cunliffe, 2006)

*"Formal rationality is a term used by Weber to describe the emphasis on creating an efficient means of doing something"* (Korczynski, 2009, p. 201)

Table 3. Characteristics of Weber's ideal bureaucracy

- 
- A fixed division of labor
  - A clearly defined hierarchy of offices, each with its own sphere of competence
  - Candidates for offices are selected on the basis of technical qualifications and are appointed rather than elected
  - Officials are remunerated by fixed salaries paid in money
  - The office is the primary occupation of the office holder and constitutes a career
  - Promotion is granted according to seniority or achievement and is dependent upon the judgment of superiors
  - Official work is to be separated from ownership of the means of administration
  - A set of general rules governing the performance of offices; strict discipline and control in the conduct of the office is expected
- 

Note. Reprinted from "Organization Theory second edition: modern, symbolic, and postmodern perspectives" by Mary Jo Hatch and Ann L. Cunliffe, 2006, p. 103. Copyright by OXFORD University press.

In order to make the case for these findings, Korczynski argues that despite the application of Business Process Reengineering (BPR) and Total Quality Management (TQM), meant to improve service and efficiency, organizations remain bureaucratic because BPR and TQM have 'a strong rationalizing bureaucratic, logic at their core.'

In Korczynski's own words: *'Critical analyses of BPR similarly highlight that BPR may involve a re-organizing of work along processes rather than according to a strict department-centered logic. However, what results is not so much a de-bureaucratization but rather a re-bureaucratization organized around processes rather than around departments. This means that inasmuch as TQM and BPR initiatives have restructured back office service work in the last 15 years, it is likely that they have done little to fundamentally reconfigure this work away from a bureaucratic model.'*

(Korczynski, 2004, p. 111)

Korczynski extends Webers theory of bureaucratic rationalization by arguing that in a service setting there is not only bureaucracy logic active, but also a customer-oriented logic aiming to seduce the customer *'through the delivery of pleasurable service quality.'* (Korczynski, 2009) This means that there are two incommensurable processes – customer orientation and bureaucratization – within the Customer Oriented Bureaucracy theory. (Korczynski, 2004; Brook, 2007)

*'The ideal-type of the customer-oriented bureaucracy contains within it the dual logic of rationalization, and orientation to the formally irrational aspects of customers. Work is organized to be competitively efficient, to appeal to the utilitarian sens of the customer. In addition, work is organized to enchant the sensibility of the customer sovereignty. The concept points to an essential tension at the hearth of contemporary service work. On the other, orientation to formally irrational customer means embracing and coping with unpredictability and variability.'* (Korczynski, 2009, p. 217)

The Customer Oriented Bureaucracy concept has been attributed to be a theory more suited for front line work that involves direct contact with customers (Korczynski, Shire, Frenkel, & Tam, 2000). While most back office works are still being organized along the Ideal Bureaucracy concept, but as firms have to start compete on the basis of customer oriented service quality, so activities behind the front line can also be organized along *'the dual logics of customer-orientation and bureaucratization.'* (Korczynski, 2004)

Table 4 shows the dimensions of work organization for back office service work as bureaucracy and as customer-oriented bureaucracy.

<b>Dimension</b>	<b>Bureaucracy</b>	<b>Customer-oriented bureaucracy</b>
<b>Work tasks</b>	Routinization for efficient task completion	Routinization and customer-orientation
<b>Form of control</b>	Process measurement	Process measurement and customer-related norms
<b>Affect in relation to customer</b>	Impersonal	Rationalized emotional labour
<b>Relationship with front-line staff</b>	Potentially fraught, with work underpinned by differing logics	More harmonious, with work underpinned by similar logics

Note. Reprinted from “ Back office service work: bureaucracy challenged?” by Marek Korczynski, 2004, work, employment and society. Volume 18(1), p. 99. Copyright by BSA Publications Ltd

Table 4 lists the differences between a bureaucratically organized back office and a back office organized along the customer oriented bureaucracy concept.

Korczynski (2004) tells us that the four dimensions in table 4 (i.e., work tasks, form of control, affect in relation to customer & relationship with front-line staff) are the ‘traditional labour-management dyad of labour process analysis (work task and control)’ and the ‘customer-worker-management-triangle’ that are used in service work related research.

#### **2.4.4 The Enchanting myth of customer-sovereignty**

Korczynski and Tyler (2008) tell us that when a customer is interacting directly with a service organization, the power balance shifts towards the service producing organization. This power is held in check by two very important factors. The first one is, the dynamic created by the competition with other producing organizations. Competing service organizations don't want to stay behind when a competing organization is attracting customers on the basis the customers are their number one priority. The second factor mentioned is the inequality (incongruity) that the customer would experience, when first being 'appealed to and enchanted, and then suddenly being dictated to by the service organization.' Service organizations are trying to manage this by influencing customer behavior into feeling that the customer is still in charge.

*'This feeling of being in charge is the key sign-value promoted in contemporary service interactions, and can be termed the enchanting myth of customer sovereignty.'*

*(Wolf, as cited in Korczynski & Tyler, 2008 p. 315) 'The enchanting myth of customer sovereignty involves both 'empowerment and entrapment' for the customer (Sturdy et al. as cited in Korczynski & Tyler, 2008 p. 318).*

*There is empowerment in the sense that the service interaction must be structured to give the appearance of customer control, and in the sense that customers can potentially use the myth to their advantage by challenging service organizations to live up to their (mythical) promises. There is entrapment in the sense that the emphasis is upon the appearance of control, and in the sense that management tends to structure the service interaction with this dominant sign-value in mind. (Korczynski & Tyler, 2008 p. 318)*

*"It is a pleasurable illusion after all – as Lynch argues, 'any action which increases the self-esteem of the customer will raise the level of satisfaction'" (Lynch, as cited in Korczynski & Tyler, 2008, p. 315). Edwards (as cited in Korczynski & Tyler, 2008 p. 315) tells us that, "Enchantment may easily turn to disillusionment in the moments when the individual customer's lack of sovereignty becomes starkly apparent."*

## 2.5 Effect of Customer-Centric Structure on Firm Performance

Verhoef & Lemon (2013) concluded with their recent desk research, that a firm could outperform his competitors by implementing Customer Centric structures, a view also shared by Kumar, Venkatesan & Reinartz, (2008). On the other hand, Lee et al. (2012) argue that, 'although the majority of exant literature share the view supporting that realining the organizational structure towards a custromer centric strategy will improve customer satisfaction, there is still no empiracal support for this link between customer-centric structures and firm performance.' To support their claim that there was no empirical evidance to support the claim attributed to customer centric structures, Lee et al. (2012), summariezed that the exant literature on Customer Centric structure realining, is mainly based on qualitative interviews, case studies and surveys. Due to the popularity of the claim and the lack of empirical support, Lee and her colleagues conducted an empircal research under Fortune 500 firms into the effect of customer centric structure on performance. They set out to provide insight into what they called the two key questions:

1. How do customer centric organizational structures affect performance
2. When does aligning structure to customers pay off and by how much

Through their empirical research they concluded, that contrary to the general belief based on past researches, that the cost of customer centric organizational structures often outweigh the benefits (e.g., better understanding of what the customer wants), resulting in poorer firm performance. This is specially the case for firms that are already aligned with their customers and have a small number of end customers.

*"A firm that already is aligned with customers because its small units naturally work with less diverse markets (e.g., Xerox, Pfizer, Microsoft) or because it competes in just a few, narrow end markets (e.g., TRW, Honeywell, Intel) will gain little incremental benefit from increasing its structural alignment, but it will incure higer infrastructure costs and communication complexity." (Lee at al. 2012 p. 4).*

Based on these findings they concluded that, the benefits of different structural sources of customer alignment are redundant, but the costs (e.g., additional or redundant employees, more complex communication) are additive (Lee at al. 2012).

### **3. Methodology**

#### **3.1 Research design**

The objective of this descriptive practice-oriented non-longitudinal single case study is to contribute to the knowledge of the practitioners (CFC EMEA management team) regarding strategies in the existing literature that can be applied by the CFC EMEA organization in order to become a Customer Centric Organization in the next three years by identifying and describing the following:

- Customer Centric Organization
- Voice Of the Customer
- Service Innovation
- Desired outcomes

The knowledge needs of the practitioners do not require building and testing hypotheses in order to get useful knowledge, it is more aimed at understanding the Customer Centric paradigm and its trade-offs in a back office environment.

The case study was selected because of its usefulness to study one single instance (Dul & Hak, 2008) within its real life context and its relevancy in answering a “How” research questions (Yin, 2014).

The phenomena of study in this research are “the customer centricity organization” and “service innovation” in the context of a back office service environment. The object of study is the Philips Healthcare Commercial back office organization (CFC EMEA) based on the high-tech campus in Eindhoven. Although a Multi-Case study is preferred (Yin, 2014; Eisenhardt, as cited by Piekkari, Welch, & Paavilainen, 2009; Blumberg, Cooper, & Schindler, 2011) because of its robustness and “replication logic” properties, this research will be limited to a Single-Case study due to existing time and resource constrains.

The main sources of evidence used during this research were documentation and interviews. The documentations used covered different views on the topic of Customer Centricity and Service spanning at least thirty years of academic research. In order to reduce bias as many authors as could be found were reviewed. To reduce response bias in the interviews multiple informants were interviewed using a single predefined question. The information collected in the research was critically reviewed by a focus group formed by the practitioners. Next to this the draft case study report was reviewed by members of the academia. The same logical pattern defined by Ulwick (2005) was used to formulate all the desired outcomes. The pattern indicates a direction of improvement usually being 'minimize' or 'increase', followed by a unit of measure (number, time, frequency, likelihood), finalized by a statement indicating what outcome is desired. To maintain the integrity of the interviews, the transcripts were created in the original language in which the interviews were conducted.

To increase reliability of the information in this case study, a chain of evidence (Yin, 2014) in the form of interview transcripts and a bibliography list is included as appendix allowing the reader to trace back the steps from the research question up to the final conclusions. Also included is a detailed description of the data collection process.



### **3.2 Data collection**

The internal customers of CFC EMEA are the installations Project Managers (PM) of the seven Key Markets in Europe. Potential informants, the Project Managers were identified from the company directory and personal references and were contacted by email. All potential informants in the key markets were approached giving everybody equal opportunity to participate and to prevent that any key market was unfairly excluded from the research. The only selection criterion was that the project managers did work with the Imaging Systems (IS) modality (e.g., Magnetic Resonance, ax, Computed Tomography and Nuclear Medicine). The using of multiple informants is expected to reduce the effects of single-rater bias and recollection biases (Zomerdijk & de Vries, 2007). By accepting to participate the informants agreed that the interview could be taped. Due to location and availability constrains it was opted to conduct one-on-one interviews and not focus group sessions. Griffin and Hauser (1993), already concluded in their research that four one hour one-on-one interviews were as effective as two two-hour focus group sessions. To get the maximum out of the available time for conducting and creating transcripts of the interviews, versus identifying most of the desired outcomes, the literature was consulted again. Griffin and Hauser (1993), hypothesized through the use of a beta-binomial model that: '20 to 30 one-on-one interviews are needed to get 90-95% of the desired outcomes'. From the fifty Project Managers in Europe that were approached, nineteen stated their agreement to participate by accepting or proposing a new meeting date that did not conflict with their agenda. Seventeen one-on-one interviews and a small focus group session consisting of two project engineers, were arranged and conducted by telephone or using the online conferencing Tool 'Microsoft Lync'. The Microsoft Lync tool allowed for the sharing of images with the project managers. It took at least 4 weeks to conduct all 18 interviews with the project Managers from the thirteen different European countries.

The interviews averaged between 30 and 45 minutes in length and were conducted mainly in English and where possible in the native language of the Project Managers. Using a questionnaire that covered the eleven steps of an installation project live cycle (figure 2) as an interview guide, one-on-one semi-structured interviews with nineteen project managers were conducted in a live image sharing teleconference with the aim to:

1. Identify the challenges that project managers usually encounter when executing the different steps in the life cycle of a project.
2. Desired outcomes that they envision

To obtain the Project Managers desired outcomes and constraints, they were shown during the interview the different project stages and their sub-activities (table 3) on their computer screen and asked to describe the challenges that they usually encounter when executing the different project steps.

By asking the Project Managers this simple question, they were prompted to explain the shortcomings in the existing processes and give their own version of the desired outcomes. In some cases the participants were asked to provide additional information or examples to illustrate their story.

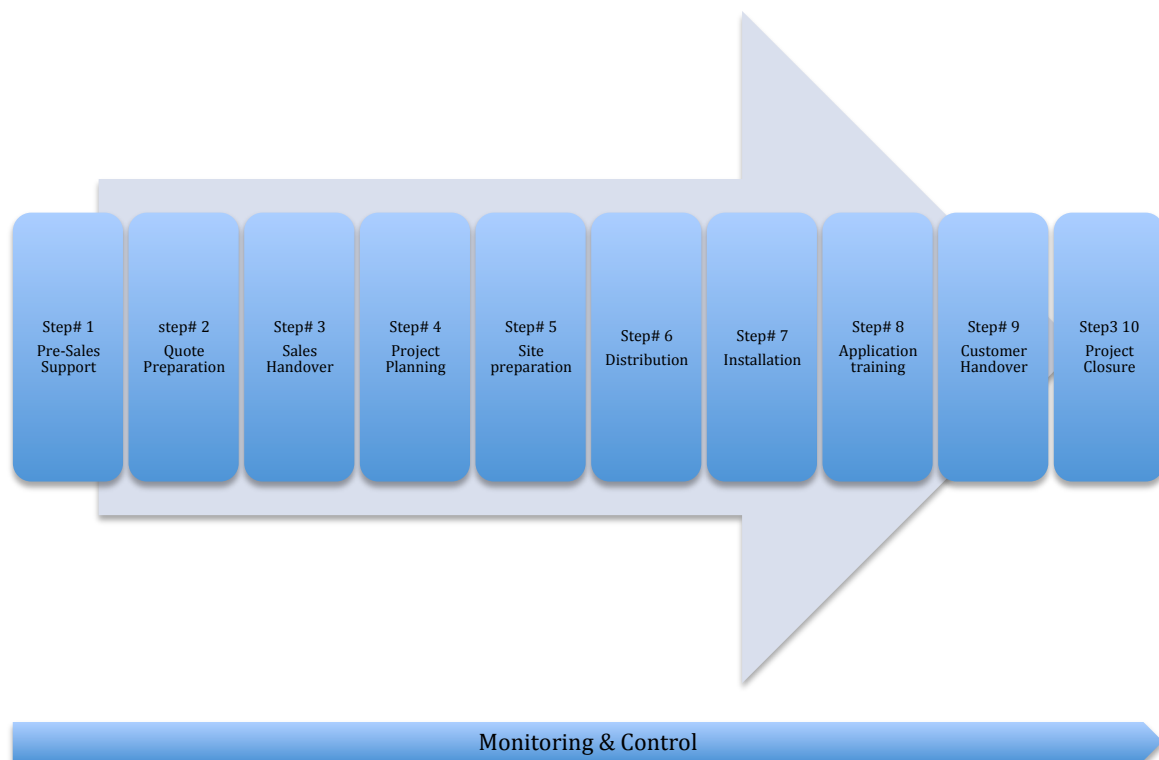


Figure 2.Schematic view of the project steps during a project life cycle.

Process Step	Main activities
#1 Opportunity support	Support Sales in presentations, Check technical feasibility, Perform Risk Assessment, create draft site planning, ball-park estimate of project cost
#2 Quote preparation	Perform Site technical assessment, Make site layout proposal, Collect Building works quotes, Support Sales with pre-calculation of project costs, Create Project Risk Plan
#3 Sales Handover	Check order configuration, Sales handover (Accept Order), Update risk plan, Review Project Cost Plan
#4 Project Planning	Sign-off of SOW/Site layout with customer, Update project plan, Ensure PO creation, Resource planning, update Risk Plan
#5 Site Preparation	Check Site readiness, monitor building works progress, Accept Construction Works
#6 Distribution	Confirm frozen period, Submit delivery questionnaire, Receive Factory Shipments, Receive 3 <sup>rd</sup> party shipments, Rigging
#7 Installation	Handover to installer, Execute installation, Handover from installer to PM
#8 Application Training	Monitor timing and completeness
#9 Customer Handover	Collect Customer Acceptance document, Instruct CFC for sales recognition
#10 Project Closure	Perform post-calculation, Handover to Customer Service, Review project, Close Missing items
Monitoring & Control	Maintain Clarity and DMS, Project monitoring, Project reviews, Maintain Customer Relationship, perform Change Management

Table 3. A list of the process steps covered during the life cycle of a project. Reprinted from “Business Blueprint Project Management” by Philips Healthcare, 2014, p. 4. Copyright 2014 by Philips Healthcare.

The reason for focusing on both constrains (challenges) and desired outcomes was not only to improve the existing service to the project manager, but also to gain knowledge about the challenges the PM’s encounter in the different project phases in which the CFC is not involved and identify underserved desired outcomes. This knowledge can be used to create new services that can increase both the end customer and the Project Managers satisfaction rate. The idea is to create new services that will help to manage the existing challenges in such a way to will minimize any disruption of an installation at the customer site and fulfill the desired outcomes.

### **3.3 Data analysis**

Each interview session was taped, and later transcribed and analyzed for desired outcomes and constraints. After mining all the transcribed statements for desired outcomes, and removing the duplicates, the compiled statements were checked and categorized into groups that correspond to each of the 11 steps in the process.

In a second stage of the data analysis, the identified desired outcomes were reviewed in a focus group session with the practitioners.

## 4. Findings

After capturing the input of the project Managers in the interviews, a list of the desired outcomes was compiled removing the duplicates and segmenting the outcomes into groups that correspond to each step in the process.

### 4.1 Desired outcomes

#### Step# 1 & 2: Pre-sales support & Quote Preparation

**Increase the likelihood that the Project manager can find an answer for all the system technical questions posed by the customer in a tender or quote.**

*'We are usually helping sales to answer a lot of questions from the customer side and those questions can be sometimes rather tricky and it might be difficult for us to know who can support us from the factory. Sometimes questions come up that are not covered by the PRD and then we do not know who we should talk to. Our normal contact is via site planning they do the drawings.'* (Source: interview No. 07, step#1&2)

*'Sometimes there are specific questions that we do not have immediately an answer for (technical information such as the energy use of the systems), specific questions that are written in general for a tender but not specifically for the device, but where they have a question about.'* (Source: interview No. 01, step#1&2)

*'Availability of information, PRD does not cover all types of questions that we can expect. We often get questions that are not specified in the PRD on indenter Example, a hospital buys a system and who wants to know, what does that do to my energy bill. We have no details are in a lot of systems, which our systems consume exactly average. So the customer asks what does an average system in a hospital consume. From the factory, they cannot say much about this. This is an example of the questions we that cannot answer directly.'* (Source: interview No. 05, step#1&2)

#### Step# 3: Sales Handover

**Increase the likelihood of a Sales Handover during which all agreements made between the Account Manager and the End customer that may impact the progress of the project is shared with the project Manager.**

*'The difficulty is to understand what they sold, because they have sold a system. Usually the account managers promise a lot to the customers, that is not written on the offer and that is the difficulty to ask the right questions to the account team, what have they sold. If it is a system with Civil Works, it could be a problem. Because most of the time when something is sold we go to the customer and then we hear things that we did not hear before, so sometimes we get surprises.'* (Source: interview No. 3, step#3)

*'The difficulty for me is to get a clear order of what was sold to the customer, not only the system, but also what is sold as services from our side.'* (Source: interview No. 4, step#3)

*'It is not always clear what is offered to the customer, what is agreed with the customer especially what is mentioned between the lines, for example the account manager agreed with the customer that we could change the customers CT in a weekend. But it was not mentioned in our Internal Project Check list.'* (Source: interview No. 6, step#3)

*'The sales accountant manager needs to prepare this meeting better than they do today, they come more or less empty handed to the meeting and they haven't filled out the documents and that could be a tricky thing for us to pick up the order when we do not get all the information, this has always been a problem and it still is.'* (Source: interview No. 7, step#3)

*'One of the biggest challenges we have at this moment is try to understand what is exactly required on the project, which is beyond the project sheet. The sales handover process is a bit hit and miss I would say in the UK, sometimes we have properly any handover at all.'* (Source: interview No. 9, step#3)

*'It could sometimes happen that we within supply chain or project management maybe, are not given the full picture, what we have sold and to what terms we have sold something. Sometime from the sales department some information that are not handed over while we have this internal screening meetings as we normally have, and maybe later in the project this pops up that we have promised something that has not been discussed internally and that we were not aware of.'* (Source: interview No. 11, step#3)

*'Lack of information is a big thing, the information on the project sheet wasn't clear and it was contradictory, wrong stuff had been ordered. It was not clear what the sales guys were selling. Sometimes I am going in seeing the customer and they are like, well I have ordered things didn't you know about that, why don't you know about that. So it puts me in an awkward position with customers if I haven't got all the information. A lot of it is the account manager putting the wrong stuff on.'* (Source: interview No. 12, step#3)

*'So I go to the client, can you sign off, well actually that is not what I agreed, I want it like this. I want the right hand system instead of a left-hander and I wanted the cabinets there instead of there. That is again a breakdown in communication between the account manager and the Project manager, because I am going in with a plan that I think has been discussed because that was what was initially proposed and there has been changes made to that and I have not been made aware of them. As soon as the account managers have got their orders in they are not interested after that.'* (Source: interview No. 12, step#4)

*'So it takes a lot of time to have a closed order. Very good information is needed from the customer and a very nice configuration of what has been sold, very good help from the modalities, and from MR it is useless'* (Source: interview No. 13, step#3)

*'If the account manager qualifies the project as a minimum project with no meeting necessary or if there is meeting necessary and then it depends also on the person how much information we get. We have account managers were it works and sometimes we have the problem that we don't have all the information that I expected.'* (Source: interview No. 14, step#3)

*'Sometime we have to ask for additional information, when the order comes in at the end of the year, you don't have the information that you need, because there is a high-pressure to book the order. For order clearance we have not so much time, but normally I will not accept an order without this information. Sometimes I have to ask for but it depends if you have time than it is not such a problem.'* (Source: interview No. 16, step#3)

*'The sales handover is a handover done by mail, while you rather would prefer a transfer meeting. In which everyone who participates in the realization of a project, from sales support, account management, order management, project management do some kind of transfer/kick off meeting. Instead I have to go and talk to the individual persons asking for information. This gives more room for error and interpretations that you make or perhaps communication which has occurred between the different parties that you do not get or see, and incomplete documents.'* (Source: interview No. 1, step#3)

*'The main difficulty is to get all the people, Account manager, product specialist, sales back office, PM and Technician around the table just to discuss what the customer has bought and actually what we need to do. You have to do this before placing the orders with the BU and the third party suppliers.'* (Source: interview No. 2, step#3)

*Here is the information transfer, often a quotation is sent to the customer and then a contract followed by an order confirmation from Philips. We approve the final offer and that is the configuration, which is not practical in the order confirmation is no clear indication of what we actually sold the customer. And then it is for the project manager to find out what was sold. I have to go to the Account Manager, read all quotes to figure out what exactly was agreed and sometimes you also have a modality specialist in that particular modality, so you have to ask questions to find out what we agreed with this client. We might as project manager nicely say to the account manager this project we do not accept it because the information is not complete. It would be nice if one of the KPI for an account manager would be, completeness of the information.* (Source: interview No. 5, step#3)

### **Minimize the time it takes to clean and process an order after it has been signed by the End Customer.**

*'I am under pressure from the customer from the minute the customer has handed the order over they want to know when can we start how long will it take when will the equipment come and so on and so on. We can't tell them anything for a minimum of 5 or 6 working days, sometimes even longer, because of internal process between the key market, the Business Centre and Factory. The factory will not give us a confirmed delivery date until they have a clean production order on their system. They can't put a clean order on the system until they receive the necessary clean information from the business centre, and it seems to take the Business Centre forever. It seems to take them forever to get a clean order between them and the account manager, or the sale specialist'. (Source: interview No. 3, step#3)*

*'Receiving third party shipments is a very difficult thing, sometimes the orders are not placed, if the Business centre is able to place the order it must have all the information from the account manager or sales support.'* (Source: interview No.13, step#6)

## **Step# 4: Project planning**

### **Minimize the numbers of mistakes in a Site Planning drawing.**

*'The quality of the site planning drawings is currently very low. There are just way too many errors at this time. When we get Site planning drawings from the CFC, it is full of errors. It would be a huge improvement if we could approach the customer with some quality.'* (Source: interview No.5, step#5)

*'A big issue is the site layout is always a problem, I would say the quality for the German market is not that what the Germans expects. It is also a problem that nobody checks the drawings before they are send out to the customer or the project manager. What we show on our drawings has to be understood by the customer. You not always have guys that can imagine what is displayed on these drawings, because you have 2 dimensional (2D) drawings and you have to imagine what this means in 3D and will this mean for your application, and that is not always clear. What I expect from the drawing office is that they include everything the customer ordered from Philips. It has to have on the drawing if it is hardware and that is difficult. They only draw Philips equipment, but they don't have a look on third party equipment. What I would expect is that the guy from the drawing office would contact the supplier of the third party equipment and ask them for installation details for symbols for the drawings that they can implement that equipment in our drawings. Everything in the order sheet that looks like equipment should be added to the drawings.'*

*(Source: interview No.6, step#4)*

*'We could be better with drawings like making 3D drawings and having better possibilities to make changes in drawings in a more real time environment.'* (Source: interview No.7, step#4)

*'I am cautious when I get a drawing, which has been produced by the CFC. It is essentially some issues concerning the layout. It concerns the tendency because it is in the sales stage maybe with the proposal drawing to show something that is actually not really that practical, particularly with the MRI modality where there is a lot of equipment needed in the technical room. I had comments back saying this layout is less than our minimum recommended.'*

*(Source: interview No.9, step#1&2)*

*'With the layout we have in my opinion some issues, because the information that is given is not complete or is wrong. As an example in my last Panorama MRI project there was in the information in the site preparation specification in the German version the complete air pressure part was missing, so when we installed it with the German version of the site preparation specification the table will never move with the patient in to the magnet. The German lay out is from the customer CFC drawing office. They sent us the wrong information.'*

*(Source: interview No.14, step#4)*

*'The problem is, that sometimes if you get a site package drawing, then we have very often problems with what is drawn. What you have sold to the customer must be shown on the drawings. Sometimes I get wrong information because the database or something else is not correct, and I get incorrect values. The drawings are faulty. We have a lot of problems. If you get a site package drawing you have I think 14 or 15 pages, I can't check every text what it is. It depends on which kind of system we have and it depends also on the person and the information that we have in the database for all of our PRD's. We have new information but they are not in the PRD's and also not visible for the drawing officer. Sometimes they don't even recognise that there are new PRD's.'* (Source: interview No.16, step#4)

*'The drawings made in the CFC are wrong, it is much-standardized templates, they do the project drawings with standardized templates, and this is very restrictive. There are so many information and details that are not valid.'*

*(Source: interview No.17, step#4)*

*'In the first years we had many issues with the drawing office in Eindhoven, but it is getting less and less.'* (Source: interview No.18, step#4)



**Minimize the time it takes for the Site Planning department to complete new a drawing, and to implement new changes or corrections in an existing drawing.**

*'The availability of site planning drawings could be a lot quicker that would be a progress, but it is reasonable.'* (Source: interview No.5, step#4)

*'You cannot tell them that this is urgent, that it is urgent. Everything is urgent for us, they translate this request into odd dates. For example they give us dates of more or less six weeks for a transfer of a gamma camera. When you pressure them, they will give you a better date.'* (Source: interview No.17, step#4)

*'We have a drawing then we have to make changes and send it to the site planning and they take one week to make the change, this is simply too much time.'* (Source: interview No.7, step#4)

**Step# 5: Site Preparation**

**Minimize the likelihood that the progress of the building works will delay the start of the installation.**

*'The site is not always ready when we start our installation and there are always some things that are not ready. We have done the building works in a few cases, but, it is difficult to, I think there are some constraints on the customer site to enable that type of job to be given to the supplier of the system. There are some bureaucratic things like who has the right to do building work in a hospital and whom you can let into a hospital.'* (Source: interview No.7, step#5)

*'Site preparation, is the most difficult thing during our process, because we have no influence over the architect as it is mostly an architect organized by the customer and we really do not have influence on this architecture. I have a project were I had to postpone the start of the installation 5 times because the preparation is not finished. This is our main problem that we have, we have the difficulty that we have to tell our organization when to deliver the equipment, but it is really difficult to say 6 or 7 weeks before this site would be ready in 6 weeks, because I get the information from the customer that it will be ready but often it is not so and it is shifting. If we had also the responsibility to do the building works then it is easier to control, but in most cases our customers are responsible for it but not us. Our process in preparation takes too much time. Mostly I get the order for the equipment not for the building works, building works is in the most cases not part of our order, I have no possibilities to tell the customer you have to do it this way, this way, he is on his own to do it as he likes it.'* (Source: interview No.8, step#5)

*'The main difficulty is that the building works are often not finished until the day before delivery.'* (Source: interview No.9, step#5)

*'When an external builder, outside of our control, does the building you can have problems with all of that. Our building contractor knows exactly what to do and how to do it. But an external builder they think they understand, they believe they know what they are doing and they think they don't do anything wrong, so every site readiness check you do say hang on a minute, that is not right that is not what our drawing says, our drawing says this. Oh yes so it does, but we are used to doing it that way. Briefly Turn Key no problems, external builders can have problems, in them understanding what they are doing.'* (Source: interview No.10, step#5)

*'The customers sometimes have delays on their site, we have had a kind of sign-off with lay out and interfacing and they are now on their site preparing the building, they are doing the construction work to prepare the site so that we can deliver and install the system on the agreed date. But what happens sometimes is, which is a challenge, is the site readiness, the hospitals contractors are not always ready with their work. They have delays on their side and that means in practice we are still delivering the system but the contractors crew are still in the hospital and we don't have the full 100% access to the room, as was agreed.'*  
(Source: interview No.11, step#4)

*'The builders, you provide them with information, where you go in and it's not to the guidelines and it is frustrating, then you have to come back and do more disruptive works to the hospital and stuff like that. Despite us providing the information stuff is not ready as agreed.'*  
(Source: interview No.11, step#4)

*'Not that many problems, the only problem that we sometimes have is the hospital who has to make some building works, that is sometimes a problem but in general no problems. It will always need more time than they had expected, meaning that we will have it delay or it is not ready when our equipment arrives.'* ((Source: interview No.15, step#5)

*'It depends if you have a new building then you have a lot of issues, but if you have an existing building then you will not have so many issues in comparison to a new building. It also depends who your partners are, it depends what knowledge they have and what resources are available. Sometimes you are not able to hurry up something sometimes you have influence and sometimes you don't have. It is always a challenge to get the site ready in time.'*  
(Source: interview No.16, step#5)

*'Set the finishing construction work, especially when the construction work is performed from a company who is not getting paid by Philips. So usually the customer is organizing the construction work and sometimes it could be a problem, usually we go once per week to the construction site having meeting with the construction company, the customer and all the other people involved, but the construction work isn't performed in that way that it is planned and are sometimes not ready when they should be ready and that is a problem for Philips because we have a delivery date, a start installation date.'* (Source: interview No.18, step#5)

## **Step# 6: Distribution**

### **Minimize the time it takes to create a new vendor in the ERP system.**

*If we get a new supplier it takes long time for the vendor creation that can take up 2 to 3 weeks. And that could be critical as time passes and we are not able to order in time because we are waiting for vendor creation.* (Source: interview No.7, step#6)

### **Increase the likelihood that the 3<sup>rd</sup> Party & Factory items will be delivered at the requested location on the requested date and time, minimizing the amount of time lost and money spent in tracking down lost 3<sup>rd</sup> party delivery.**

*'The second difficulty is incompleteness of the goods issued, wrong addresses and PO's that are not created.'* (Source: interview No.1, step#6)

*'I have sometimes problems with third party deliveries to customer and sometimes it happens that the deliveries arrive the day after. Most of the time this happens for small parts and 3<sup>rd</sup> party items. In Belgium we have a lot of problems with the delivery of Third Party items.'*  
(Source: interview No.3, step#6)

*'Very complicated is the delivery of pre-delivery parts. I think in a big hospital you need direct delivery to a special place and we use normal expeditors and they put the material only at the door and no one knows where the material is and this is the problem.'*  
(Source: interview No4, step#6)

*'When we have delivery of smaller items they sometime disappear simply. They would have then be delivered to the wrong department in the hospital or they turn up a day later then asked for, this is especially for bigger hospitals.'*  
(Source: interviewNo.7, step#6)

*'So what I found if they deliver a system and I say where is this item and they say, oh we haven't placed they order for that yet and nobody tell you this until you start asking questions, that is quite a big issue and it is taking a lot of my time. It isn't just being ordered in time and when it is ordered I don't think they necessarily do any progress chasing. Because the people in the Business Centre are not Customer facing, I think they sometime don't have the same degree of urgency or don't appreciate the urgency that is required.'* (Source: interview No.9, step#6)

*'Third party items are the main problem in this process. We should collect all the articles with one rigging company and bring the first day all these articles to the customer. In the way we do it is not good because we deliver articles in advance, maybe one or two weeks before and I have to look around the hospital in which room I can find these article and often I don't find it. This is the way that does not work properly. It has not only to do with third party, but the whole organization which is not good, all the third party articles we have are delivered by different companies and they ask me where can I meet you at the hospital maybe I was at that hospital one week before. We should collect all articles with the shipping company that transfer the main system and bring all the articles on one day to the customer site. We had now some weeks ago an installation parallel with Siemens and I could see that they do it in this way. They have all third party articles coming with company and bring it into customer site.'*  
(Source: interview No.8, step#6)

*'Third party shipment can be a problem, because often they come direct to the site via another warehouse, delivered by couriers who don't know where they have to go. We would far rather see something like the process used by the PCCI people in that they assemble everything together in one place and then ship it out in one unit. On a delivery day you can have a minimum of 2 carriers coming, why do we not have the third party stuff send to the final mile provider and then it all comes in one. It is a mess because the main thing is it is random. We don't have a central shipping process with the final mile provider.'*  
(Source: interview No. 10, step#6)

*'Some third party suppliers are not always delivering the products we have purchased on the date specified. They are sometimes delivering their products earlier then we have requested. Sometimes it happens that some third party deliveries have been delivered maybe one or 2 weeks earlier and for a reason that cannot always be found easily. They are somewhere in the Hospital, but not where they are expected to be.'* (Source: interview No.11, step#6)

*'Receiving third party shipments is a very difficult thing, sometimes the orders are not placed, if the Business centre is able to place the order it must have all the information from the account manager or sales support.'* (Source: interview No.8, step#6)

*'The difficulty is that we ship our third party shipment from the warehouse in Dortmund, so we order the parts from third party to the warehouse and we have to be sure that the delivery from the factory and the delivery from the warehouse Khune meet at the delivery date with our equipment at the customer site. We have a problem when we should deliver for instance to the customer University Hospital in Bonn it is normally the standard delivery address, but in Bonn you have I think nearly 100 buildings on the University Campus and in separate buildings we have equipment and I don't know how much money we spent for equipment that is delivered anywhere in the University Hospital in Bonn.'*  
(Source: interview No.14, step#6)

*'Some of our third party providers have quite long delivery time.'*  
(Source: interview No.15, step#6)

*'Third party is one of the biggest issues we have, our strategy is to save costs that means we make a direct delivery to our customer, if you have an university hospital for instance then you send it with provider, you can't make a dedicated shipment were you can say at this time to that person. They only have shipment to a central address and a person I don't know who he is, will receive the package and I don't know where the shipment is, that is one problem and the other problem is, sometimes I was searching many hours to find out and sometimes we don't find it and you have to make an investigation via the provider to find out where it is. You have to do a lot of work to find out where these third part items are. (Source: interview No.16, step#6)*

*You request a delivery for Monday at three in the afternoon and they will arrive on Monday at nine in the morning.'* (Source: interview No.17, step#6)

### **Minimize the number of different carriers delivering 3<sup>rd</sup> party items at the installation site.**

*'It does happen that for third party items delivery 3, 4 different cars come to deliver stuff that's messy, it does not really look efficient for a customer who sees this, and this is not the best way to bring stuff.'* (Source: interview No.5, step#6)

*'The whole organization, which is not good, all the third party articles we have are delivered by different companies and they ask me where can I meet you at the hospital maybe I was at that hospital one week before. We should collect all articles with the shipping company that transfer the main system and bring all the articles on one day to the customer site.'* (Source: interview No.8, step#6)

*'On a delivery day you can have a minimum of 2 carriers coming, why do we not have the third party stuff send to the final mile provider and then it all comes in one. It is a mess because the main thing is it is random.'* (Source: interview No.10, step#6)

*'On site different transportation companies are involved in this process and sometimes it happens that one company is delivering the cardio vascularise systems and we have a second transportation company on site, which is firma Khune Dortmund who is delivering this third part equipment. Why isn't it possible to collect all the third party equipment to deliver it with the system, collection of third party equipment must be in the factory, it could save so much money.'* (Source: interview No.18, step#6)

**Minimize the number of different contacts in the CFC that a Project Manager has to deal with for the management of the logistic flow of all his active projects.**

*'Ideally seen you should try to work as a team with solid contacts, I would prefer one single contact to talk to about projects and issues in relation to distribution.'*  
(Source: interview N0.1, step#6)

*'What I often see is that the Order Manager does not have the time to really merge into the project, which has the effect that if for example they order a 3rd party item, the Order Manager does not know when it is needed.'* (Source: interview No.2, step#6)

**Step# 8: Application Training**

**Minimize the likelihood that the application training will be delayed due to the lack of available application trainers.**

*'A concern that we have in the UK is that we don't have many application specialists and if a project moves out then it is quite difficult to rebook the applications trainer. There is not a lot of flexibility. We can have people come over, but there is certain reluctance to do that, I think maybe it has to do with the costs.'* (Source: interview No. 9, step#8)

*'The big issue is the resource planning here in the UK & IE. It's to do with applications. We cannot expect the customer to put the system out of action for us to replace it and then have to wait 3 weeks for application before they can use it. But that is how resource planning is for us today, we have so few application resources, that the first thing we have to do is we have to ask once we have a delivery date from the factory, the next thing we have to do is find out when the application slots are available and then we work backwards from that.'*  
(Source: interview No. 10, step#4)

*'The main challenge here when it comes to training is, we have a combination of our own employed application specialist, but we are also having a number of let say consultants they are working maybe 50% for a hospital and the other 50% they are working as an application specialist for Philips. These consultants are not always available so we are lacking resources here simply. So resources themselves are the main challenges here.'*  
(Source: interview No. 11, step#8)

*'We have an issue with the availability, because when we try to shift the delivery, the greatest problem then is to get the application training shifted.'* (Source: interview No. 14, step#8)

*'It is very hard to get an application specialist and sometimes I have to postpone an installation because I am not able to get an application specialist. The last one was an installation I had to do in December and the part was delivered at the hospital but I couldn't have an application specialist until the last week of February. That is very critical, because we did not make sales recognition.'* (Source: interview No. 15, step#8)

*'It could be a problem to organize a person for application training; especially in Germany that is the bottleneck in the project, we are very short in person for these application trainings. Usually when I start with a project and I dive deeper in the project and do the planning for the capacity, I usually start in the first step asking the capacity coordination for a person for application training that is a first thing I do because when I do all the planning for the technicians and all the other people involved, but I can't get application training it doesn't make sense. So that is defiantly a bottleneck.'* (Source: interview No. 18, step#8)

*'There are only 2 application engineers for BENELUX and that when you have too many CV systems at the same time, this will cause capacity issues.'* (Source: interview No. 3, step#8)

**Increase the number of application training modules that the customer can buy during the whole life cycle of a system.**

*'There could be more training plans issued, for example we give them 3 days of application training, but we don't specify what the content would be, maybe we could offer them more types of trainings. If they buy a complicated MR system they need to get training several times during the life time of the equipment when they upgrade it etc. So we have a potential here that we are not using. We could sell them training contracts were they can have a number of trainings each year we could earn a lot of money and it could be good for us in general.'* (Source: interview No. 7, step#8)

### **Step# 9: Customer Handover**

**Minimize the likelihood that the configuration description on the customer acceptance form will not match the configuration description on the order sheet that the customer signed or contains misleading information.**

*'Some times we have a problem with our customer acceptance document, because there is a difference between the customer acceptance document and the order description. The points are sometimes in English sometimes in German and so it is not easy to show the customer what he has bought and what he is getting. It is not completely in German because I think it is a problem of SAP. The program is not so flexible that you have a good document. And I think this problem you can also get from the back office manager who creates this document.'* (Source: interview No.4, step#9)

*'It would be a huge simplification of the handover if the configuration form would match the handover form'. (Source: interview No.5, step#9)*

*'Our biggest problem is our paper we have a handover form Übergabe this kind of paper is terrible. It has really low quality and no one knows exactly what is written on it. It is a combination of German and English and it is not exactly like the Auftragbestätigung. It should be exactly the same paper as the Auftragbestätigung. The quality is really bad, articles are forgotten, articles are too much, articles are in the wrong order, and the wrong way and it is the worst process we have. The CFC creates this paper, the CFC sends me this Übergabe and we are years from improving it. The quality is continuously bad. The process itself is not so easy because some customers are really critical and they want that I show every article, but some articles are only software. (Source: interview No.8, step#9)*

*There was something on the system acceptance form there was asked if we could change when we had a recent meeting over customer handover procedures. I was told that it would take too long, to get it sorted out, it is a controlled document.'* (Source: interview No.9, step#9)

*'We have there a problem that we have different naming's for the same thing in the quote, in the offer, in the acceptance document. That is in my opinion a known problem because the options or the acceptance document they offer that the customer signs has not the same naming for the options on the document. For example in the order confirmation document it is named table and in the customer acceptance document it is named patient bed.'* (Source: interview No.14, step#14)

*'We have an order and the customer gets, we send the customer this is your order and the customer gets a paper from us, this is the system configuration you have ordered with all items, and the customers want to have in the same way the handover document. They are different layout. There are sometimes different articles in the order as in the handover. I know this problem like 10 years, it's very old problem as with Third party items. The customer gets an offer after this he gets an order and then he gets a confirmation and the confirmation has a different layout to our handover. Sometimes you have the customer who has the order confirmation, and asking where is it listed on your handover, you have a lot of discussions.'* (Source: interview No.16, step#9)

*'The Formal design of this document, probably every project manager has his own point of view on two or three special topics regarding this document and I am pretty sure that there will be arrangements and agreements between the project manager and the logistic officer how to design this acceptance document.'* (Source: interview No.18, step#9)

## **Step# 10 & 11: Project Closure & Monitoring Control**

### **Minimize the time it takes for a factory to acknowledge a product feedback or information request from the field.**

*'If you are missing parts from BIU you don't get a fast answer. For example it took us 3 weeks to get a new compressor from Cleveland.'* (Source: interview No.18, step#9)

### **Minimize the number of different processes to report missing items and re-order MOA, DOA & WOA's.**

*'Sometimes we have all these missing items, it is hard for us to control and sometimes it takes years before we have a coil for MR.'* (Source: interview No.15, step#10 &11)

*'Closing missing items is a problem because if you add to this point also all the misunderstanding between the customer and Philips during the account it can take a long time till you can close this point.'* (Source: interview No.6, step#10 & 11)

*'There is an installation phase and the closure phase around what I would call missing items or wrong items or defective items, and that is because we have commercial items and service items and my view is very simple if something is wrong if something is missing or something doesn't work there should be only one process for getting it corrected. But a missing item has to go through commercial viper, DOA has to go through a commercial viper and wrong item has to go through an additional wrong items process and generally speaking the fastest way to get anything is through service, but the processes don't always allow you to do that. We shouldn't have more than one escalation process for anything that's wrong. Let's not forget there is a customer at the end of this chain that is expecting the system in 4 days' time. Let's get just one process for getting it sorted.'* (Source: interview No.11, step#10 & 11)

*'If you have missing items for long time, if they are not available for more then one year or two years sometimes, it gets out of your control. Nobody will monitor them. If I handover a project, I will start with the next one that would be ideal, but sometimes I have some missing items. I have one CT project with missing items for more than two years and then it is out of your mind. That is sometimes a problem. Otherwise the customer is asking for after 2 years, you know we have an issue missing items. Sometimes the monitoring is a bit difficult. If you make a handover there is an additional sheet with the missing items and you have to monitor it.'* (Source: interview No.17, step#10 & 11)

*'Close missing items is a big problem during the delivery we are facing many times missing items sometimes for example for an MRI system one or two coils are missing that is not a problem for the installation, but to get this missing items is sometimes a problem it takes so much time.'* (Source: interview No.18, step#10 & 11)

### **Minimize the time and effort it takes to keep track of missing items.**

*'Closing missing items is a problem because if you add to this point also all the misunderstanding between the customer and Philips during the account it can take a long time till you can close this point.'* (Source: interview No.06, step#10 & 11)

*'Sometimes we have all these missing items, it is hard for us to control and sometimes it takes years before we have a coil for MR.'* (Source: interview No.15, step#10 & 11)

*'If you have missing items for long time, if they are not available for more than one year or two years sometimes, it gets out of your control. Nobody will monitor them. If I handover a project, I will start with the next one that would be ideal, but sometimes I have some missing items. I have one CT project with missing items for more than two years and then it is out of your mind. That is sometimes a problem. Otherwise the customer is asking for after 2 years, you know we have an issue missing items. Sometimes the monitoring is a bit difficult.'*  
(Source: interview No.16, step#10)

*'Close missing items is a big problem during the delivery we are facing many times missing items sometimes for example for an MRI system one or two coils are missing that is not a problem for the installation, but to get this missing items is sometimes is a problem it takes so much time.'* (Source: interview No.15, step#10 & 11)

### **Minimize the number of constraints that prevent the project manager to access DMS remotely, increasing the likelihood that the project papers will be uploaded into DMS once the project has been invoiced.**

*'Difficulties, the availability of IT tools. We work a lot remote and sometimes we have firewall issues and I cannot login on the VPN.'* (Source: interview No.1, step#10 & 11)

*'The connection with DMS is not so good from home, and we would rather have someone that keep track of all DMS Data.'* (Source: interview No.3, step#10 & 11)

*'Sometimes you forget to upload the papers in DMS, because you are busy with a new project.'*  
(Source: interview No.7, step#10 & 11)

*'It should be possible that we as PM are able to put the documents in DMS ourselves, it makes no sense to send the document via email to the back office and then I have to monitor if the documents are in DMS. I think the best way is that I put them myself in this DMS.'* (Source: interview No.4, step#10 & 11)

*'For me it is sometimes a challenge, but maybe I have to have more practice. You have to imagine, if you do this via the internet the connection sometimes breaks down, then you start from the first step, but it is not always a problem with DMS, it is also a problem for example with the software where we save our drawings.'*  
(Source: interview No.6, step#10 & 11)



*'Maintaining clarity and DMS, that is always a challenge, because there is just no time to do it, really, it is a time management issue again.'* (Source: interview No.9, step#10)

*'DMS is quite difficult, it is not an easy system to work with, because you have to be connected to the VPN, sometimes loading documents can be difficult. It is not an efficient system.'*  
(Source: interview No.12, step 10 & 11)

*'DMS is not very user friendly if you are going to the customer, It would be perfect if you had a cloud system or something else that my whole project data is in the cloud, so I have it everywhere, I have it on my mobile, I have it on my lap top on my iPad, I have it everywhere without having a web access.'* (Source: interview No.16, step#10 & 11)

### **Increase the likelihood that a project manager can share lessons learned with colleagues located in other Key Markets.**

*'There is no good follow up, I mean if I had 4 CT's projects and we have found similar problems with the CT system itself and they were listed up as reported problem in our project evaluation report, I will then send it internally to the people involved with CT. But we have not archived all these report that related to certain problem on one place. They are spread out at a number of local persons here. I mean we don't have a database were we have all the project reviews so we easily can check all CT or MR projects so that we can see if the same problems have been reported from a number of different projects, I think that is an improvement area.'*  
(Source: interview No.12, step#10 & 11)

## 4.2 The current Process Design

The current structure and design of the processes is illustrated in table 4.

In the first column are listed the sequential project steps, the second column shows the customer contact interaction moments, and columns 4-6 show the front office and/or back office employee that is involved in executing the project activity.

The last column, 7 shows the various employees that are part of the service delivery system, but not part of the front office back office configuration. Some are external contractors hired to execute the activities.

The majority of the activities during the different project steps are highly coupled with only 5 out of the 43 activities having a link with Site Planning or the Order Management back office departments. The main reason for the decoupling or centralizing some activities in the CFC EMEA was to enable the commercial teams in the Key markets to spend more time in front of the customers, approximately 90% of all project activities are being done by front office employees or another customer facing organization (i.e., the installation teams, application trainers and customer service engineers).

By concentrating most of the project activities in a front office setting the risks can be better managed and this setting also reduces uncertainty for the back office and simplifies the work, requiring a minimum set of specialized skills and knowledge from the back office employees. The relatively small number of handover prevents information loss that could influence the service quality in a negative way. The narrowness and routine character of the back office activities may lead to boredom and consequently a high number of attrition among the back office employees.

Broekhuis et al. (2009) warns that narrowness of employees' task can also lead to 'inefficient use of resources, making the processes more expensive than needed.'

<b>Process step &amp; activities</b>	<b>C</b>	<b>AM</b>	<b>PM</b>	<b>SP</b>	<b>OM</b>	<b>IE/AT</b>
<b>#1 Opportunity support</b>						
Support Sales in presentations	X	X	X*			
Check technical feasibility	X	X	X			
Perform Risk Assessment	X	X	X			
Create draft site planning	X	X	X	X		
Ball-park estimate of project cost			X			
<b>#2 Quote preparation</b>						
Perform Site technical assessment	X		X			
Make site layout proposal			X	X		
Collect Building works quotes						
Support Sales with pre-calculation of project costs						
Create Project Risk Plan						
<b>#3 Sales Handover</b>						
Check order configuration		X	X			
Sales handover		X	X			
Update risk plan			X			
Review Project Cost Plan			X			
<b>#4 Project Planning</b>						
Sign-off of SOW/Site layout with customer	X		X			
Update project plan			X			
Ensure PO creation			X		X	
Resource planning			X			X
Update Risk Plan			X			
<b>#5 Site Preparation</b>						
Check Site readiness	X		X			
Monitor building works progress	X		X			
Accept Construction Works	X		X			
<b>#6 Distribution</b>						
Confirm frozen period			X		X	
Submit delivery questionnaire			X			
Receive Factory Shipments	X		X			
Receive 3 <sup>rd</sup> party shipments	X		X			
Rigging			X			
<b>#7 Installation</b>						
Handover to installer			X			X
Execute installation						X
Handover from installer to PM			X			X
<b>#8 Application Training</b>						
Monitor timing and completeness	X		X			X
<b>#9 Customer Handover</b>						
Collect Customer Acceptance document	X		X			
Instruct CFC for sales recognition			X		X	
<b>#10 Project Closure</b>						
Perform post-calculation			X			
Handover to Customer Service			X			
Review project			X			
Close Missing items			X			
<b>Monitoring &amp; Control</b>						
Maintain Clarity and DMS			X			
Project monitoring			X			
Project reviews			X			
Maintain Customer Relationship	X	X	X			
Perform Change Management			X			

Notes: C, Customer; AM, Account Manager; PM, Project Manager; SP, Site Planning; OM, Order Management; IE, Installer; AT, Application Trainer.

Table 4. The current process design.

## 5. Conclusions and Implications for practice

This section presents the conclusions drawn from the extant literature supplemented with the VOC findings, and assesses their validity against the stated research questions and objectives. The limitations of this research will be also reviewed, finalizing with recommendations for new research and projects.

### 5.1 Conclusion

The objective of this descriptive practice-oriented research is to contribute to the knowledge of the practitioners (CFC EMEA management team) regarding strategies researched in the literature that can be applied in order to create a Customer Centric back office organization in the next three years, by identifying and describing the following:

- Customer Centric organization
- Voice of the Customer
- Service Innovation
- Desired outcomes

The main research questions and sub-question for this research thesis were:

*'How can CFC EMEA become a Customer Centric organization when using the Voice of the Customer as input to create value and Service innovation?'*

*"How will a Customer-Centered designed organization structure theoretically impact the efficiency in the CFC EMEA?"*

The first step taken in order to answer these two questions was to find a definition for the words Customer Centric organization in the extant literature. There was not a single all-encompassing satisfactory definition found in the literature, but based on all the definitions found a new definition was compiled that could serve as the golden standard for this research project.

A Customer Centric organization is an organization that is able to create value and satisfaction for its customers, by identifying the desired outcomes that its customers are looking for, and use this knowledge to create and deliver meaningful customer oriented services.

For this research Service Innovation was defined as, *“New activities or (incremental) improvements in the service offered by CFC EMEA back office organization, that will make it easier for the front office to get the job done or allow them to spent more time in front of the customers.”*

*‘Service in the context of this research encompasses all the back office activities (i.e., order management, Site planning drawings, IT and logistics) performed by the CFC EMEA in support of the front office activities.*

### **5.1.2 The Customer Centric Organization structure & efficiency**

Broekhuis et al., (2009), concluded in their research that front office – back office configurations contribute to the provision of both efficient and client-centered service. Based this on the above-mentioned research it can be concluded that the front office – back office configuration in place, formed by the CFC EMEA back office and the front line Commercial organizations is the basis for a Customer Centric organization structure.

The CFC EMEA forms the back office organization of a front-back office service system within Philips Healthcare, were the main contribution of the back office organization is to achieve process efficiency at low costs. Most of the activities executed in the CFC EMEA are back office activities that do not involve contact with the customer. This enables CFC EMEA to create efficiency because it is shielded from uncertainties that can be introduced into the service system by the customer. The Commercial front office organization in the key markets is where the customer contact generated by the Account Managers and the Project Managers takes place. The extant literature reviewed in chapter 2, asserts that Customer contact provides opportunities for customization that can create value and satisfaction for the customer, while innovation and standardization activities in the back office organization should focus on creating efficiency.

### **5.1.3 VOC and The Enchanting myth of customer-sovereignty**

The VOC interviews with the Project Managers have revealed a list of nineteen desired outcomes. Nine of the desired outcomes on this list are linked to the CFC EMEA back office organization. Fulfilling these desired outcomes would increase the efficiency in back office organization. The remaining ten desired outcomes are linked to the activities in the front office. The literature suggests that all service customization or innovations that aim to create customer centricity should be done in the front office part of the service system. During a Focus Group meeting to present the results of the VOC interviews, the practitioners requested to provide them with a short list containing the top 3 desired outcomes that if worked on would increase end customer satisfaction and promote customer centricity in the service system. The existing literature tells us that the true essence of Customer Centricity is creating value and satisfaction for the customer (Day, 1994; Shah, Rust, Parasuraman, Staelin, & Day, 2006).

In order to create a short list of the top 3 desired outcomes, the theory of the enchanting myth of customer sovereignty was used to prioritize and select the top 3 desired outcomes that would influence customer satisfaction and promote customer centricity in the service system. The corner stone of the enchantment myth is, structuring the service interaction to give the customer the feeling of being in charge (Korczynski & Tyler, 2008)

*'It is a pleasurable illusion after all – as Lynch argues, 'any action which increases the self-esteem of the customer will raise the level of satisfaction' (Lynch, 1992 p. 128, as cited by Korczynski & Tyler, 2008). 'Enchantment may easily turn to disillusionment in the moments when the individual customer's lack of sovereignty becomes starkly apparent.'* (Edwards, as cited by Korczynski & Tyler, 2008 p. 128)

Using the 'enchantment myth' as a basic rule, three desired outcomes were identified based on the perception that these three unfulfilled desired outcomes can disillusion the customer and reduce satisfaction, giving them the sense that they are not in control. The main goal of customer satisfaction is to create a long lasting relationship with the customer that goes beyond a single product or service interaction (Terpstra & Verbeeten, 2014).

#### **5.1.4 The top three desired outcomes & improvement advices**

- 1. Increase the likelihood of a Sales Handover during which all agreements made between the Account Manager and the End Customer that may impact the progress of the project is shared with the project Manager.***

Introduce compulsory face-to-face handover meetings or online teleconferences organized by the account manager where information is shared. The Project Manager and back office representatives from the Site Planning & Order Management departments must attend these meetings.

Empower the Project Managers to refer a project back to the account manager in case the Order Data Sheet does not meet the basic information requirements that were set by for example a panel of European Project Managers and account managers.

Introduce new performance KPIs to measure completeness of the Order Data Sheets provided by the account managers. Make these KPI scores part of the account managers appraisal ratings in order to change the account managers attitude regarding completing the Order Data Sheet.

- 2. Minimize the likelihood that the application training will be delayed due to the lack of available application trainers.***

Create a new centralized frontline office manned by specialists that can both help the Project Managers with their system related questions and provide additional support for application training incase of an application trainers shortage in a Key Market.

**3. Minimize the number of times that the configuration description on the customer acceptance form will not match the configuration description on the order sheet that the customer signed, or contains misleading information.**

Create a project team comprised of SAP specialist, sales and Order Management representatives to identify and find acceptable solutions

**5.1.5 Creating customer facing time**

All the activities executed in the CFC EMEA are back office activities that do not require contact with the customers. The Account managers and Project managers generate most of the customer contact in the front office. Customer contact provides opportunities for customization and increases the quality of customer relationships (Broekhuis et al. 2009). The initial findings revealed that 90% of all the activities listed as part of the project cycle are being executed in the front office. This research has identified for now three possible activities performed by the project managers that do not require customer contact and if moved to the back office, could free up substantially more time for the project managers. Time that would enable the project managers to spend more time in front of the customers, one of the project managers is quoted saying:

*'When it comes to DMS I have to devote a day, when I should be in front of the customer. Every couple of weeks I have to take a day out when I should be out there managing projects talking to customers.'* (Source: interview No.10, step#10 & 11)

Possible front office activities that can be moved to the back office are:

- Perform post-calculation
- Close Missing items
- Maintain Clarity and DMS



### 5.1.6 The Customer facing back office

The CFC EMEA back office organization is organized along the bureaucratic model in which the focus is to create efficiency through process standardization.

Howcroft et al. (2012), informs us that the drawbacks associated with standardization are, an elaborate and complex division of labor that requires additional monitoring, and adding pressure to meet the performance targets. All these contribute to create a more impersonal service.

*'Because the people in the Business Centre (CFC EMEA) are not Customer facing, I think they sometimes don't have the same degree of urgency or don't appreciate the urgency that is required. I get emails back saying no we won't be able to deliver for three weeks, sorry for the inconvenience. If I was to go to the customer and say sorry for the inconvenience, they might march me out the door. It is more than inconvenience. It is stopping them from scanning patients' essentially.'* (Source: interview No.9, step#6)

This quote, voices the concerns that the CFC EMEA back office organization is not perceived as being Customer-Oriented enough, but more as a cold bureaucratic organization that sees the customer as a piece of order data sheet to be processed in an ERP system. According to Korczynski (2004), if organizations want to compete on the basis of customer oriented service quality, they also have to organize their back office along 'the dual logics of customer-orientation and bureaucratization.'

This means that the activities performed in the CFC EMEA back office have to be arranged in such a way that they will foster a relationship with the unseen customer and task completion is measured based on 'internalized customer related norms'.

Korczynski (2004) tells us that this can be achieved by creating an empowered learning organization, where the workers are asked to 'step inside the customer's shoes, and think about what they will be wanting'. This is a customer-oriented culture in which the workers 'adopt the customer's perspective, by addressing the questions: 'who is the customer', 'what is the customer's situation' and 'what will we do for the customer'. Giving the employees' influence over how basic processes are designed and the authority to solve problems instead of just reporting complaints (Glands & Bird, 1996) can reinforce this culture change.

## **5.2 Implications for management**

During the literature review we learned that Customer Centricity entails that the service supplier has to organize itself around the customer and match the customers' service requirements. One of the tools to understand these requirements is to listen to the Voice of the Customer. The VOC will let you know how well or how bad the end customer rates the service the organization is providing. For the management of the CFC EMEA this means that listening to the VOC must become an important part of the ongoing continuous improvement activities. The literature also showed that the front office part of the service delivering eco system is the place where Customer Centricity can be best fostered as the front office is where the customer contact takes place. Although the CFC EMEA as a back office organization has no direct customer contact it still can contribute its share to the Customer Centric Strategy of the entire Commercial service delivering system by changing the way the end customer is viewed within the back office organization. It has consistently been proven in previous researches that empowered employees take more ownership and are perceived as effectively contributing to the organizations overall success (Hartline et al. 2000). Adapting the culture within the organization to be more Customer Centric creates an empowered learning organization that fosters empathy for the end customer, that although he is not seen, he is the focus behind every action the organization takes. A culture change takes senior management commitment, persistence, and communication in order to foster customer centricity by changing the culture (Shah et al. 2006) in an organization. Performance indicators that are based on customer-oriented norms are needed to support this culture change and hold the organization accountable. Next to this, previous studies have found that organizations can implement a customer-oriented strategy more effectively by evaluating employees on behavioral rather than outcome-based criteria (Hartline et al. 2000)

### 5.3 Limitations of the research

This research as many had is limitations originating in the research question itself and the scope that was set. Next to this there were also limitations in the form of language barrier. During the interviews it was noticed that if the interviews were conducted in the native language of the Project Managers that they were more talkative compared to someone who is not proficient in for example English. The fact that sixteen of the total of eighteen interviews were not face-to-face interviews, but long distance interviews can also be seen as a limitation. The two face-to-face interviews provided more interaction with the interviewees and the opportunity to react or use their emotional state and mimics as a vehicle to conduct the interview. The long distance interviews were more prone to miscommunication and interpretation errors due to technical glitches that caused the communication to break or the incoming voices to be distorted. Another limitation worth mentioning is caused by a single researcher analyzing the interview transcripts looking for customer desired outcomes. Griffin and Hauser (1993 p. 12) concluded that: *'Analysts with different backgrounds interpret customer statements differently. This variety of perspectives leads to a larger set of customer needs and a richer understanding of the customer than is feasible with a single expert.'*

This research was designed from the perspective of a back office organization, without at first taking into account the fact that a back office organization is part of a bigger service delivering system, with a customer at the receiving end. This limited the research at first to only focus on the back office organization and its direct service partner the Project Managers. Initial findings have shown that Customer Centricity actions have to be concentrated in front office organization were most of the customer contact is taking place. Because of this limitation the Voice Of the End Customer was never considered as being important in contributing to the future Customer Centricity strategy in the CFC EMEA back office. Future researches should also include the Voice Of the End Customer, and not only the Project Managers representing the front office organization, but also the Account managers who lead or initiate the initial customer contact activities.

### 5.3 Discussion

This practice-oriented research started with the research question:

*'How can CFC EMEA become a Customer Centric organization when using the Voice Of the Customer as input to create value and Service innovation?'*

The objective was to contribute to the knowledge of the management team of the CFC EMEA regarding how the Voice of the Customer can be used to foster Customer Centricity in a back office organization. The extant literature thought us that Customer Centricity is best implemented in front line organizations where most of the customer contact takes place. Had this information been known in the earlier stages of the initial literature review it would have changed the question on which this research was based. This had its implication on how the research was designed and subsequently where and how the data for finding the desired outcomes was collected. Although the research question was theoretically incorrect, it still was able to provide the practitioners with meaningful knowledge. The practitioners have learned that although Customer Centricity is a strategy for the front office organization, the back office organization can still contribute to this strategy by adopting a customer oriented bureaucracy in which the outcome of activities undertaken is measured based on customer oriented performance indicators. This research found that in order to become more customer oriented the CFC EMEA does not need to change its organization structure but more its internal culture that embodies the way an End customer is traditionally seen in a back office organization. The desired outcomes identified in this research can if worked on, contribute to improve the service efficiency and free up extra customer facing time for the project managers.

Although it can be debated if the formulation of the main research question used in this research was the correct one, the research was still able to give the project managers a voice, that was until then unheard of in the CFC EMEA back office organization.

It made practitioners aware of the fact that the CFC EMEA organization is not as customer oriented as was always presumed, and that a culture change is needed to foster customer orientation. This means that the objective of this research was achieved.

## Appendices

Interview No.1      Country: NL

### *Step #1&2: Pre-Sales Support & Quote Preparation*

Het geen men vraagt om een goed antwoord men vraagt soms wel specifieke informatie die wij niet zo snel direct voor de handen hebben (technische informatie bijvoorbeeld het energie gebruik van de systemen) specifieke vragen die in het algemeen geschreven zijn voor algemene tenders maar niet specifiek voor het apparaat, maar waar zij wel specifiek naar vragen. Het beste zou zijn dat als je een aanvraag hebt dat je dan ook met de team wellicht bij elkaar komt en dan is iemand in de lead die heeft het voorbereid en kan dan daarop direct inspelen, zodat je niet als een eenling de antwoorden instuurt en dat een iemand de antwoorden verzamelt. Het brengt moeilijkheden mee, dat iedereen in den lande werkt en het natuurlijk moeilijk is om iedereen gezamenlijk weer op een locatie te krijgen op een bepaald moment.

### *Step#3: Sales Handover*

De sales handover is, een handover per mail, terwijl je eigenlijk eerder een transfer meeting zou willen. Dat iedereen die meewerkt aan de realisatie van een project vanuit sales support, account management, order management, project management een soort transfer/kick-off meeting doet, in plaats dat ik het afzonderlijk moet gaan bekijken en afzonderlijk mensen moet gaan vragen hoe zit dat, dit geeft meer ruimte voor fouten en interpretaties die je maakt of misschien communicatie die is geweest tussen ander partijen die je niet krijgt of ziet en incomplete documenten. Difficulty is dat je het liefst een transfer meeting.

### *Step#4: Project Planning*

Het is niet echt difficulty maar je moet zorgen dat je de juiste mensen aan tafel krijgt, wat je misschien als Philips niet kan doen is te zeggen dat wij hopen dit systeem in kwartaal 2 te kunnen boeken terwijl de klant zegt nou ik ga een traject in van, ik wil een bestel laten aanmaken ik wil het aanbesteden, ik wil bepaalde verbouwingsplanning hanteren, ik zit met mijn financiële middelen.

Ik heb op dit moment geen budget, ik moet even wachten. Dat zijn problemen die je dan tegenkomt. Of wel niet voldoende resources van de klant zijde het juiste moment is er niet. Misschien interne afstemmingen binnen het ziekenhuis dat nog moet gebeuren. Het mooiste zou zijn als de order aan de kant van het zieken huis geven wordt, dat ook de procedures en ook het materiaal en middelen aan de kant van het ziekenhuis gereserveerd zijn om de order te realiseren

### *Step#5: Site Preparation*

Difficulty is dat men (de klant) achterloopt in de planning. Ik ga even van uit dat het ziekenhuis de voorbereidende werkzaamheden in eigen beheer uitvoert, dus dan doen wij alleen de vinger aan de pols houden en ze van de benodigde informatie voorzien zodat zij de werkzaamheden goed kunnen uitvoeren, dat moet aan bepaalde criteria voldoen en als ze dan achterlopen op de planning dan zijn ze niet zo ver om het systeem te ontvangen. Dat is het grootste probleem waar je tegen aan loopt dat de planning niet gehaald wordt. Je hebt er geen invloed daarop (de planning) je kan alleen sturend en beargumenterend optreden. Een mogelijke oplossing zou zijn om de bouwkundige werken in eigen beheer te doen en als hoofd aannemer op te treden.

### ***Step#6: Distribution***

Difficulty is dat de fabriek wil dat de Z4 gegeven wordt en dat de frozen period ingaat zodat ze de productie in planning kunnen opnemen en dat de leverdata vastgelegd word, probleem is soms dat dat te vroeg komt in de realisatie traject, dat we nog niet weten en te veel onduidelijkheden en onzekerheden hebben. Dan kunnen wij niet de Z4 en DQ geven, misschien is het een nieuw ziekenhuis dat we de situatie niet kennen, dus dat we een doorloop moeten hanteren. Tweede difficulty is incompleetheit van de goederen die worden uitgegeven, verkeerde adressen en PO's die niet zijn uitgemaakt. Als mensen het overnemen (order manager) dan heb je niet direct iets in de gaten dan moet je met nummers komen. Ik ben bijvoorbeeld in het veld en dan heb ik de nummers niet bij de hand, ik kan wel bellen maar dan weet niemand waar ik het over heb. Ideaal gezien moet je dan proberen als een team met vast contact personen te gaan werken. Maar van mij uitgezien wil ik het liefst met een persoon (order manager) praten aangaande projecten en zaken in relatie met distribution.

### ***Step#7: Installation***

Dat eigenlijk grootste probleem met de installatie komen voort uit defoa's, doa's en moa's. Dat na de installatie de informatie niet geheel terugkomt. Niet alles in een goed overzicht terug krijgt en dan later der achter komt dat, er mankeert nog wat aan. Idealiter zou je een formeel moment moeten plannen, maar dat is vaak moeilijk, eigenlijk kan het dat het vrijdag gepland klaar is en plan ik mijn agenda vrij maakt, dan blijkt de donderdag klaar te zijn en dan zien we elkaar weer niet.

### ***Step#8: Application Training***

Difficulties zijn het zorgen dat alle mensen van het ziekenhuis, alle laboranten meestal vrij gepland kunnen worden om trainingssessie bij te wonen. Het kan zijn dat vanuit de installatie niet alle problemen opgelost zijn wat invloed heeft op de applicatie training.

### ***Step#9: Customer Handover***

De moeilijkheid is vaak om daadwerkelijk die afspraak te maken met de klant, ze zijn meestal niet zo happig om meteen al te tekenen omdat met graag wil zien dat het systeem goed werkt, dat alles opgelost is, alles restpunten. En dat er geen verborgen gebreken zijn die vaak naar boven komen tijdens gebruik van de apparatuur. Wij testen wel, maar wij testen niet alles. De moeilijkheid hierin is om de afspraak te maken en het vertrouwen te hebben van die klant dat het allemaal in orde is.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Difficulties, is de beschikbaarheid van de tools, IT. We werken namelijk veel remote en soms hebben we dan firewall problemen en dan kan ik niet inloggen of kan ik weer niet op IRIAS. Nou is DMS gekomen en die database wordt ook steeds groter, nou probleem met het links, probleem met autorisatie, mensen kunnen der weer niet in.

## Interview No.2 Country: NL

### **Step #1&2: Pre-Sales Support & Quote Preparation**

Wat altijd spannend hier is, in hoe verre ik hier in geïnvolveerd wordt. Als een accountmanager met een klant spreekt dan loop je al het gevaar dat project management nog niet bij betrokken wordt omdat het bijvoorbeeld te complex is. Dan denkt de account Manager die brengt allerlei extra gedachten naar voren en daar wil de klant nog niet mee lastig vallen. Soms is dat begrijpelijk maar meestal geen slim idee, want je wilt die klant zo goed mogelijk helpen en dus zo vroeg mogelijk vertellen. Dus early involvement is wel altijd een uitdaging. En de tweede uitdaging is uiteindelijk het goed formuleren van wat verkocht is. Dat de Account Manager duidelijke richtlijnen heeft van wanneer moet ik er een project manager bij betrekken. Als het iets wat op een wielje naar binnen kan, dan zit er niet zoveel project gerelateerde risico der aan. Wat de account manager nodig heeft is een soort van checklist van welke parameters moet ik in de gaten houden om te weten wanneer ik een project manager moet betrekken. Het is afhankelijk van het type systeem de complexiteit van de site.

### **Step#3: Sales Handover**

De grootste moeilijkheid is om de mensen daadwerkelijk aan tafel te krijgen. Met de mensen wordt bedoeld accountmanager, product specialist, sales back office, PM en Technet gewoon om door te nemen wat heeft de klant nou eigenlijk gekocht en wat moeten we precies doen. Dit moet je doen voordat je de bestelling gaat plaatsen bij de BU en de derde partijen. Een praktisch probleem, al die mensen die continu op de baan zijn bij elkaar te krijgen en anderzijds een probleem van dat er onvoldoende met de klant is uitgesproken wat hij nou precies op het laatste moertje en boutje verkocht is. Ja, wij willen een loodscherp, maar dat kan een loodscherp dat op de grond staat, aan de tafel hangt of aan het plafond hangt, dus het puntje op de i zetten voor wat betreft de configuratie. Ook de speciale condities moet er een systeem terugkomen, dus allerlei zakken die rond dat contract spelen, die je als project manager ook in de gaten moet houden, heel veel dingen kun je niet op papier zetten. In veel gevallen krijg je alleen papierwerk en mis je de begeleidende tekst bij een configuratie lijstje.

### **Step#4: Project Planning**

Wat wij vooral in Nederland merken is dat een klant vaak niet klaar is voor degene was ze gekocht hebben. Dus dat wil zeggen een afdeling Radiologie koopt een systeem en op het moment dat het systeem gekocht is dan pas wordt het bouw bureau ingeschakeld en die gaan dan pas kijken wat er allemaal moet gaan gebeuren. En dan gaan ze berekenen, dan blijkt dat ze voor een ton moeten verbouwen en met die ton gaan ze naar de raad van bestuur en die is ooglijk verbaast dat ineens een ton vandaan moet komen en dan stukt het proces dat is het grootste probleem, dus de onbekendheid van de klant met het uitvoeren van het project en de verassingens die aan de bouwkundig vlak zitten.

### **Step#5: Site Preparation**

Vraag is het mogelijk dat Philips Healthcare, het bouwkundig gedeelte zou kunnen leiden? Dat is zeker iets waar we naartoe werken, maar daar is geen traditie voor in Nederland. In België veel meer, maar als de traditie niet is bij zo een klant kun je het voorstellen maar zal het niet zo gauw gebeuren. Enige wat we kunnen doen is er klaar voor zijn mocht het wel wenselijk zijn. Dat betekend dat je met allerlei partijen moet gaan partneren. Enige wat ik kan zeggen is ben der klaar voor als je Turn Key activiteiten, bouwactiviteiten wil aannemen. En de partij die zij selecteren zijn partijen die misschien wel ervaren zijn met werken in een ziekenhuis maar niet altijd ervaren zijn met het werken voor een bepaald systeem, dus die begrijpen niet wat een MR systeem nodig heeft en onze technische gegevens interpreteren. Dus wat je als Project Manager

aan het doen bent is keer op keer een team van bouwers opleiden. Site preparation is de learning curve die steeds naar beneden valt omdat je steeds met een ander team moet werken.

### **Step#6: Distribution**

Wat je in deze fase vaak ziet is de afstemming met de Order Manager over ten eerste het systeem zelf maar ook de 3rd Party items. Wat ik vaak tegen aanloopt is dat de Order Manager onvoldoende tijd heeft om zich echt in te leven in het project dat heeft tot gevolg dat als ze bijvoorbeeld een 3rd party item besteld is dan weet de OM niet wanneer die nodig is. Het kan zijn dat we de 3rd party item willen hebben op het moment dat het systeem geleverd wordt en dat een keiharde koppeling is van het moment en adres. Het kan ook zijn dat zo een 3rd Party item van tevoren geleverd wil hebben bijvoorbeeld in Eindhoven om wat mee te doen of bij een andere leverancier die dan eerst gaat verwerken voordat we het leveren. En eigenlijk heb je onvoldoende tijd om het verloop van zo een project af te stemmen met de order manager en dat betekend zo de OM steeds met vragen komt bij jou van wanneer wil je het hebben, bij wie moet het geleverd worden, wie is contact persoon, waardoor het eigenlijk lijkt dat een OM alleen maar bezig is met losse orders en niet met de samenhang binnen het project. Voor mijn idee is een OM die met projecten bezig is een onderdeel van mijn project team. Dus dat betekend dat ze ook begrijpen wanneer een project wordt geleverd en wanneer bepaalde dingen vooruit geleverd moet worden. Het komt voor dat ik een fax krijg en dan zie ik in het subject van de email waar moet dit heen? Dan weet ik niet over wel project het gaat, ik moet die fax openen en dan moet ik uit die fax proberen te concluderen wat het nou precies is en voor welk project het is en dan moet ik antwoord geven waar het naartoe moet. Dat zijn de vragen die ik verwacht in een afstemming overleg maar niet in de operatie. Dus je hebt een afstemming dan bekijk je heel je goodsflow van je project wat heb ik allemaal van derde partijen en de BU nodig en vervolgens heb je plaats je dat in de tijd en dan is het voor de hand liggend dat als de levering van het systeem schuift, schuift dat alles wat je daarom heen hebt geplaatst schuift mee. En zo een OM weet dat en die ziet dan als een injector binnen komt die hebben we in de tweede week van de installatie nodig dus dan zegt die zelf tegen het magazijn meester zet dat maar daar neer die gaat ongeveer in week 21 naar toe. Dat ligt niet aan de OM, maar aan de manier waarop de CFC georganiseerd is. Enig wat ik vraag van een OM is dat ie de hele goods flow van mijn project kent en dat hoeft niet uit het hoofd, het mag ook op een sheet zijn, maar als hij het kent. Ik wil hem graag eens in de 2 weken in een routine overleg vertellen, maar dat zou voldoende moeten zijn

### **Step#7: Installation**

Wat je daar ook merkt is dat zo een installer pas begint na te denken op de dag van installeren. Er komt wel iemand van Gayling van te voren kijken, site survey eigenlijk, even kijken van hoe komen we met de magneet naar binnen alle voor de levering, maar daar mankeert Wels' wat aan. Meestal focussen ze zich specifiek op die site, ze kijken niet zo zeer naar wat wordt geleverd, wat is de configuratie hoe ziet de tekening der uit. Het liefst heb ik voordat het systeem geleverd wordt al een soort van kick-off. Dat de mensen die daadwerkelijk gaan installeren, zo van dit is het systeem, dit zijn de wensen van klant en hier dit zijn standaards zoals je gewend bent, maar dit zijn net wat andere dingen zoals de klant het wil hebben. Dan kan ik ze alvast bij praten en dan kunnen zij zelf zeggen dit begrijpen we niet, of dit weet ik niet, of dit zou anders moeten, of dit kan helemaal niet. Uiteindelijk hebben zij meer technische kennis dan ik. Zij kunnen me dan veel meer corrigeren en kan ik nog naar de klant, met we hebben dit afgesproken maar dit gaat niet. Je hebt altijd nominale installatie tijden en die zijn gebaseerd op de aanname dat alles goed is voorbereid, maar de praktijk is dat veel is voorbereid en veel gaat goed maar niet alles, dat betekend dat je extra kosten hebt omdat je onvoldoende afstemmingen hebt gehad van te voren.



### ***Step#8: Application Training***

Dit is een vrij gecontroleerd proces, een PM gaat pas ingrijpen als er hoofdzakelijk capaciteiten' problemen zijn met de applicatie specialist. Dit gaat goed

### ***Step#9: Customer Handover***

De klant kan allerlei redenen hebben om dit uit te stellen. Meestal is het een reden die nog niet eens iets te maken heeft met de werking van het systeem, maar bijvoorbeeld hoe, moet ik een handtekening zetten? De klant is verbaasd van is dat nodig, het systeem staat toch hier en het draait en dan weten ze niet waarvoor ze eigenlijk tekenen? Daarnaast kan het zo zijn dat het ziekenhuis besluit op het laatste moment, ja ik ga geen handtekening zetten, ik mis die optie nog en dat is lastig want wij hebben wel een voorziening in onze overname protocol waarin staat die optie moet nog geleverd worden. Sommige klanten zeggen maar ja het staat wel in de restpuntenlijst maar dan weet ik niet zeker of je die daadwerkelijk gaat doen. Weet je wat voor de zekerheid zet ik geen handtekening dan is Philips net iets meer bezig om het op te lossen. Dat is een heel lastige proces, en eigenlijk begin dat proces bij het verkopen van het systeem vind ik. Je moet bij de verkoop van het systeem op de een of andere manier contractueel met die klant vast leggen, dat ze het systeem niet mogen gebruiken zolang zij zelf niet voor ontvangst hebben getekend hebben.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Je hebt hier te maken met het feit dat heel veel kosten, heel laat op het project geboekt worden. We hebben bijvoorbeeld uren van de technische die pas na een paar weken binnen komen of materialen die nog uit staan en die nog geleverd moeten worden, dus wanneer kun je beginnen met die post calculation als 95, 97% van de kosten binnen zijn. Als je na 2 maanden aan de post calculation moet gaan beginnen en der is nog iets wat raar is, dan lig dat niet zo vers meer in je geheugen om te achterhalen wat er nog is gebeurd. Post calculation staat en valt met je cost control. Als je van te voren weet wat voor nieuw systeem komt, maar ook van te voren weet welke oud systeem der uit gaat zorg je ook dat je andere systemen de goeie informatie hebben.

## **Interview No.3    Country: BE**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

The difficulty to make a Quote, is about het civil works, most of the time that we go to the customer we have not all the information and it is very difficult to get all the information about the building plans from the technics and we have only in some cases 20 minutes to make a visit and to check all the things for a system and there is a lot of risk it is difficult to have a right description of the scope of work. It is very difficult to make the right scope of work. The thing is when you go to the customers is to get the right person, most of the time you go to the customer you see the physicians and you speak about the workflow, how to make the best workflow for the new system, but it is very difficult to reach the technical guys. It is difficult to get the right information. How to get this better, would be to have the right person present when we are there.

### ***Step#3: Sales Handover***

The most difficult part is to get a transfer meeting. It depends also from the account manager. The Difficulty is to understand what they sold, because they have sold a system. Usually the account managers promise a lot to the customers, that is not written on the offer and that is the difficulty to ask the right questions to the account team, what have they sold. If it is a system with Civil Works, it could be a problem. I think ideally, when we sell a system to have a transfer meeting, that is the first step and to get the account team to be honest about what they have sold to the customer. Because most of the time when something is sold we go to the customer and then we hear things that we did not hear before, so sometimes we get surprises. The most important thing is to get the transfer meeting.

### ***Step#4: Project Planning***

When we discuss the planning with the customer they always say it takes too much time can you decrease the time of the work? Sometimes when the customer does the civil works we have a lot of problems. They don't respect very well the planning. When we deliver the system we have than problems with the site readiness. There are for example to no windows or there are no doors. I cannot say to the customer that I cannot deliver if the site is not ready, because with a short amount of time the account manager will call me and say what is that, that you don't want to deliver to the customer.

### ***Step#5: Site Preparation***

If we do it than we will not have that many issues with site readiness, but it is our suppliers that do the work and when we make the planning we know how much time is need to do the works.

### ***Step#6: Distribution***

I have sometimes problems with third party deliveries to customer and sometimes it happens that the deliveries arrive the day after. Most of the time this happens for small parts and 3<sup>rd</sup> party items. I had last month a problem with third party items from MAVIC. I delivered a CV system, but we did not get the radiation shield and the lamp with the system. It was 4 days later after delivery. This 3<sup>rd</sup> party process has to be better managed. In Belgium we have a lot of problems with the delivery of Third Party items.

### ***Step#7: Installation***

I have not so much problems in this phase, the guys from X-ray are very good and `I have no complain about them. But if you do MR than you work with Gaylin, and my colleague got many problems with Gaylin. From his experience I heard, when we delivered the system they did not have the right wheels of the Inginia system. An engineer from Gaylin broke a suspension ceiling during the installation of an MR system in Brussels. But I have to say that the 2 last systems that they did was much better.

### ***Step#8: Application Training***

No issues here expect sometime the fact that there are only 2 application engineers for BENELUX and that when you have too many CV systems at the same time, this will cause capacity issues.

### ***Step#9: Customer Handover***

Most of the time I have no difficulties, because if everything works correctly, and the customer uses the system, there is no reason to refuse. But normally we have to collect this document

before they use the system, but this has never happened in Belgium, the customer in Belgium always ask first to use the system before the can accept the handover. Most of the time, it is one week after they have used the system. We never have handover of signature before they have used the system.

#### ***Step#10: Project Closure & Step#11: Monitoring Control***

Normally we have to have 15% of margin, but honestly if we had 5% is a very good project. That is what I told you in the beginning when you have civil works and you don't get all the information at the right moment so you make a price with risk. The 15% is a buffer to compensate this risk because we don't have all the information and even if we had all the information there is always risk. Handover to customer service there are no problems. If you are missing parts from BIU you don't get a fast answer. For example it took us 3 weeks to get a new compressor from Cleveland.

De connectie met DMS is niet zo goed vanuit thuis, en men zou liever iemand willen hebben dat centraal alle DMS gegevens bijhoud.

### **Interview No.4 Country: GE**

#### ***Step #1&2: Pre-Sales Support & Quote Preparation***

It is sometimes difficult to analyse the risk in the project, and to check all technical visibilities. The PM does not have enough time to be involved in each project from sales. The best is if the account manager has a proposal of the new site with the system that will sell a second step is if I get competent partners on the customer site to discuss the technical visibility, so it is possible to get an impression if there are risks or something else.

#### ***Step#3: Sales Handover***

The difficulty for me is to get a clear order of what was sold to the customer, not only the system, but also what is sold as services from our side.

#### ***Step#4: Project Planning***

The difficulty in this one is to get a confirmed delivery date at first from the factories, because without this confirmed delivery date, I can't do a planning with the customer. It is very important to get the first confirmed delivery date as soon as possible and then I can build a schedule and so on.

#### ***Step#5: Site Preparation***

No difficulties

#### ***Step#6: Distribution***

Very complicated is the delivery of pre-delivery parts. I think in a big hospital you need direct delivery to a special place and we use normal expeditors and they put the material only at the door and no one knows where the material is and this is the problem. When I order a pre delivery item to a special place and person than it has to be possible.

### **Step#7: Installation**

Specially during the installation of MR by the firm Gayling, we have this handover procedure and what I can't understand is, that it is not possible that I cannot sign on an electronic document, the handover document maybe with a PDF signature, and it is very complicated to do via an email to my home office, I print it, I put a sign on it and I scan it and send it back.

### **Step#8: Application Training**

It is difficult for the PM to find out how many days application training the customer will get for a special configuration. Depending of the option of the project, the customer will get 5 day or 7 days, it is not clear how many days in the configuration are included. Sometimes we have not enough application trainers, but this is normal I think.

### **Step#9: Customer Handover**

Sometimes we have a problem with our customer acceptance document, because there is a different between the customer acceptance document and the order description. The points are sometimes in English sometimes in German and so it is not easy to show the customer what he has bought and what he is getting. It is not completely in German because I think is a problem of SAP. The program is not so flexible that you have a good document. And I think this problem you can also get from the Back office manager who creates this document and sometime you have specially on MR some pieces doubled in this document because there are the MR and the second page there is another MR but it is only one piece and it is not easy to explain to the customer this case. A solution would be to have one document completely in German. The customer when he buys a system from us he gets a document indicating what he has bought and I think it is very important that this document is equal to the customer acceptance document if it is always the same than it is easy to make a handover to the customer. For me as PM it is important that I do the handover at the end of the application training, because so I have a competent person on the site who can show the software item and so on.

### **Step#10: Project Closure & Step#11: Monitoring Control**

It should be possible that we as PM are able to put the documents in DMS ourselves, it makes no sense to send the document via email to the Back office and then I have to monitor if the documents are in DMS. I think the best way is that I put them myself in this DMS.

## **Interview No.5 Country: NL**

### **Step #1&2: Pre-Sales Support & Quote Preparation**

Beschikbaarheid van informatie, PRD dekt niet alle lading van vragen die wij kunnen verwachten, we krijgen vaak vragen die niet gespecificeerd zijn in de PRD op inceneter. Voorbeeld een ziekenhuis koopt een systeem en die wil weten, wat doet dat nou op mijn energie rekening, wat ga ik nou meer verbruiken of wat ga ik minder verbruiken. Wij hebben nergens gegevens staan bij heel veel systemen, wat ons systemen precies gemiddeld verbruikt. Wij zeggen alleen van dit doet die maximaal en al ie uit staat dan verbruikt die niks, maat het systeem staat niet altijd maximaal te draaien. Dus de klant vraagt wat doet een systeem gemiddeld in een ziekenhuis. Vanuit de fabriek kunnen ze niet zeggen ongeveer zoveel. Dit is een voorbeeld van vragen die wij op ons afkrijgen die wij niet direct kunnen beantwoorden.

In deze fase is tijd ook een issue, op een offerte aanvraag staat vaak en dan willen wij onze informatie het kan wel zijn dat als ik het heel druk heb met projecten dat ik even geen tijd heb om ook zo een offerte aanvraag te doen. Dus in deze fase is beschikbaarheid van de project

manager ook een struikelblok. Ideaal zou zijn dat je iemand daarvoor heb zitten intern die daarvoor opgesteld is die voor het hele land al die vragen kan beantwoorden.

### ***Step#3: Sales Handover***

Hier is de informatie overdracht, vaak wordt er een offerte gestuurd dan wordt een opdracht gegeven en dan komt er een orderbevestiging vanuit Philips en daarin staat nou we keuren de laatste offerte en dat is de configuratie en dat staat in de order bevestiging niet concreet wat er eigenlijk nou gekocht is. En dan is het voor de project manager een enorme speurtocht om nou exact de afspraken die gemaakt zijn boven water te halen. Ik ga naar de Account Manager ik ga alle offertes nalezen, ik ga uitpuzzelen wat nou eigenlijk is afgesproken en soms moet je ook nog bij een modality specialist van die bepaalde modaliteit, dus je moet vragen gaan stellen om te achterhalen van wat hebben we uiteindelijk afgesproken met deze klant. Het zou mooi zijn als er hier een schakel inkomt tot wij een project kunnen accepteren. Het zou mooi kunnen zijn dat wij als project manager zouden kunnen zeggen dit project accepteren we niet want het informatie is niet compleet. Het zou mooi zijn als een v/d KPI's van een account manager de compleetheid van de informatie zou zijn. Ik merk vaak dat de Order Data Sheets heel vaak leeg zijn, alleen die wordt op deze moment niet zo ingevuld dat alle informatie daarin zit.

### ***Step#4: Project Planning***

De beschikbaarheid van de site tekeningen zouden sneller mogen dat zou een hele vooruitgang kunnen zijn, maar op zich gaat het redelijk.

### ***Step#5: Site Preparation***

De site preparation word verzorgd door het ziekenhuis zelf, het ziekenhuis heeft een eigen technische afdeling die tevens project managers zijn van het project. Dat betekent dat wij in deze fase de rol hebben om informatie aan te dragen. Dat betekent dat wij een goeie site planning moeten afgeven waarin alle randvoorwaarden staan beschreven waaraan een kamer aan moet voldoen. En de kwaliteit van die site planning is op dit moment heel erg laag. Er staat gewoon weg heel veel fouten in op dit moment. Als wij Site planningen van de BC krijgen dan staat het vol met fouten. Daar valt nog een hele grootte slag te maken. Maatvoering verkeerd, dingen die ontbreken, bijvoorbeeld er staat in de legenda item 4.4 en dan ga je in de tekening kijken en dan zie je nergens 4.4 of net andersom, allemaal van die slordigheden die eigenlijk Philips onwaardig zijn. Het gebeurt regelmatig. Het zou een enorme verbetering zijn als wij met kwaliteit de klant zouden kunnen benaderen.

### ***Step#6: Distribution***

Het gebeurt Wels' bij third party items dat bij een levering 3, 4 verschillende wagens komen om spulletjes te leveren dat is wel slordig het staat niet echt efficiënt voor een klant die dat allemaal ziet gebeuren is dat niet de beste manier om spullen te brengen. Probeer ik zoveel mogelijk te combineren maar dat heb je niet altijd in handen. Sommige dingen worden door service besteld via het service kanaal die komen dan via Roermond, sommige spullen liggen in Eindhoven, en komen via Eindhoven, en sommigen vanuit de fabriek. Je hebt allerlei kanalen waaruit wij spullen bestellen en die leveren allemaal via die kanalen. Service items die worden nou eenmaal rechtstreeks en wij mogen niet veel meer op voorraad leggen.

### ***Step#7: Installation***

Vroeger kregen wij vrij uitgebreide rapporten van de installers waarin alles netjes beschreven stond, tegenwoordig krijgen wij alleen maar lijstjes met vinkjes en er staan heel weinig waardes in het rapport het is wat summierder geworden en zal misschien voldoen aan de norm, maar het is niet re presentabel naar een klant, van ja wij hebben alles gedaan want overal staat een vinkje.

Een klant wil zien de getalen die daarbij horen die wil een gedegen rapport zien. Soms er een discussie met de klant dit is niet genoeg informatie en soms moet ik terug naar de technicus van kan je me niet meer informatie geven. Het zou fijn zijn als we een gedegen rapportage van de installatie zouden krijgen.

#### ***Step#8: Application Training***

No difficulties

#### ***Step#9: Customer Handover***

Het is heel belangrijk om van te voren te weten wat je exacte scope is van het project. Als ik bij het handover geen document heb waarin staat beschreven dit hebben jullie gekocht dan kan ik ook niet zeggen van dit hebben jullie gekocht en dit hebben wij geïnstalleerd en dat komt overeen. Dus het gebrek bij het start van het project kom je hier vaak tegen. Dus het is heel belangrijk dat wij aan de ingang goed hebben vastgelegd waar die klant nou recht op heeft en als je die informatie makkelijk kan overleggen, dus als ik een goede configuratie bevestiging heb en een goed rapportage van de technicus hoe die configuratie performed met die 2 documenten kan ik heel eenvoudig bij de klant een hand tekening krijgen, en die informatie ontbreekt Wels'. Het beste zou zijn als ik een document kan overdragen waarin staat van nou dit hebben jullie gekocht dit heb ik gerealiseerd dat match. Dat is heel moeilijk want hetgene wat wij op de pakbon hebben staan bijvoorbeeld daar staat een heel andere beschrijving en codes dan in het configuratie bevestiging dus die 2 matchen ook al niet. Het zou een enorme versimpeling van de handover zijn als de configuratie bevestiging zou matchen met het handover formulier.

#### ***Step#10: Project Closure & Step#11: Monitoring Control***

Het omgaan met missing items zou anders moeten, dingen die geconstateerd zijn tijdens de installatie of applicatie training elke maand wordt je dan geconfronteerd met problemen die je in dat project niet hebt kunnen oplossen, maar die je nu ook niet kan oplossen maar die heb je eigenlijk niet in je handen waarmee je iets kan doen, daar zou iets meegedaan moeten worden misschien afdragen aan een service afdeling of wat dat die het in de gaten houdt of die spoel inlegt als een nieuwe project.

## **Interview No.6 Country: GE**

#### ***Step #1&2: Pre-Sales Support & Quote Preparation***

No difficulties

#### ***Step#3: Sales Handover***

It is not always clear what is offered to the customer, what is agreed with the customer especially what is mentioned between the lines, for example the account manager agreed with the customer that we could change the customers CT in a weekend. But it was not mentioned in our Internal Project Check list. What are the agreement with the customer about the networking, how our system communicates to the newt wok, how the devices which are connected to the network. For example, a PAX or things like that, or additional devices from 3 party. And sometime you need additional software or licences on this third party equipment or even Philips needs additional software/hardware for this communication, this is not communicated

correctly. It is not discussed what communication will happen between the devices. My opinion is that when you fill out the internal checklist you have to add a diagram about the networking.

#### ***Step#4: Project Planning***

A big issue is the site layout is always a problem, I would say the quality for the German market is not that what the Germans expect. I would say not all the information the customer needs are on the pages where they should be. It is always a problem you have 2 documents, on one hand you have the drawings on the other hand you have the text. You have to have the important information on the drawing and they should be arranged in a way so that the planning guys has your input on one page and not on all 12 pages of the drawing. For example I had a request for a CT. I asked the guy from the CFC drawing office to add detail of the concrete floor, the lay out underneath the CT from this concrete floor. I asked the guys to add a detail that has all measurements in it, how big this feature should be. They added it, and I asked a second time for another update, and then they deleted these detail it cost me a lot of time to get it back in the drawing. It is also a problem that nobody checks the drawings before they are send out to the customer or the project manager. What I expect from the drawing office is that they include everything the customer ordered from Philips. It has to have on the drawing if it is hardware and that is difficult. They only draw Philips equipment, but they don't have a look on third party equipment. What I would expect is that the guy from the drawing office would contact the supplier of the third party equipment and ask them for installation details for symbols for the drawings that they can implement that equipment in our drawings. Everything in the order sheet that looks like equipment should be added to the drawings.

#### ***Step#5: Site Preparation***

If you have a doctor it is more difficult, because they expect that Philips will do the whole organization of the site preparation for them, and that is not our provision. So at that time the account manager should discuss with the customer that we can do it but we have to outsource the work outside of Philips to an architect or something like that. We can do this but it costs money. If there is a need for this, sales should sell the customer this activity. Were you always have trouble is with the clima and the cooling water.

#### ***Step#6: Distribution***

We try to reduce our installation time, but it makes no sense to reduce this time if the delivery is not complete. I-XR forgot to deliver a fixing ring with a bolt for fixing the monitor in the monitor ceiling suspension. I complained this case by refurbished and they agreed that they would send it to me so that it would arrive the next day 12 o' clock and it arrived 2 days later than was agreed.

They forgot it, it was nowhere mentioned. A big issue with third part is the equipment rack from Ohndall, but it is not the problem from Ohndall, because if I have a direct delivery from Ohndall it works well. But if we ship, deliver this equipment rack via Philips, it costs a lot of money because we have to change the power plugs and we have to do this with Ohndall, this change on this equipment rack cost always the money of the market. I would say my last project the cost was around 5000 Euros. You need other plugs and Ohndall has to come to the customer and if you have to change the gas plug that is always expensive. There is no need, because if Philips orders the equipment rack correctly, you can ask the layout of this equipment rack by the customer. Or you ask the customer how we should configure this equipment rack, Ohndall will do this and it costs no extra money. Another point with this equipment rack is that Philips ships a pre- installation kit for this equipment rack, but it is not complete. There are 2 plates delivered and on the second plate you need the gas connection plugs and this part is not part of the delivery set. You have to call Ohndall that they have to ship this separately to the customer. And you get these plugs with normal shipment but when you get these plugs, you don't need it, you

need it earlier, and you need it for the pre- installation. But this pre - delivery set has to be changed and the gas plugs have to be added.

### ***Step#7: Installation***

All what is missing in our installation drawings will appear in the handover to the installer. When he starts with his work he will recognise how bad it is. If you have short installation time, everything that was forgotten in the factory pops-up and has to be solved urgently. You also see the misunderstanding between the account manager and the customer, but also if the customer has difficulties understanding our installation drawings.

### ***Step#8: Application Training***

It will also appear, during application training. From a customer point of view you have to understand what Philips shows with its installation drawings or what we show on our drawings has to be understood by the customer. You not always have guys that cannot imagine what is displayed on these drawings, because you have 2 dimensional (2D) drawings and you have to imagine what this means in 3D and will this mean for your application, and that is not always clear.

### ***Step#9: Customer Handover***

It's the same as I mentioned with application training, is there are differences between our order and the agreement with the customer or what the account manager agreed with the customer, second problem is that Philips always or that is the point in Germany, Philips always wants the handover as early as it is possible. The problem is that the customer will check what he bought and then he will sign, normally very quickly. But if you have to sign a document without checking the system and the software, that is always difficult. If you do the handover after application training, in Germany we try to get the sign before application training and that is difficult. You will always get remarks on your handover if something is delivered later. It is also a problem, it costs us money and you have difficulties when you do the handover.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Closing missing items is a problem because if you add to this point also all the misunderstanding between the customer and Philips during the account it can take a long time till you can close this point. For me it is sometime a challenge, but maybe I have to have more practice. You have to imagine, if you do this via the internet the connection sometimes breaks down, than you start from the first step, but it is not always a problem with DMS, it is also a problem for example with the software where we save our drawings.

## **Interview No.7    Country: SE**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

We are usually helping sales to answer a lot of questions from the customer side and those questions can be sometimes rather tricky and it might be difficult for us to know who can support us from the factory. Sometimes questions come up that are not covered by the PRD and then we do not know who we should talk to. Our normal contact is via site planning they do the drawings.



I think that this is something we need a kind of helpdesk where we can send our questions to get correct answers. It should be like a general project management helpdesk, this is important when we as project managers are working more and more in the quotation phase.

### ***Step#3: Sales Handover***

Sometimes it can be difficult for the sales man and the project manager to find time when they can sit down and do this job and to get all the documents filled out properly by sales they tend to leave things out and that could cause problems later on. The sales accountant manager needs to prepare this meeting better than they do today, they come more or less empty handed to the meeting and they haven't filled out the documents and that could be a tricky thing for us to pick up the order when we do not get all their information, this has always been a problem and it still is.

### ***Step#4: Project Planning***

We could be better with drawings like making three dimensional (3D) drawings and having better possibilities to make changes in drawings in a more real time environment. Let's say a I get a drawing from site planning, I go to the customer we sit down and look at the drawing and we would like to be able to change position of different things on the drawing, like moving cabinets, moving stands etc. That is not possible in the tools we have today, we are more or less fixing this on our own here.

In Sweden we have managed to find a way to manipulate the acrobat files, but 3D drawings I think we are lagging behind when it comes to an efficient way of handling drawings. We have a drawing than we have to make changes and send it to the site planning and they take one week to make the change, this is simply too much time. We need to speed this up it has to be done in real time more or less. Why can't we use modern tools when we are making drawings?

### ***Step#5: Site Preparation***

The site is not always ready when we start our installation and there are always some things that are not ready. We have done the building works in a few cases, but, it is difficult to, I think there are some constraints on the customer site to enable that type of job to be given to the supplier of the system. There are some bureaucratic things like who has the right to do building work in a hospital and who you can let into a hospital.

### ***Step#6: Distribution***

We usually don't get a packing list, when I look in the clarity system, I cannot see a list of the items we have ordered with a 12NC and that is not the case we can get a packing list from Clarity, but that doesn't show the ordered configuration it shows the packages. Sometimes I would like to check is this specific table mounted x-ray shield is it really included in the customer order as the factory has it. I can see the order that sales is sending to the CFC, and that it has been inserted in the system, but then I can't track it. I can't see it in Clarity. If we get a new supplier it takes long time for the vendor creation that can take up 2 to 3 weeks. And that could be critical as time passes and we are not able to order in time because we are waiting for vendor creation. When we come to the physical delivery I would say, when a system is always delivered on time in a separate truck that is always correct, but when we have delivery of smaller items they sometime disappear simply. They would have than be delivered to the wrong department in the hospital or they turn up a day later than asked for, this is especially for bigger hospitals.

### ***Step#7: Installation***

It is difficult to keep the budget when it comes to installation hours, they always over run it. We have one engineer from the locale organization that is also installing and he has difficulty in keeping the budget. It is difficult to figure out exactly what he does. If we book 100 hours for the local service engineer to be present during an installation for several weeks it might turn up with 130 hours. We have difficulties to get that under control

### ***Step#8: Application Training***

There could be more training plans issued, for example we give them 3 days of application training, but we don't specify what the content would be, maybe we could offer them more type of trainings. If they buy a complicated MR system they need to get training several times during the life time of the equipment when they upgrade it etc. So we have a potential her that we are not using. We could sell them training contracts were they can have a number of trainings each year we could earn a lot of money and it could be good for us in general

### ***Step#9: Customer Handover***

No Specific things

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Sometimes you forget to upload the papers in DMS, because you are busy with a new project.

## **Interview No.8    Country: GE**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

It is difficult to know which building works we have additional to do. The account manager will give a quote or he needs the figures for building works or site preparation and often our site preparation is in our order so it is not easy to find the right figures that are necessary to calculate our quote. Often we encounter a building that we don't necessarily know exactly and so we have to calculate building works for example the ceiling construction or something like this. We have to fix a right price, but do not have the right basics. Our problem is that such a calculation should not cost money and the easiest way would be if I had an architect and could tell him ok calculate the site preparation which is necessary, but the problem is an architect costs money. And so we have a situation were often we had to find a price, which is not so sure. Another situation is that I do not always know what the account manager wants to sell.

### ***Step#3: Sales Handover***

The difficulty for my colleagues Project Managers is that they are not involved earlier in the project. Often my colleagues and the account manager meet after the customer has given the order.

### ***Step#4: Project Planning***

I do not have many difficulties in this phase.

### ***Step#5: Site Preparation***

Site preparation, is the most difficult thing during our process, because we have no influence over the architect as it is mostly an architect organized by the customer and we really do not have no influence on this architecture. I have a project were I had to postpone the start of the installation 5 times because the preparation is not finished. This is our main problem that we have, we have the difficulty that we have to tell our organization when to deliver the equipment, but it is really difficult to say 6 or 7 weeks before this site would be ready in 6 weeks, because I get the information from the customer that it will be ready but often it is not so and it is shifting. If we had also the responsibility to do the building works than it is easier to control, but in most cases our customers are responsible for it but not us. Our process in preparation takes too long time. Mostly I get the order for the equipment not for the building works, building works is in the most cases not part of our order, I have no possibilities to tell the customer you have to do it this way, this way, and he is on his own to do it as he likes it.

### ***Step#6: Distribution***

During the frozen period it can also happen that the site is not finished, so I have to change the SID again. Third party items are the main problem in this process. We should collect all the articles with one rigging company and bring the first day all these articles to the customer. In the way we do it is not good because we deliver articles in advance, maybe one or two weeks before and I have to look around the hospital in which room I can find these article and often I don't find it. This is the way that does not work properly. It has not only to do with third party, but the whole organization which is not good, all the third party articles we have are delivered by different companies and they ask me where can I meet you at the hospital maybe I was at that hospital one week before. We should collect all articles with the shipping company that transfer the main system and bring all the articles on one day to the customer site. We had now some weeks ago an installation parallel with Siemens and I could see that they do it in this way. They have all third party articles coming with company and bring it into customer site.

### ***Step#7: Installation***

No issues here

### ***Step#8: Application Training***

Works good

### ***Step#9: Customer Handover***

This part is not so easy, our biggest problem is our paper we have a handover form ubergabe this kind of paper is terrible. It has really low quality and no one knows exactly what is written on it. It is a combination of German and English and it is not exactly like the auftrag bestedigung. It should be exactly the same paper as the auftrag Bestedigung. The quality is really bad, articles are forgotten, articles are too much, articles are in the wrong order, and the wrong way and it is the worst process we have. The CFC creates this paper, the CFC sends me this Ubername and we are years from improving it. The quality is continuously bad. The process itself is not so easy because some customers are really critical and they want that I show every article, but some articles are only software.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

No issues here

## Interview No.9 Country: UK & IE

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

There is a tendency in the UK that if we have drawings that we tend to request someone in the UK to do the drawing. I don't know how it is now but previously I think they had sort of fast changeover of people in Site planning. So the level of expertise has not always been as good as in the UK.

Simply because the people in the UK have been doing this, 10 to 15 years or more, so there are some concerns about the level. I think it obviously depends who the site planner is and what particular project it concerns. I am cautious when I get a drawing, which has been produced by the CFC. It is essentially some issues concerning the layout, it concerns the tendency because it is in the sales stage maybe with the proposal drawing to show something that is actually not really that practical, particularly with the MRI modality where there is a lot of equipment needed in the technical room. I had comments back saying this layout is less than our minimum recommended.

### ***Step#3: Sales Handover***

One of the biggest challenges we have at this moment is try to understand what is exactly required on the project, which is beyond the project sheet. Whole mass sometimes of cables brackets relays various fittings and fixtures, which don't come with the system and have to be procured at local level, that systems are more and more complex. What we try to do, is have a meeting with the account manager, with the engineers to try to establish upfront what is required. I am not sure why we need to do that because a lot of these parts are common parts, which are been ordered over and over again, and you would like to think for now that people understood that these parts are necessary on every project and they are delivered. But that does not seem to be the case.

The sales handover process is a bit hit and miss I would say in the UK, sometimes we have properly any handover at all

### ***Step#4: Project Planning***

Getting information from the customer when we are not responsible for the building works that is the main challenge. What is more difficult is to get a local engineer to support the installation

### ***Step#5: Site Preparation***

The main difficulty is that the building works are often not finished until the day before delivery.

### ***Step#6: Distribution***

Third party not so good, We had a system delivered last March and third party did not arrive till December that is an exception, but never the last there seems to be a lot of items these days that seems to be on back order with third suppliers, and I think some of that has to do with risk assessments that has to be done and the are some discussions done to whether it should be necessary, why are we using an alternative supplier, any way we are quite happy with the one we have got. So what I found if they deliver a system and I say where is this item and they say, oh we haven't placed they order for that yet and nobody tell you this until you start asking questions, that is quiet a big issue and it is taking a lot of my time. It isn't just being ordered in time and when it is ordered I don't think they do necessarily do any progress chasing. Because the people in the Business Centre are not Customer facing, I think they sometime don't have the same degree of urgency or don't appreciate the urgency that is required. I get emails back saying no we won't be able to deliver for 3 weeks, sorry for the inconvenience. If I was to go to the

customer and say sorry for the inconvenience, they might march me out the door. It is more than inconvenience. It is stopping them from scanning patients' essentially.

### ***Step#7: Installation***

The process is fine, I think it's the details that let us down, it has nothing to do with the process.

### ***Step#8: Application Training***

A concern that we have in the UK is that we don't have many application specialists and if a project moves out than it is quite difficult to rebook the applications trainer. There is not a lot of flexibility. We can have people come over, but there is certain reluctance to do that, I think maybe it has to do with the costs.

### ***Step#9: Customer Handover***

In general in the UK we say, if you don't sign the acceptance document, than we don't do the application training that is the theory it does not always works with them. It has to do with the transfer of risk to the customer. You have to question whether that risk is really. Sometimes it is quite difficult because the customer will say you haven't done this, you haven't done that. There was something on the system acceptance form there was asked if we could change when we had a recent meeting over customer handover procedures. I was told that it would take too long, to get it sorted out, it is a controlled document. They were looking for somewhat to put information and that seem the good place to put it.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Maintaining clarity and DMS that is always a challenge because there is just no time to do it. Really, it is a time management issue again.

## **Interview No.10 Country: UK & IE**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

Due to lack of constructional or infrastructural data from the customer themselves, not getting drawings out of them, getting them to give us information on services, medical cases, stiffs like that. Then these are the challenges at the Quote preparation stage. Because customer is not committed to business with Philips and so they generally aren't too positive about to do any work themselves.

The only challenge that we face here is, at this stage there is no, often not always any significant commitment from the customer. So drawings and information to prepare things like site plan, the risk assessment and site technical assessment, these are the challenges that you have to use your experience to make good judgment on what you might face if you went ahead with this project.

### ***Step#3: Sales Handover***

Two major issues on this one, the time it takes in order to get the order accepted. From the time the customer places an order with us, the customer than wants answers from Philips. We have given you an order give us a plan there is often up to 10 days before the system is fully registered with the factory and we have a confirmed delivery schedule to go back to the customer. So the time scale here is the issue. I am under pressure from the customer from the

minute the customer has handed the order over they want to know when can we start how long will it take when will the equipment come and so on and so on. We can't tell them anything for a minimum of 5 or 6 working days, sometimes even longer, because of internal process between the key market, the Business Centre and Factory. The factory will not give us a confirmed delivery date until they have a clean production order on their system. They can't put a clean order on the system until they receive the necessary clean information from the business centre, and it seems to take the Business Centre forever. It seems to take them forever to get a clean order between them and the account manager, or the sale specialist. Whoever generate the final Quotation, so we have this process that the Customer Centre is ordering against the quotation, but for some reason that is never been fully exploited is why they don't match. Surely the Customer Centre is raising a purchase order against a valid quotation but no it seems that we do things round the wrong way. We give the customer a quotation, the customer says right I am gone go with Philips than this chat about take that out add this in. We seem always to be a week behind in getting the final quotation. Even the customer knows what they want. Maybe the account manager doesn't know, maybe the sales specialist doesn't know and between them is this gap and that means that there is at least a week if not longer between when I can be certain of exactly what we have sold the customer and there is a couple of days more on that before the factory get the order processed and give me a confirmed delivery point. It is the length between the customer placing the order and the factory receiving the order.

#### ***Step#4: Project Planning***

The big issue is the resource planning here in the UK & IE. It's to do with applications. We cannot expect the customer to put the system out of action for us to replace it and then have to wait 3 weeks for application before they can use it. But that is how resource planning is for us today, we have so few application resources, that the first thing we have to do is we have to ask once we have a delivery date from the factory, the next thing we have to do is find out when the application slots are available and then we work backwards from that, because if everything else is in our control. We can control what day the factory delivers, what day field service engineers are required for all these things can be managed by the project manager, what the project manager can't managed is the availability of applications, and so we have to start even though we have a delivery date, that is basically what we consider to be the earliest delivery date. And it could be that applications is not available for 6 weeks, the project phase is only 3 weeks so we have to go than back to factory, we actually don't want it until 3 weeks later because we can't get applications. So that is our challenge. Application resource planning dictates project planning and that is not correct, and that should never be correct. We are told there is a pool of application resources in the EMEA region, but you try getting one we have just been through this problem with an hospital in the Northern Ireland were applications for the systems were not available and that's really created major customer challenges for us. There is two reasons why resources from another key market is a problem, when you ask there never seems to be anybody available and the other questions is internally in UK & Ireland the margins on projects are quite small so the BIU manager in the key market don't want to waste margin by having to pay other countries for application support. So there are two issues one is the cost of external applications and the other is availability of external applications. It just dictates our project, so if there are any slippages in a project you can lose application for up to a month.

It creates an amount of work for the account manager and me.

#### ***Step#5: Site Preparation***

When an external builder, outside of our control, does the building you can have problem with all of that. Our building contractor knows exactly what to do and how to do it. But an external builder they think they understand, they believe they know what they are doing and they think they don't do anything wrong, so every site readiness check you do say hang on a minute, that is not right that is not what our drawing says, our drawing says this. Oh yes so it does, but we are

used to doing it that way. Briefly Turn Key no problems, external builders can have problems, in them understanding what they are doing.

### ***Step#6: Distribution***

Third party shipment can be a problem, because often they come direct to the site via another warehouse, delivered by couriers who don't know where they have to go. We would far rather see something like the process used by the PCCI people in that they assemble everything together in one place and then ship it out in one unit. On a delivery day you can have a minimum of 2 carriers coming, why do we not have the third party stuff send to the final mile provider and then it all comes in one. It is a mess because the main thing is it is random. We don't have a central shipping process with the final mile provider.

### ***Step#7: Installation***

At the end of the day, it is down to the quality of the person, the experience of the installer it seems that Hamburg has put costs ahead of quality.

### ***Step#8: Application Training***

See step 4

### ***Step#9: Customer Handover***

Customers have a very different view and sometimes you have to explain to them what the handover is. We give them a document that explains what the handover is.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

There is an installation phase and the closure phase around what I would call missing items or wrong items or defective items, and that is because we have commercial items and service items and my view is very simple if something is wrong if something is missing or something doesn't work there should be only one process for getting it corrected. But a missing item has to go through commercial viper, DOA has to go through a commercial viper and wrong item has to go through an additional wrong items process and generally speaking the fastest way to get anything is through service, but the processes don't always allow you to do that. We shouldn't have more than one escalation process for anything that's wrong. Either wrong item, missing items, defective items, or items that should have been ordered but weren't. There should be one process for all of those items managed by one group of people instead of whom they are managed by a lot of people and different channels. Let's not forget there is a customer at the end of this chain that is expecting the system in 4 days' time. Let's get just one process for getting it sorted. Everything is in DMS and it is shit. Several things are wrong with it. One is that it's internal to VPN, which means we can't access it from general internet. Project managers are not office based and not having the availability of good connection facilities and the product itself requires too many click and forwards and to upload documents, uploading documents take a long time to upload. We are being told that more and more of this documentations our responsibility to make sure it's DMS, and we are probably the worst people to be able to get into DMS on a regular basis and update it. Its location and available time, It takes a long time to upload documents because you have to go into folder out of folders there is no one clicks to get you into the drag and drop process. When it comes to DMS I have to devote a day, when I should be in front of the customer. Every couple of weeks I have to take a day out when I should be out there managing projects talking to customers. It is a project product issue couple to a logistics issue. DMS is not set up to work well for project managers. I coined a phrase 30 years ago that is still valid today. We succeed despite our internal processes how much better could we be if we

had an internal process that didn't get in the way of the job. We have not talked about a single thing that causes me problem with customers, not one item on that whole list of process steps you have gone through is based on a problem with a customer. One is a problem with external builders and the rest have to do with internal systems.

## **Interview No.11 Country: SE**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

One thing could be is that maybe the customer has not given us all information needed in order to make an assessment. It could happen that maybe we cannot get the full technical documentation that we would need from the customer in this early stage in order to make an assessment.

It is also the time limitation that can be a challenge, if we have public tender, from the moment we get the request for tender document we have a certain number of days until we should provide and send and complete quotation from Philips, which than should include any subcontractors quotation to Philips For some customer specially private customers, meaning it's not public tender the time limitation is one.

### ***Step#3: Sales Handover***

It could sometimes happen that we within supply chain or project management maybe are not given the full picture, what we have sold and to what terms we have sold something.

It is maybe that it was forgotten. Sometime from the sales department some information that are not handed over while we have this internal screening meetings as we normally have, and maybe later in the project this pops up that we have promised something that has not been discussed internally and that we were not aware of. It is not on paper I would say, I mean the valid documentation is of course the Philips quotation is the first step and then the undersigned contract with the customer. It happens that maybe some items were simply forgotten, they should have been in the order configuration, because they are offered and sold to the customer, but they are not part of the internal order configuration, which means that these items were not budgeted or they have not been ordered in the factories.

### ***Step#4: Project Planning***

The customers sometimes have delays on their site, we have had a kind of sign-off with lay out and interfacing and they are now on their side preparing the building, they are doing the construction work to prepare the side so that we can deliver and install the system on the agreed date.

But what happens sometime is, which is a challenge, is the site readiness, the hospitals contractors are not always ready with their work. They have delays on their side and that means in practice we are still delivering the system but the contractors crew are still in the hospital and we don't have the full 100% access to the room as was agreed. Nor Philips or the x-ray department (the buying department in the hospital) has any contractual agreements with the contractors that are done completely by the internal facility management department and that is not always working perfect. There are delays and delays are causing problems for us because it means that we cannot perform the installation as effective as we could do. This sometimes means extra costs for us. One other challenge, which is our own internal resource planning, especially if you have a delay in a project it is even more challenging, but means of course that we must always make sure that we have resources, I mean that we can deliver the systems and have training resources available.

If there are any changes in the project plan than the resource planning is always a challenge.



#### ***Step#5: Site Preparation***

The problem here is that work is delayed or not well completed in time. (See also project planning)

#### ***Step#6: Distribution***

Some third party suppliers are not always delivering the products we have purchased on the date specified. They are sometimes delivering their products earlier than we have requested. Sometimes it happens that some third party deliveries have been delivered maybe one or 2 weeks earlier and for a reason cannot always be found easily. They are somewhere in the hospital, but not where they are expected to be.

#### ***Step#7: Installation***

The main challenge here is to make sure that our installation is completed and that everything is working properly.

#### ***Step#8: Application Training***

The main challenge here when it comes to training is, we have a combination of our own employed application specialist, but we are also having a number of let say consultants they are working maybe 50% for a hospital and the other 50% they are working as an application specialist for Philips. These consultants are not always available so we're lacking resources here simply. So resource themselves are the main challenges here.

#### ***Step#9: Customer Handover***

In general this works fine.

#### ***Step#10: Project Closure & Step#11: Monitoring Control***

We have, have not a full financial picture of how our project went in real time. Most of the costs of how my project went, I can see it after the project is finished at the end. The challenge is to follow the costs during the projects, as they are booked.

There is no good follow up, I mean if I had 4 CT's projects and we have found similar problems with the CT system itself and they were listed up as reported problem in our project evaluation report, I will then send it internally to the people involved with CT. But we have not archived all these reports that related to certain problem on one place. They are spread out at a number of local persons here. I mean we don't have a database where we have all the project reviews so we easily can check all CT or MR projects so that we can see if the same problems have been reported from a number of different projects, I think that is an improvement area.

## Interview No.12 Country: UK & IE

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

The difficulty encounter is trying getting out specific scope from the customer. Specific information about what they want to do can be a bit of a problem sometimes. Time scale can be a bit of an issue, because everything's need to happen quite quickly. Some of the requests coming in want the information back within 2 weeks. If it is the system only, it really doesn't impact me that much. In the pre-sales bit, it really doesn't impact me when it is only when it is Turnkey that I get involved heavily.

In an ideal case I would need 3 weeks, but some are coming in and they want to meet into one week 2 weeks.

### ***Step#3: Sales Handover***

Lack of information is a big thing, the information on the project sheet wasn't clear and it was contradictory, wrong stuff had been ordered. It was not clear what the sales guys were selling. The project sheet is not very clear in what it states so I had to ring people to find out what has been exactly offered. Sometimes I am going in seeing the customer and they are like, well I have ordered things didn't you know about that, why don't you know about that. So it puts me in an acquired position with customers if I haven't got all the information. A lot of it is the account manager putting the wrong stuff on sometimes, but again in my personal experience the project sheet is a little bit technical to understand should we say it's all catalogue stuff.

### ***Step#4: Project Planning***

The Site layouts are done before. It goes back to that lack of information. So you put down a system and you have to get it sign off, it turns out that it is the wrong system, because it's changed in between the initial inquiry and then to the point off, ok we have to get it signed-off. I am still going with that plan. So I go to the client, can you sign off, well actually that is not what I agreed, I want it like this. I want the right hand system instead of a left-hander and I wanted the cabinets there instead of there. That is again a breakdown in communication between the account manager and the Project manager, because I am going in with a plan that I think has been discussed because that was what was initially proposed and there has been changes made to that and I have not been made aware of them. As soon as the account managers have got their orders in they are not interested after that. In terms of the CFC sometimes getting orders can be a bit difficult. For example I send in 2 quotes for orders to be raised, I had to chase for them and then there was on one send and the second one wasn't send So I had to chase that one again.

### ***Step#5: Site Preparation***

The builders, you provide them with information, where you go in and it's not to the guidelines and it is frustrating, than you have to come back and do more disruptive works to the hospital and stuff like that. Despite us providing the information stuff is not ready as agreed.

### ***Step#6: Distribution***

Clear communication between CFC, factory and Project Managers.

### ***Step#7: Installation***

Getting the handover documents

### ***Step#8: Application Training***

I have had no issues with applications so far

### ***Step#9: Customer Handover***

No issues here

### ***Step#10: Project Closure & Step#11: Monitoring Control***

DMS is quite difficult, it is not an easy system to work with, because you have to be connected to the VPN, sometimes loading documents can be difficult. It is not an efficient system.

## **Interview No.13 Country: FR**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

Some time we have only two weeks to all these sub activities shown on the right (referencing the PowerPoint presentation) The project is identified by the sales team and we have every two weeks a meeting with all the Project Managers and account managers in Paris, but sometimes the information is not given, so we are obliged to do it in a rush. For example the project identified is sleeping during six months, two months, 3 months after we have to go in a rush because it is not a public quotation it's a private quotation.

### ***Step#3: Sales Handover***

Sometime the order is not completely finished, In Cardio Vascular we have many things that we buy from sub-contractors and during the project the doctors want to change the product. So it takes a lot of time to have a closed order. Very good information is needed from the customer and a very nice configuration of what has been sold, very good help from the modalities, and from MR it is useless

### ***Step#4: Project Planning***

We don't have the real planning of the customer, because of the civil works, or because they want to do the civil works by them self, so we are not able to plan the delivery time and the CAD. In our organization it is important, but for the project manager it is the main difficulty to say to our organization, ok we can have the CAD at these dates. But we don't have any visibility for the planning of the project. That is why they prefer to give us all the civil works and they don't want to do the civil works as it takes to long for them. We prefer that they give us all the responsibility of the project. There are a lot of Turn Key projects.

### ***Step#5: Site Preparation***

It is most of the time a problem of time. It is like games of poker, you go to the customer, ok you are not ready I don't deliver and then he calls all his subcontractors and who is ready.

### ***Step#6: Distribution***

The frozen period is difficult to control due to the building works. Receiving third party shipments is a very difficult thing, sometimes the orders are not placed, if the Business centre is able to place the order it must have all the information from the account manager or sales support.

### ***Step#7: Installation***

It is very difficult now in I-XR systems for all others no problem. We have more and more external equipment so we have to have meetings with the sub-contractor to know which cables they have to install. It is a general problem because lot of the time the customer doesn't know if their team is able for this phase, it is a very difficult step.

### ***Step#8: Application Training***

See project planning phase

### ***Step#9: Customer Handover***

There is a lot of equipment needed by the customer, if the project is not well prepared before the customer has always little detail that they can't accept. It is not for the complete installation, it is a little detail.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Never done a project review

## **Interview No.14 Country: GE**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

The communication with the account manager will become more formal with the release of ORCA Press.

### ***Step#3: Sales Handover***

If the account manager qualifies the project as a minimum project with no meeting necessary or if there is meeting necessary and then it depends also on the person how much information we get. We have account managers where it works and sometimes we have the problem that we don't have all the information that I expected. With Orca press it becomes more formal so there is in my opinion a relation that the information that has to be given by the account manager has to be improved or is than improved.

### ***Step#4: Project Planning***

The biggest difficulty is that the time that is needed for an installation there is only a guide line there but I expect that the time that is needed for an installation and for the training should be more defined. So we start with the installation reference sheet and the project managers start with the sharing of their project plan so that you have one formal look if you hand out the documentation to the customer. It is now depending on the project manager if he develops a project plan with Micro Soft Projects and hand it out to the customer in which format. With the lay out we have in my opinion some issues, because the information that is given are not complete or are wrong. As an example in my last Panorama MRI project there was in the information in the site preparation specification in the German version the complete air pressure part was missing, so when we installed it with the German version of the site preparation specification the table will never move with the patient in to the magnet.

The German lay out is from the customer CFC drawing office. They send us the wrong information.

#### **Step#5: Site Preparation**

The biggest problem is in my opinion the start Frozen period, the period when we can change that the system could not be delivered is very long. There will be an improvement because of the End to End, due to the whole factory cycle for instance for an MR. So they want to shorten the frozen period, because when I have to say we have to deliver this magnet, I think it is 5 or 6 weeks in front of the delivery. When you think about the construction work of the rooms, with the last 5 weeks we have to decide ok we deliver, no one can tell that the date that I choose is 100% sure, so there we have a lot of shifts that we can handle or if we have a problem we can't handle and then we have shift with the delivery and I can't change my delivery because I have such a long Frozen period.

So I have to decide that we can deliver when the construction of the rooms is really under construction. Normally the construction is not going 100% like it was planned, because you have to shift from electro to clima, whatever. So the question is than the delivery day is everything finished or not and you can have the chance to speed up a part of the construction so your date is correct or you have to shift the delivery but the time when we have to decide that is the day we deliver is the construction of the building at the customer site in a phase where you have a big gap between the expected finishing of the rooms is possible, because we have 5 or 6 weeks for the construction and within 5 or 6 weeks. The building of the room and change of the HF cabin is, yes you can have there a very big gap. And there we can't reschedule the delivery of our equipment because of the long frozen period. I think that our competitors like Siemens, I have heard they have shorter frozen period, so they can handle this shifting of their construction better. The only thing that I have heard is that Philips starts with the Lean production project to shorten the Frozen period because they see this as a problem that Philips have with the competitors.

#### **Step#6: Distribution**

The difficulty is that we ship our third party shipment from the warehouse in Dortmund, so we order the parts from third party to the warehouse and we have to be sure that the delivery from the factory and the delivery from the warehouse Khune meet at the delivery date than with our equipment at the customer site. So in my opinion it would be good idea to say if we have a third party delivery it is on Philips stock so it is delivered from the factory as a complete system, delivered as we ordered. So included our third party equipment. The third party is sometimes shipped separate from the main equipment. So we had it in a MR project were a magnetic patient bed were ordered and this was delivered separately. It was delivered direct to the customer without an information to the project manager it was delivered by DHL, so the truck had no tail lift so we had to help the truck driver and ask in the hospital to get a possibility to transport it. When we have a third party delivery we have interface problems between Clarity and between SAP, so they miss sometimes information that we give in the clarity. So there we have an interface problem that not all the information that the project manager gives for the delivery of a part is going over all the interfaces to the warehouse or to the delivery organization, so when we have a problem when we should deliver for instance to the customer University Hospital in Bonn than it is normally the standard delivery address, but in Bonn you have I think nearly 100 buildings on the University Campus and in separate buildings we have equipment and I don't know how much money we spent for equipment that is delivered anywhere in the University Hospital in Bonn.

### ***Step#7: Installation***

The impact of changes made by the factory to the content of the deliveries, another example is Intely Space Portal, they have changed now the administrator access to an IST client software and, I am not 100% sure if they think of the complete impact to the service handling of the complete system. The impact is that you have to have an IST client PC installed in the network of the customer and that is not always allowed and it is not always allowed that the service engineer uses their lap-top on the customer network. Another example is if I have an ICAD installation part of the Mammography micro dose system in Cologne, in my opinion the service not very clear because the expectation is that system is having a connection to the internet and if the next level service is needed a company from America is going over the internet to perform the service on a Philips ICAP system. In my opinion the rule is that third party companies like in my opinion ICAD has to go over the remote services network just to be sure that the data security requirements that Philips has with the customer are met. So I don't know if, as far as I remember my data security courses they have different data security within Europe and the US, so the US company has to join the safe harbour program so that they are committed to use the European data security rules. That is in my opinion not only a question of having access to the system. This is a new situation for me because it is the first installation in Germany it is not really clear how the service is performed, because we installed the system with their technical support from Sweden and we also will do the application training with technical support from Sweden because within the German organization no one was trained on ICAD. ICAD is part of the Mammography system

### ***Step#8: Application Training***

We have an issue with the availability, because when we try to shift the delivery, the greatest problem than is to get the application training shifted.

### ***Step#9: Customer Handover***

We have there a problem that we have different naming's for the same thing in the quote, in the offer, in the acceptance document. That is in my opinion a known problem because the options or the acceptance document they offer that the customer signs has not the same naming for the options on the document. For example in the order acceptance document it is named table and in the customer acceptance document it is named patient bed. The next challenge is that we have to do the handover during the application training because I as a project manager can't show the customer every option, so the customer has to believe me. The customer has to believe me that what we should deliver is there. Only together with the application trainers who can handle the system, I am able to show the customer, these are the metrics for whatever, this is the license for something like that. We decided in Germany that the customer accept the system on the third day of the application training to be sure that the system is up and running correctly before the customer accepts it.

### ***Step#10: Project Closure & Step#11: Monitoring Control***

With DMS we have the challenge that not all their information are stored there like it should be we have seen with the last audit in Germany that we should have rechecked all the DMS protocols that should be there. We start now with the copying the documents to DMS by our self. The responsibility that the DMS documents are there is still with the order manager.

## Interview No.15 Country: DK

### **Step #1&2: Pre-Sales Support & Quote Preparation**

The only difficulty that I have is the time issue, because we have all these processes and they really take long time, because we at the same time have to collect work quotes from third parties it is quite time consuming and maybe it's more a question about resources in the local area here, because I am sitting on my own and I of course have a lot of projects. I cannot take time to do more projects.

### **Step#3: Sales Handover**

No difficulties these work very fine, I think our processes are just in line with the real world so the order configuration check-up and the sales handover is no problem at all.

### **Step#4: Project Planning**

One problem that is, we don't make statement of work normally, because all our sales are made on tenders, meaning that the tender text is the statement of work. That is giving quite some problems because sometimes, the tender text are quite complicated, a few hundred pages. And sometimes there are some misunderstandings or some texts that can be misunderstood during the sales phase in Denmark. Which means we will have some extra costs during the project implementation.

I think that if the customer wants to use the tender text somebody should be responsible to define exactly what the meaning of the text is, what is it the customer wants us to deliver exactly. An example, I am right now working on a very big tender 8 million euro's and there are something's we are going to deliver, I just discovered a quench pipe for the MR scanner, but the quench pipe price is defined on how the building looks. It is almost impossible for me to give an exact price. To full fill our processes I need to be sure that I have a realistic budget. So I need to put in a higher price, the problem could be that we will not win this tender because our price is too high. There is no problem to put in a higher price and then ok the price was only 50% everybody is happy, but maybe we don't get the project because we are too expensive. I think that maybe some practical problems here in the field that we have to deal with. Not having a statement of work is a problem. I think here in Denmark all the hospitals are public and here in Denmark it is very important for the hospital to fulfil the EU requirements, so everything has to be mentioned in details in the tender, so I think that is the problem we have. In Iceland they are not member of the EU, but they are working after the same rules more or less. They are not that strict in their way of understanding the EU laws. Think they change it like this and then they make a Tender in Denmark they say we need to fulfil all EU requirements so we better be sure to do that so we put in some extra requirements. We have to give correct prices for third party purchasing every tender and it is more or less impossible, because we have to so many third party companies and also purchasing in Holland and I have to be at hospital and I don't know for how long and it should be possible to make it correct.

### **Step#5: Site Preparation**

Not that many problems, the only problem that we sometime have is the hospital who has to make some building works, that is sometimes a problem but in general no problems. It will always more time than they had expected, meaning that we will have it delay or it is not ready when our equipment arrives.

### ***Step#6: Distribution***

During the last 2 years I think I have had 6 or 7 deliveries every year from the United States none of them have been correct not even one, either delay wrong parts or defect parts in the package one of these 3 always. It was both CT, NucMed. Not that it will help, but sometimes I get a message from the order desk in Cleveland, "your part has been delayed and will arrive one week later" and I get the message one day before the delivery should take place. But that is 2 weeks after it should have been on the boat, so I could have had the message the day after the delay was happening in the US, instead of the day before I would receive it. Some of our third party providers have quit long delivery time.

### ***Step#7: Installation***

We sometimes have some problems during the execution of the installation but, that is more that Denmark is a small country and we have 35 service engineers, so they are very often taken away from installation for one or two days due to service problems in another hospital and this of course can cause some delays in the end. But it is not every time so I would not put that as a problem.

### ***Step#8: Application Training***

We have a Nordic application team, so all our application specialists are consumed from an office in Sweden, so for Denmark Norway and Sweden we have too few application specialists. It is very hard to get an application specialist and sometimes I have to postpone an installation because I am not able to get an application specialist. The last one was an installation I had to do December and the part was delivered at the hospital but I couldn't have an application specialist until the last week of February. That is very critical, because we did not make sales recognition. We have escalated it in Nordics and hopefully something will happen in the near future. It's not the quality of the application specialist it's the amount of it.

### ***Step#9: Customer Handover***

We won't get the handover until 3 months after the application training, but we know it upfront so our system set the customer acceptance until 3 months after the application training so it's not a problem

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Sometimes we have all these missing items, it is hard for us to control and sometimes it takes years before we have a coil for MR.

## **Interview No.16 Country: GE**

### ***Step #1&2: Pre-Sales Support & Quote Preparation***

Sometimes to get the drafts from the site planning in the time as requested maybe a challenge or an issue but I think the process is very clear and the persons on the other side are very flexible.

### ***Step#3: Sales Handover***

Sometime we have to ask for additional information, when the order comes in at the end of the year, you don't have the information that you need, because there is a high-pressure to book the order. For order clearance we have not so much time. But normally I will not accept an order



without this information. Sometimes I have to ask for but it depends if you have time than it is not such a problem.

#### ***Step#4: Project Planning***

The problem is, that sometimes if you get a site package drawing, than we have very often problems with what is drawn. We have different configuration of a system for instance you have an Endura system, there are different types of generators, which means you have to draw the order. Proposal drawing is sometimes done to have a clear order before in the accounting. When account to the customer than you will need a proposal drawing after you get the order you have to update the prop sale drawing to be in line with the order. What you have sold to the customer must be shown on the drawings. Sometimes I get wrong information because the database or something else is not correct, and I get incorrect values. The drawings are faulty. We have a lot of problems. If you get a site package drawing you have I think 14 or 15 pages, I can't check every text what it is. It depends on which kind of system we have and it depends also on the person and the information that we have in the database for all of our PRD's. We have new PRD's, we have new information but they are not in the PRD's and also not visible for the drawing officer. Sometimes they don't recognise that there are new PRD's. It depends if you know you will get the drawings from one person, than you don't have to check it, and other person you have to take care about what they deliver.

#### ***Step#5: Site Preparation***

It depends if you have a new building than you have a lot off issues, but if you have an existing building than you will not have so many issues in comparison to a new building. It also depends who your partners are, it depends what knowledge they have and what resources are available. Sometimes you are not able to hurry up something sometimes you have influence and sometimes you don't have. It is always a challenge to get the site ready in time.

#### ***Step#6: Distribution***

Sometimes you have very long frozen period in relation to the site readiness, for CT for instance I have to make the delivery questioner for the frozen period starts sometimes 10 weeks before installation. It is very hard to say if you have the site ready or not, that means sometimes that the frozen period is much too long. Third party is one of the biggest issues we have, our strategy is to save costs that means we make a direct delivery to our customer, if you have an university hospital for instance than you send it with provider, you can't make a dedicated shipment were you can say at this time to that person. They only have shipment to a central address and a person I don't know who he is, will receive the package and I don't know where the shipment is, is one problem and the other problem is sometimes I was searching many hours to find out and sometimes we don't find it and you have to make an investigation via the provider find out where it is. We need a door-to-door shipment a dedicated shipment like our systems. The shipper will receive a dedicated address and the name of a dedicated person. Sometimes you have very small parts and then it is very expensive to ship it this way, you have to ship it via an ordinary provider like DHL or something else. I think the best thing would be that the factory delivers with the system the third party items. Or make a shipment from the warehouse in Dortmund, but not with an ordinary provider, but a door to door. Sometimes we save costs, but we pay lot more with investigation. Sometimes you have to do a lot of work to find out were these third part items are.

### **Step#7: Installation**

Sometimes we have issues with the handover, but it depends which installation team you have, but the process is very clear.

### **Step#8: Application Training**

The difficulties are only the resources

### **Step#9: Customer Handover**

We have an order and the customer gets, we send the customer this is your order and the customer gets a paper from us, this is the system configuration you have ordered with all items, and the customers want to have in the same way the handover document. They are different layout. There are sometimes different articles in the order as in the handover. I know this problem like 10 years, it's very old problem as with Third party items. The customer gets an offer after this he gets an order and then he gets a confirmation and the confirmation has a different layout to our handover. Sometimes you have the customer who has the order confirmation, and asking where is it listed on your handover, you have a lot of discussions

### **Step#10: Project Closure & Step#11: Monitoring Control**

If you have missing items for long time, if they are not available for more than one year or two years sometimes, it gets out of your control. Nobody will monitor them. If I handover a project, I will start with the next one that would be ideal, but sometimes I have some missing items. I have one CT project with missing items for more than two years and then it is out of your mind. That is sometimes a problem. Otherwise the customer is asking for after 2 years, you know we have an issue missing items. Sometimes the monitoring is a bit difficult. If you make a handover there is an additional sheet with the missing items and you have to monitor it. DMS is not very user friendly if you are going to the customer, It would be perfect if you had a cloud system or something else that my whole project data is in the cloud, so I have it everywhere, I have it on mine mobile, I have it on my lap top on my IPad, I have it everywhere without having a web access.

## **Interview No.17 Country: ES**

### **Step #1&2: Pre-Sales Support & Quote Preparation**

Las dificultades quizás, que hay veces que cuando nos involucran en el proyecto ya está todo hecho y nos perdemos de lo que es la parece inicial, nos involucran demasiado tarde.

Lo que hacemos es vamos al cliente con el comercial y cogemos planos, cogemos medidas y hacemos un implantación y normalmente ese implantación se la lleva el comercial posteriormente y discute con el medico etc., etc.

Lo que ocurre es que hay veces que el comercial no hacen eso, simplemente pues hablan directamente con los dibujantes, les pasan los planos y les dicen dibújame me un implantación ya. Se los dibujan y las llevan y a nosotros no nos dicen nada.

Hay veces que o nos perdemos parte de las conversaciones previas a que nos lleven al hospital a ver el cliente. Hay un parte de esa conversación con el cliente que nosotros no controlamos. No sabemos si han acordado obra, o no han acordado obra. Hay cosas que al final solamente vamos en esa previa vista a ver que es la arquitectura y poco más.

### **Step#3: Sales Handover**

El problema es que, si hemos empezado desde el principio normalmente en esta etapa se revisó todo, y normalmente hay problema. Tema es si no sabéis desde el principio cuando se acepta la venta nos encontramos pues que el comercial no ha tenido en cuenta cierto costes de obra o no ha tenido en cuenta dificultades con la entrada de los equipos con la Resonancia, incluso la implantación no es la correcta. Es que hasta que ya está muy avanzada la venta no nos involucran entonces los compromisos que han tomado el comercial con el medico pues ya pues pueden ser un problema en este fase. Cuando la obra es pagada por nos otros, nos involucran desde el minuto uno normalmente. Si la obra la paga el cliente se lleva la venta y una vez que se ha realizado la pues es entonces cuando nos dicen, it aquel cliente y orientéis de lo que hay que hacer. Todo lo que haya hablado con el cliente no los sabemos. Cuando la obra la paga el cliente el comercial quiere vender, cuando la obra lo pagamos nosotros en es fomite el comercial no se mete tanto, porque no domina. No domina realmente si puede ser o no puede ser costa que va para producir esto.

### **Step#4: Project Planning**

Las fechas de fábrica son imposibles. Es decir cuando yo empiezo a preparar el proyecto y pido a fábrica la entrega, pues normalmente nos dan fechas que no sé. Por ejemplo si un equipo es cuatro semanas es mentira, pues nos lo dan en seis semanas. Suelen salir se bastante de las fechas por lo tanto no podemos planificar. Normalmente se alarga más de lo que está establecido. Y sobre todo el problema es, aquí hacemos un planing te dan una fecha de fábrica y haces un planing, que ocurre? El riesgo donde está, cuando la obra la realiza el cliente, que es el cliente digamos es el que controla realmente la obra y el que puede meter presión los tiempos se pueden alargar, entonces llega un momento que fabrica te dice tienes que activar Z4. Y me dice Z4 a lo mejor faltando cuatro semanas o cinco semanas, cosas que no son muy lógica. Entonces dices es que aquí a cuatro semanas o cinco todavía no sé cómo va ir este hombre, no sé cómo va estar el civil works. Porque no dependen de mí no puedo hacer presión porque acaben. En obras que no controlamos nosotros que la paga el cliente, las fechas de activación de Z4 son demasiado temprano. Deberían ser más cercanos al proyecto. Los dibujos que hacen en el CFC son mal, es mucho plantía establecida, es decir, tienen la plantilla, ellos hacen el proyecto del equipo con unas plantillas, no con las plantilla, es como está muy encorsetado. Hay que jugar un poco más con. Hay veces que el mejor con una canaleta que dibujan no puede ir para ese tramo de canaleta porque es inviable porque son incluso el recorrido de cables que nos pasan caretas con recorrida de cables que no hay, con medidas de cables que no hay. Aunque todo se estandariza y son por plantilla, pero es plantilla deberían ser más flexibles. Y tú dices podemos rectificar esto "No" y tal "No" eso por un lado y por otro el tiempo. Y tampoco no tienen mucha experiencia. El tiempo, que hay veces porque cuando dibujábamos aquí nos otros conocíamos a los cliente y sabíamos cuales clientes eran más exigentes, más crítico. Tampoco les puedes decir que esto es urgente, que aquello es urgente, todo es urgente entonces ellos modulan de una forma rara las fechas. O sella nos dan unas fechas de más o menos seis para ser ahora misma un plano de un traslado de un Gamma camera me están dando fecha de semana y pico, una semana y algo. Cuando les presionas te reducen, aparte de los planos tienen demasiada información no valida. Los detalles de plano, todo los planos de obra podrían ir pasando, pero a cantidad de planos que les falta información y sobran muchísimos detalles que no son. Detalles de placas que no vienen al caso, creo que hay mucha información que no es válida y hoy otra que tiene

que ser un poquito más eficiente. Todo lo que vemos que es modificable porque está dibujado más o menos con esta la arquitectura o se cambian cosas, el cliente te cambia un canaleta por aquí un tubo por allí, todo eso lo hacemos nosotros directamente. No lo mandamos a Holanda, lo hacemos aquí localmente. Porque es mucho más rápido mucho más eficaz. Ese trabajo que hay que hacer es vital para que las obras salgan

#### ***Step#5: Site Preparation***

Cuando hacemos las obras lo tenemos todo controlado los industriales, pero cuando no hacemos nosotros las obras, nosotros no controlamos los industriales. Entonces ha veces que los informaciones no les llegan.

#### ***Step#6: Distribution***

Te llega un conductor y dices que lleguen a las seis de la tarde y se presentan a las nueve de la mañana, es como que está un poco descontrolado. En el delivery questionair decimos que tiene que llegar el lunes a las tres de la tarde y te llegan el lunes a las nueve. Llega en camión se baja y empieza a investigar que quien es el responsable y no sé qué y se cuánto. Y eso trae problemas.

#### ***Step#7: Installation***

Aquí no tenemos problemas

#### ***Step#8: Application Training***

Los entrenadores de aplicación están un poco cortos.

#### ***Step#9: Customer Handover***

Hay veces que el cliente retrasa la firma y el cliente no te firma hasta una semana después. Estamos un poco en manos del cliente ese es el riesgo y la complicación por el resto nada.

#### ***Step#10: Project Closure & Step#11: Monitoring Control***

Missing items

### **Interview No.18 Country: GE**

#### ***Step #1&2: Pre-Sales Support & Quote Preparation***

I really don't face difficulties, but sometimes it can be a problem to get drawings from the customer, which is a customer related problem, it's not an internal problem

### ***Step#3: Sales Handover***

The problem could be depending on the price we can offer to the customer could be sometimes a problem to include the additional work with the right price, which is really, needed.

Sometimes we need something like a work around to get the contract, to make it possible to book the order internally. It makes it easier sometimes to have a flexible view on some special work. Example to perform a special type of construction work could cost 10.000 Euro, but could cost 15 or 5 thousand Euro, but it I probably around 10 thousand and depending on the contract and the margin we have sometimes it makes it necessarily to sometimes have a flexible view on the cost.

Just to make it work internally.

### ***Step#4: Project Planning***

Sometimes it can be a challenge when we receive the contract, and the delivery dates for the system are very short after we receive the contract. It could be a problem to get the manpower for the installation. It could be a problem to get the system out of the PMG. In the first years we had many issues with the drawing office in Eindhoven, but it is getting less and less.

### ***Step#5: Site Preparation***

Set the finishing construction work, especially when the construction work is performed from a company who is not getting paid by Philips. So usually the customer is organizing the construction work and sometimes it could be a problem, usually we once per week to the construction site having meeting with the construction company, the customer and all the other people involved, but the construction work isn't performed in that way that it is planned and are sometimes not ready when they should be ready and that is a problem for Philips because we have a delivery date, a start installation date so Philips will arrange everything about the date of delivery and if the construction is not ready and we are facing problems like dust or dirt or maybe missing cooling capacity, cooling system or electricity that is a problem for Philips. A general problem we are facing all over Germany, maybe all over the world. Not an internal problem, let's say a customer site problem. What is cheaper? That depends on how many companies are working for the customer. The customer is working probably all over the year with the same sub-contractors the prices will be different depending on the size of the Hospital. So at the end only from the financial point it is probably a little cheaper for the customer to perform the work on its own. Especially if it has a technical department a person inside the Hospital who is supervising the work if this is not the case and this happens many time, the work at the end is probably from the financial point maybe a bit cheaper but there are much more problems and discussions especially with Philips together with the construction companies so that is probably one of the main reasons why Philips is going more and more to offer construction works as well. If Philips is performing construction work we are offering the same work as the third party companies who are offering their job directly to the Hospital and Philips is going to put 15% on top, Philips is putting a fee on top.

### ***Step#6: Distribution***

Behind confirmation of the Frozen period it means that we as Project Managers are sure that the construction works will be performed in time and that is a problem, if the Frozen period starts 8 weeks in advance, it could be a problem, because there are 8 weeks to go and usually there's quit lot of construction work to do and the end it happens sometime that the construction company will not finish in time as confirmed before an that's a problem. So the closer the frozen period gets to the start installation date, the more secure we are that the construction work will be performed the way needed. In Germany we have the situation that usually third party equipment is shipped to the firma Kuhn in Dortmund. Khune is collecting all this third party equipment for one customer and on the start installation date organised by colleagues to deliver

this third party equipment from firma Khune on the start installation date as well and the point is that depending on the system we are going to receive on site different transportation companies are involved in this process and sometimes it happens that one company is delivering the cardio vascularise systems and we have a second transportation company on site which is firma Khune Dortmund who is delivering this third part equipment. Why isn't it possible to collect all the third party equipment to deliver it with the system, collection of third party equipment must be in the factory, it could save so much money.

### **Step#7: Installation**

To work with Firma gayling is sometimes not that easy, it is a challenge I would say. Depends on the person who is performing the installation, sometimes it could be a problem.

### **Step#8: Application Training**

It could be a problem to organize a person for application training; especially in Germany that is the bottleneck in the project, we are very short in person for these application trainings. Usually when I start with a project and I dive deeper in the project and do the planning for the capacity, I usually start in the first step asking the capacity coordination for a person for application training that is a first thing I do because when I do all the planning for the technicians and all the other people involved, but I can't get application training it doesn't make sense. So that is defiantly a bottleneck. So we are very sort in person.

### **Step#9: Customer Handover**

The Formal design of this document, probably every project manager has his own point of view on two or three special topics regarding this document and I am pretty sure that there will be arrangements and agreements between the project manager and the logistic officer how to design this acceptance document. Probably everybody has a workaround, he is working with the logistic officer to get information in which way the project managers expecting this document. The first point is, usually on page 2 we have the time frame for the warranty and there are two different types of warranty usually it is for one year and sometimes it could be extended to two years and if the contract with the customer is only about the warranty for one year we shouldn't state the opportunity in this acceptance document that it could be two years. The customer will sometimes get the impression that he has not made a good deal with Philips because he missed the second year, in this case we shouldn't mention the second year if we did not sell it. Usually it is in general on the acceptance document and it doesn't make sense and it leads to discussions many times.

The second point is usually we have on page 2, 3 or 4 we have a detailed list of all the components a problem that is maybe twenty years old, the names of all the different parts are sometimes different in the last offer our account manager gave to the customer and on the packing list and on the acceptance document. Sometimes it happens especially for software packages with 3 different names. It sometime could happen that the customer specially if the technical department is included in this acceptance process the customer will take confirmation from the contract which is based on that last offer he is comparing the names on the acceptance document and sometime they are different names and you always need a good story to explain why the name are different but the part is the same. The only person that is working with these different documents and is facing the fact that we have different names for same parts are the project manager, the project managers have been complaining for many years about this. The only person that is able to do this, is the application trainer and that is the reason why would say almost of the project managers perform the customer acceptance only when the application trainer is on site, because the application trainer is the only person who can confirm that the software packages which should be installed on the system and which are mentioned in the acceptance document are really installed because he is the only person who can compare this because he is working with it

### ***Step#10: Project Closure & Step#11: Monitoring Control***

Close missing items is a big problem during the delivery we are facing many times missing items sometime for example for an MRI system one or two coils are missing that is not a problem for the installation, but to get this missing items is sometimes is a problem it takes so much time. For example at the beginning of March I handed over an MRI system to the customer and we are missing some special software package from our research and development department, because this system has been installed in a University and we know in advance that we are not going to receive this software package when the system will be delivered. Next question of the customer is when are we going to receive it. The internal commitment is maybe in the middle of the year, probably not before June but the exact date is still open.

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