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### Design decisions in the front office - back office issue

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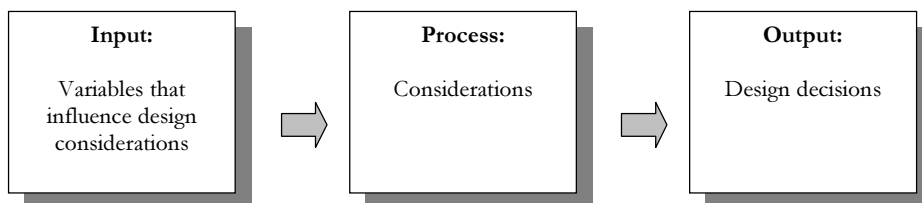
## 4 The Conceptual Model

In this chapter we consolidate the findings from the literature review and the exploratory case study in a conceptual model to guide the empirical data collection. With regard to the structure of the model, we have decided on an input – process – output structure, as it fits our research objective and research questions. The basic outline of the conceptual model is illustrated in figure 4.1. We consider the design decisions regarding front office and back office activities in service delivery processes to be the output of a certain decision making process. This process consists of several considerations, including trade-offs between performance objectives. These considerations also entail balancing requirements from several factors or variables that make demands on the design of a process or influence the design considerations otherwise, such as service characteristics and information technology. Hence, such variables can be seen as input for the decision making process. In section 4.1 we address the design decisions (output), followed by the process in 4.2 and finally in 4.3 we go into the variables that influence the design considerations, i.e. the input side of the model.

### 4.1 Design decisions

At this point it is not entirely clear what are the design decisions in the front office – back office issue. In this section we use the findings from the literature review and the exploratory case study to specify the design decisions related to front office and back office activities in service delivery processes. In effect, we present the term “front office – back

Figure 4.1: Developing the conceptual model (I): basic outline



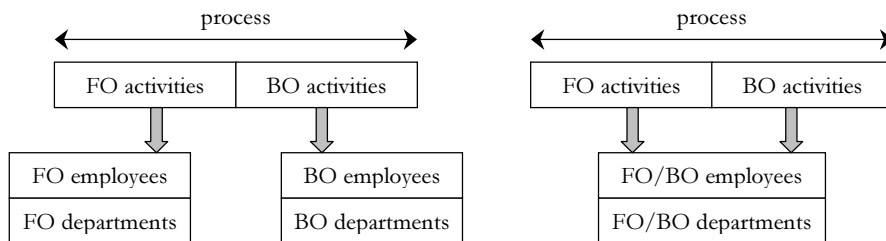
office configurations” to capture the design decisions that are involved and subsequently elaborate on the three elements or design decisions that make up these configurations: the definition of front office and back office activities, decoupling decisions and organization arrangements.

#### 4.1.1 Deriving three design decisions

Based on the occurrence of the terms “front office” and “back office” in literature, we already noted the common idea that front office activities are carried out by front office employees who work in front office departments and vice versa for back office activities, leading to the distinction between a front office part and a back office part of service organization. This is the strategy that is recommended by the customer contact approach put forward by Chase (1978). Following this line of argument, the main design decision involved is determining which activities are carried out back office and which ones front office. This decision is not necessarily straightforward and involves a trade-off between the efficiency potential of back office activities and the sales opportunities related to front office activities. Yet, there is no need for subsequent design decisions, as front office activities are by definition allocated to front office employees in front office departments and equal arrangements are made for back office activities, see figure 4.2 (left side).

Larsson and Bowen (1989) and Metters and Vargas (2000) argue there are additional ways to structure front office and back office activities. Larsson and Bowen present a typology with different constellations of customers, front office employees and back office employees. Metters and Vargas show that the customer contact approach is only one of the possible strategies for structuring front office and back office work. They explain that under different strategic conditions, different decoupling strategies for front office and back office activities are appropriate. For example, with a Personal Service strategy front office and back office activities are coupled, i.e. one employee handles both contact and

Figure 4.2: Coupling or decoupling front office and back office activities



**Decoupling** front office and back office activities as in the customer contact approach (Chase, 1978) or Cost Leader or Focused Professionals strategy (Metters and Vargas, 2000).

**Coupling** front office and back office activities as in the Personal Service or Kiosk strategy (Metters and Vargas, 2000).

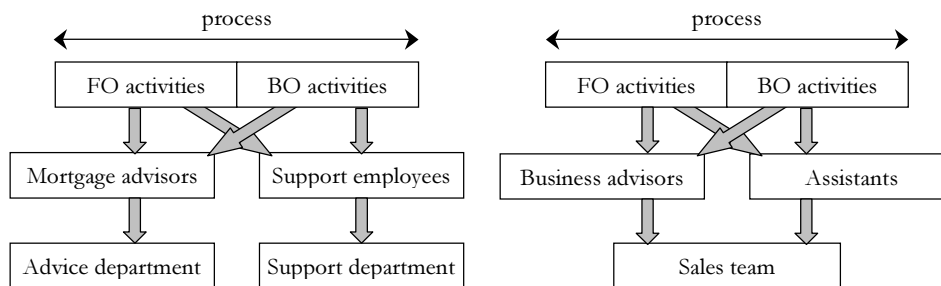
non-contact activities, to achieve high levels of flexibility and responsiveness. In that case, there are no back office departments, nor back office employees, see figure 4.2 (right side). Thus, high-contact activities and non-contact activities need not necessarily be separated from each other and need not be allocated to different departments. This introduces another design decision regarding front office and back office activities in service delivery processes: decoupling or coupling front office and back office activities. Metters and Vargas (2000) define decoupling as breaking a process into its component back-office and front-office activities, segregating those activities into distinct back- and front-office jobs, and, usually, geographically separating the back and front offices.

Based on the reasoning above we can conclude that the current literature recognizes at least two design decisions regarding front office and back office activities in service delivery processes. The first decision regards determining which tasks or activities will be carried out with customer contact and which activities will take place without customer contact. The second design issue is the decoupling of front office and back office activities, i.e. segregating front office and back office activities in distinct front office and back office jobs and geographically separating the front and back offices. There are several decoupling strategies available, including strategies aimed at no decoupling at all.

In addition to the two design decisions we have specified so far, yet another design decision can be identified. This concerns considering the grouping of employees as a separate design decision rather than part of the decoupling decision. In the current views, decoupling also includes measures regarding the organization of the work, e.g. grouping or departmentalization. Both Chase and Metters and Vargas presuppose that when high-contact activities and non-contact activities are decoupled from each other, this leads to the establishment of separate front office and back office departments. Yet, the exploratory case study revealed that this is not necessarily the case.

When we compare the processes for providing mortgages and company loans in the exploratory case study, it becomes clear that both processes were decoupled, although not precisely on the grounds of high-contact or non-contact activities. For the provision of mortgages, the mortgage advisors and the support employees formed different departments. Here, the grouping decisions reflect the decoupling decisions. For the provision of company loans, however, the business advisors and assistants worked closely together in sales teams. Here, the decoupling in the process has not led to different departments. This is illustrated in figure 4.3. Put differently, when front office activities and back office activities are decoupled from each other, one still has a choice between operating a centralized back office department in some remote location far away from the front office (“the way-back, back office”) or assigning one back office employee and one front office employee to small teams and have them share the same office. Thus, grouping decisions do not have to follow naturally from decoupling decisions. In addition, different grouping decisions, such as a way-back back office or paired front office and back office employees, have different consequences for the performance of a process. Therefore, we

Figure 4.3: Two examples of decoupling and grouping from the exploratory case study



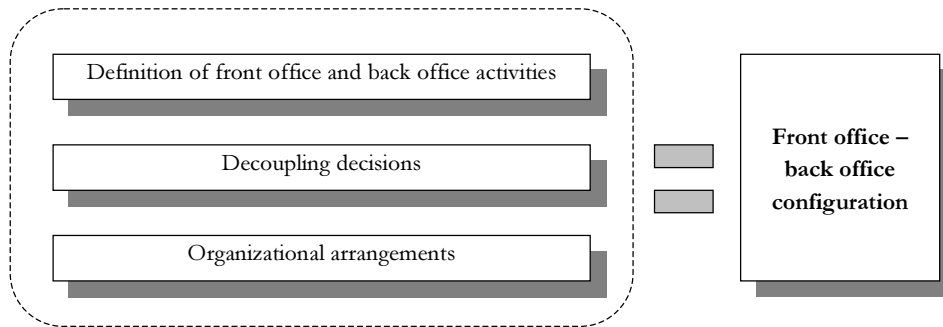
Decoupling and grouping in the process for providing **mortgages**. FO and BO activities are mixed. Instead, there is a separation between “external duty” and “office duty” that is reflected in the grouping of employees.

Decoupling and grouping in the process for providing **company loans**. FO and BO activities are mixed. Despite the distinction between “office duty” and “external duty”, employees work together in sales teams.

separate grouping decisions from decoupling strategies and present them as a separate design decision, named “organizational arrangements”. In the Retail Banking Study, Frei et al. (see e.g. Frei et al., 2000) too include organizational aspects in their study of bank processes. Ruffini et al. (2000) also stress the importance of organizational arrangements to be included in operations management, as their role as one of the determinants of the effectiveness of operations is seriously underexposed (p. 862). In fact, the organizational arrangements regarding front office and back office activities are essential for understanding the performance of service delivery processes.

In conclusion, we identify three design decisions regarding front office and back office activities in service delivery processes. These three design decisions will be explained in more detail below and can be summarized as follows: (1) the definition of front office and back office activities, (2) decoupling decisions and (3) organizational arrangements (see also figure 4.4). In order to capture this cluster of design decisions and the large number of design options that follow from different combinations of these decisions, we introduce the term “front office – back office configurations”. A front office – back office configuration is a particular way of structuring front office and back office work in a service delivery process, resulting from the definition of front office and back office activities, the decoupling decisions and the organizational arrangements. Together, these decisions determine the basic shape or structure of a service delivery process and also indicate the nature of the performance to be expected, i.e. which performance objectives will be easy to achieve and which ones will be more difficult. The expected performance of front office – back office configurations is one of the central themes in the remainder of this thesis. In general, the design of front office – back office configurations is followed by

Figure 4.4: The three design decisions that form a front office – back office



more detailed design decisions, such as facility layout and planning and control systems. These elements are added to the basic process structure, but cannot change it. The following sections address the three design decisions in detail. For a graphical representation and summary of these design decisions, we refer to figure 4.6 and figure 4.7.

#### 4.1.2 The definition of front office and back office activities

The first element in a front office – back office configuration is the definition of front office and back office activities. By “activities” we mean the individual process steps in a service delivery process that need to be carried out consecutively for a service to be delivered. With regard to the desired level of aggregation, we define an activity as a unit of time and place. Interruptions in a process, because it is continued at another point in time or at another place, indicate boundaries between two activities. For the provision of a mortgage, the activities that make up the process are, for example, discussing the needs and wishes of the customer, preparing a mortgage proposal, turning the proposal into a mortgage offer, getting approval from the relevant organizational authority, preparing mortgage deeds and finally transferring the funds. For each activity or process step it needs to be determined whether it will be carried out with or without customer contact. For some activities this might be obvious, while for others the choice is not straightforward.

We need to define what we mean exactly by “customer contact”. Reviewing the literature reveals there are several definitions or interpretations of the concept of customer contact, see table 4.1. Common elements in these definitions are the (physical) presence of the customer in the service delivery system and interaction between customer and service provider. While Chase (1978) refers to the physical presence of the customer in the service delivery system when he talks about customer contact, others have argued that just plain presence does not capture the peculiarities and challenges of front office activities. Schmenner (1986), for example, makes a distinction between active and passive customer

Table 4.1: Different interpretations of customer contact	
Chase (1978)	Customer contact regards the physical presence of the customer in the system. Face-to-face contact.
Schmenner (1986)	Not physical presence, but degree of interaction and customization should be used to classify services.
Mersha (1990)	Physical presence, interaction and customization should all be considered. Customer contact involves a direct encounter between the customer and the service system that is face-to-face or mediated through the use of communication technologies such as the telephone. Active contact requires interaction, passive contact does not.
Wemmerlöv (1990)	There are three types of customer contact: <ul style="list-style-type: none"> <li>▪ Direct customer contact: the customer is physically present and has a sensory perception of the service creation through eye contact, hearing, touching etc.</li> <li>▪ Indirect customer contact: contact takes place through human carriers or some form of media, for example telephone, fax or electronic mail.</li> <li>▪ No customer contact.</li> </ul>
Kellogg and Chase (1995)	Customer contact consists of three variables: <ul style="list-style-type: none"> <li>▪ Communication time: time involved in service delivery spent on communication.</li> <li>▪ Intimacy: degree to which service episode is intimate, i.e. mutual confiding and trust.</li> <li>▪ Information richness: speed of feedback, communication channel, theme of interaction, language used.</li> </ul>
Kellogg and Nie (1995)	“Customer influence” should be used to capture the different roles of the customer in the process, e.g. contact, interaction or participation.

behavior, e.g. the difference between visiting a doctor and riding a bus. He argues that not customer presence, but the interaction between the customer and service provider and the customization of the service being delivered make demands on the design of service delivery processes. According to Mersha (1990), service classification systems should consider the physical contact dimension along with the other factors such as the degree of interaction and service customization. He defines customer contact as a direct encounter between the customer and the service system that is face-to-face or mediated through the use of communication technologies such as the telephone. He goes on to distinguish between active and passive contact. Active contact involves direct customer-service system interaction, whereas passive contact requires physical presence but does not involve interaction.

The definition of customer contact to be used in this study should be capable of making a distinction between front office and back office activities that captures the peculiarities and challenges of both from an operations management perspective. Unlike, for example, Schmenner (1986), Wemmerlöv (1990) and Kellogg and Nie (1995), we are not concerned with developing classification schemes for service organizations. Following the basic logic of the customer contact approach, the bottom-line is that non-contact activities have more efficiency potential than high-contact activities, because there are fewer uncertainties involved. The uncertainties in high-contact activities stem from irregular arrival patterns, nonstandard customer demands and the participation of the customer in the system. Put differently, it is hard to predict when customers will come, what they will want and whether

they will be prepared for their role in the service delivery process. Moreover, high-contact activities make demands on the skills of employees and facilities accommodating the customer. Non-contact activities generally do not experience these uncertainties or design demands. Our definition of customer contact should be able to make this distinction. Below we present our definition, building on the concepts of physical customer presence and interaction.

First, we consider the dimension of customer presence. Here, the main point is that face-to-face contact between a customer and a service provider stemming from physical customer presence in the service system is not the only type of contact to cause the uncertainties related to high-contact activities. In fact, as Mersha (1990) suggests, contact through telephone should also be considered as high-contact, as telephone conversations can also be characterized by irregular arrival patterns, nonstandard demands and unprepared customers. Telephone calls also require interpersonal skills. This is contrary to, for example, contact through mail, fax or e-mail. These communication channels do not require the same kind of interpersonal skills and have greater efficiency potential than face-to-face contact and telephone, because a service provider has more opportunities to plan the work. For example, letters and e-mails can be stored for a while (to a certain extent of course) and attended to when it suits the service provider and processed in a way that suits the service provider (FIFO, batches of similar requests etc.). The difference between high-contact and low-contact communication channels is that customers and service providers have to act in the same time, but not in the same space. In addition, the communication should contain at least audio channels and the opportunity for immediate feedback (or no delays in the communication). Relatively new communication channels, such as videoconferencing or web cams, would also be classified as high-contact. Hence, our definition of customer contact entails a direct encounter between a customer and a service provider that takes place in the same time, but not necessarily in the same space.

Second, we consider the degree of interaction between customer and service provider. It should be clear by now that interaction between customer and technology, such as an ATM or the Internet, does not classify as customer contact, because this does not inflict the uncertainties on the service delivery process. In fact, the customer has been sealed off from the organization. The main question is whether there needs to be interaction between a customer and a service provider for high-contact to appear. Proponents of interaction claim that e.g. riding a bus, typically high customer presence but low interaction, is substantially different from visiting a doctor, a service process characterized by both high presence and interaction. We do not argue with this line of reasoning, but conclude that for the purpose of this research, interaction does not need to be added to the definition of customer contact. From the perspective of uncertainties and disturbances, a direct encounter between a customer and a service provider basically captures everything. Whether there is interaction or not, and what kind of information is being exchanged, does



not alter the uncertainties as we described them. In fact, if we consider interaction an indispensable element in the definition of customer contact, we will have to classify activities that are carried out while the customer is present or waiting on the phone, although customer and provider are not talking to each other, as non-contact activities. In the exploratory case study we observed two examples of such activities: when consumer advisors fill in an application form for electronic banking agreements while the customer is present and when a mortgage proposal is calculated during a meeting. Technically, there does not need to be interaction during these activities, but the fact that they are carried out while the customer is present deprives them from the efficiency potential associated with non-contact activities. Therefore, interaction is not a requisite for customer contact. Instead, the *opportunity* for interaction to take place is sufficient.

To conclude, we 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 space, and has the opportunity for interaction*. The definition of front office and back office activities involves determining which activities are carried out with customer contact and which ones without.

### 4.1.3 Decoupling decisions

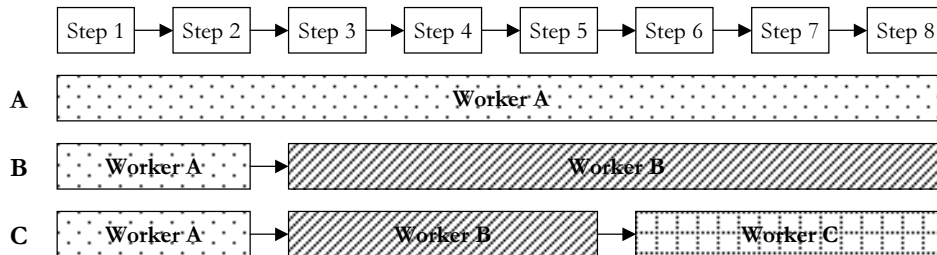
The second element of a front office – back office configuration regards the decoupling decisions. According to Chase and Tansik (1983) decoupling refers to physically or organizationally separating activities of an organization and implies placing them under separate supervisions. Yet, their focus is on organization design, not process design. Metters and Vargas (2000) discuss decoupling on a process level. They “traditionally” define decoupling as breaking a process into its component back-office and front-office activities, segregating those activities into distinct back- and front-office jobs, and, usually, geographically separating the back and front offices. Put differently, decoupling means that different employees carry out the high-contact and non-contact activities. We already explained that both authors implicitly assume that consecutive employees are allocated to different departments that might even be geographically separated. Yet, the exploratory case study showed that the grouping of employees not necessarily follows from the decoupling decisions. Therefore, we separate the decoupling decision from the decision regarding the grouping of employees and only look at the allocation of front office and back office activities to either front office employees and back office employees or “generalist” employees.

Still, the exploratory case study has provided us with more insights in the issue of decoupling. One of the striking findings of the case was that the investigated bank did not show such a clear distinction between front office and back office employees, as could be expected according to the state of the art in literature. Only for electronic banking agreements and other mass consumer products this distinction could be recognized. Here

the bank employed front office employees, i.e. at the local offices, that only carried out high-contact activities. The non-contact activities were separated and allocated to back office employees at the head office of the bank or to central, nation-wide departments. The bank even had an explicit strategy aimed at removing non-contact activities from the offices. On the other hand, for mortgages and other more complex financial products, the bank separated its employees and activities in “external duty” and “office duty”. Yet, the mortgage advisors on “external duty” performed both front office and back office activities. Furthermore, the support department also carried out both front office and back office activities. Although the support department was internally divided in commercial support and administrative support, this was not on the basis of high-contact and non-contact activities. Thus, there were no clear front office and back office departments, see also figure 3.1. Likewise, the business segment of the bank showed a minimal distinction between front office parts and back office employees. In fact, the organization consisted of one part in which business advisors (“external duty”) and assistants (“office duty”) worked closely together and both carried out the front office and back office activities in the process, apart from the activities that were allocated to the administrative support department. Again, high-contact activities were not separated from non-contact activities and there were no clear front office parts and back office parts. Hence, the exploratory case study indicates that design decisions regarding the (de-) coupling of front office and back office activities might be more complex than allocating activities to either specialist front office or back office employees or one generalist employee. Although we could identify “truly” back office employees and “truly” front office employees, there were many instances in which the bank did not separate high-contact activities from non-contact activities and decoupling decisions seemed to be based on other arguments. Nevertheless, the decoupling decisions were considered to be a troublesome issue. Thus, the design decision regarding the decoupling of a service delivery process should not just concentrate on decoupling back office activities from front office activities, but also on decoupling on other grounds.

In this research, decoupling entails *breaking a process in sub processes, consisting of one or more activities or process steps, that are allocated to different employees*. In other words, by decoupling we mean that a process is “cut up” and process steps are assigned to and carried out by different employees. This creates a point at which work needs to be handed over. If one employee carries out all activities in a service delivery process, the process is coupled. If the activities are allocated to different employees, the process is decoupled. As a technical note, we can add that “different” actually means “different from the previous employee”, rather than “entirely new to the process”. In fact, the decoupling in a process that consecutively requires worker A, worker B and worker C is exactly the same as the decoupling in a process that consecutively requires worker A, worker B and again worker A. As the exploratory case study showed that front office activities and back office activities are not necessarily the basis for decoupling a process, we exclude the terms from our definition of

Figure 4.5: Degrees of decoupling



decoupling. Doing so, we can better capture the design decisions that are made in practical situations, although our main focus remains the front office – back office issue.

Although the decoupling decision itself is a choice between two options (a process step is carried out by the same employee as the previous process step or by another employee, but not something in between), a service delivery process as a whole can be more or less decoupled, given the respective decoupling decisions. Figure 4.5 shows a few different decoupling situations for a hypothetical service delivery process consisting of eight steps. Process A is a coupled process, whereas processes B and C are decoupled. Yet, process B is less decoupled than process C. In fact, if the number of handovers that are involved in a particular process increases, the degree of decoupling will increase. In this way, we can assess the degree of decoupling of a service delivery process.

#### 4.1.4 Organizational arrangements

The third and final element in a front office – back office configuration regards the organizational arrangements that are put in place. Organizational arrangements include the grouping of employees that are involved in a process. We already explained that grouping not necessarily follows from the decoupling decisions. A process in which front office activities are decoupled from back office activities, i.e. different employees execute the activities, does not have to lead to separate front office and back office departments. Likewise, when decoupling takes place on different grounds, such as “office duty” or “external duty”, there need not be “internal” and “external” departments. In fact, employees can still be clustered together in one group. As the current body of knowledge on the front office – back office issue does not make this distinction, we refer to other literature to address the grouping decision. Particularly in the area of organization design, the issue of grouping or departmentalization has received extensive consideration (e.g. Lawrence and Lorsch, 1967; Thompson, 1967; Mintzberg, 1979).

In general, grouping employees involves several design decisions. To begin with, Mintzberg (1979) sees grouping as a process of successive clustering: “Individual positions are grouped into first-order clusters, or units, these are, in turn, grouped into larger clusters or units, and so on until the entire organization is contained in the final cluster” (p.104). In addition, grouping is often considered in association with coordination strategies, as grouping is one way of achieving coordination. In fact, grouping encourages intra-group coordination at the expense of inter-group coordination. Therefore, grouping decisions are often accompanied by other decisions regarding coordination, such as planning and control systems that create standardization and liaison devices. As an illustration of the design decisions related to grouping, we refer to Thompson (1967, p.59). He recommends basic units be formed to handle reciprocal interdependence. If there is none, then the basic units should be shaped according to sequential interdependence. If neither of the more complicated types of interdependence exists, the basic units are shaped according to common processes. When first groupings do not entirely handle interdependence, higher-order groups can be established, as well as committees, task forces or project teams. However, as this research is concerned with the design of service delivery processes, rather than service organizations, we have to narrow down the grouping decision. Therefore, we only include first-order grouping. That is the grouping of operators until the first level of supervision (Mintzberg, 1979). This means we leave higher-order groups and additional means for coordination out of consideration. In addition, we only look at the grouping of operators involved in the primary processes. Any grouping decisions beyond the first-order grouping of operators would lead us away from the main focus of this research.

With regard to first-order grouping, a number of bases for clustering employees can be identified. Employees can be grouped by knowledge and skill, by work process and function, by time, by output, by client or by place. Mintzberg (1979) compresses these bases to two essential ones: by market (covering output, client and place) or by function (incorporating knowledge, skill, work process and function). Functional grouping places employees together who perform similar functions or work processes or who bring similar knowledge and skills to bear. A financial service organization, for example, may design functional groups for sales clerks, financial specialists and administrative support. In market groups, employees are clustered according to what the organization produces or for whom. For a financial service organization, this can include the establishment of separate groups of employees for private clients and business clients, or for mass consumer products, mortgages and private banking. In general, the employees in one group do not perform similar activities, but contribute to the same end result. In this research we adhere to the distinction between functional grouping and market grouping, as it captures the main point regarding the grouping of employees that are consecutively involved in a service delivery process. On the one hand, consecutive employees in a process can be assigned to different groups, based on the functions they perform. For example, mortgage advisors can be grouped with other mortgage advisors and support employees with the other support

employees. This would be a continuation of the decoupling decision that led to the division of labor between mortgage advisors and support employees. On the other hand, the employees that are consecutively involved in a service delivery process can also be assigned to one group that encompasses every function that is required for a particular service to be delivered. Such market groups, of e.g. business advisors and assistants, would not reflect the decoupling decisions. Hence, we distinguish between grouping employees by market or by function. Yet, one service delivery process or front office – back office configuration can contain multiple groups. It can be that some employees are grouped functionally and others by market. In the exploratory case study, for example, the process for providing company loans showed market groups of business advisors and their assistants, as well as a functional group of administrative support employees.

To conclude, the organizational arrangements in a front office – back office configuration involve *the grouping of the employees that are consecutively involved in the service delivery process in first-order groups*. We distinguish between *market groups* and *functional groups*.

#### 4.1.5 In summary

In this section we have specified the output side of our conceptual model, i.e. the design decisions related to the issue of front office and back office activities in service delivery processes. From the findings from the literature review and the exploratory case study we have derived three design decisions that together form a front office – back office configuration: the definition of front office and back office activities, decoupling decisions

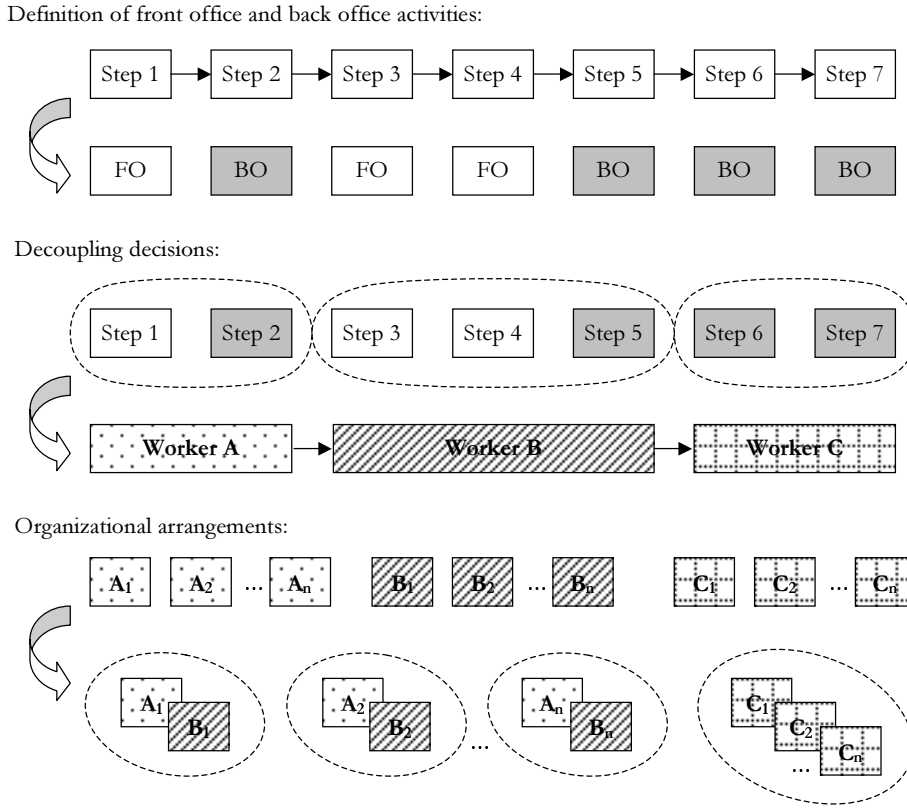
Figure 4.6: Definitions of the three design decisions in a FO – BO configuration

Definition of front office and back office activities:	Defining whether activities are carried out with or without customer contact.  <i>Customer contact includes a direct encounter between a customer and a service provider that takes place in the same time, but not necessarily in the same space, and has the opportunity for interaction.</i>
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Decoupling decisions:	Breaking a process in sub processes that are allocated to different employees. This creates the need to handover work.
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Organizational arrangements:	Grouping employees that are consecutively involved in a service delivery process in first-order groups. Employees can be grouped by function or by market.
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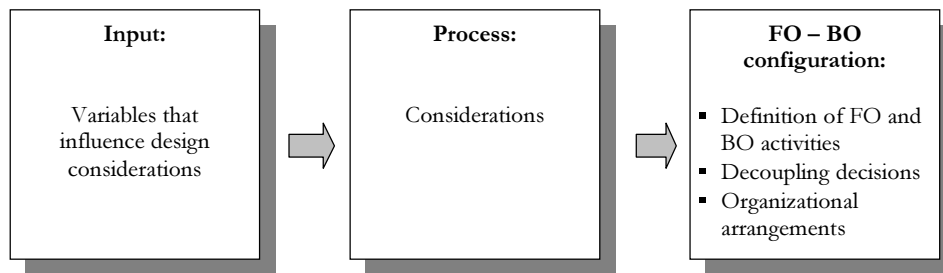
Figure 4.7: Illustration of the design decisions in a FO – BO configuration



and organizational arrangements. Additionally, we have elaborated each decision, providing our definitions and interpretations of the decisions and the associated design options. Figure 4.6 and figure 4.7 show a summary and illustration of the three design decisions. We explain 4.7 with an example.

Figure 4.7 shows the three design decisions for a hypothetical service delivery process. These decisions can be explained by using a concrete example. Let's assume this is a process for delivering a mortgage in a financial service organization. In this case, the seven activities that have to be carried out, can be operationalized as (1) the intake with a customer that contacts the organization, (2) preparing for meeting the customer, (3) meeting the customer, (4) calculating a mortgage proposal, (5) preparing a mortgage offer, (6) preparing the mortgage deeds and (7) transferring the funds. The organization has chosen to define the intake, the meeting with the customer and the calculation of a mortgage proposal as front office activities. The other activities are back office activities.

Figure 4.8: Developing the conceptual model (II): output



With regard to the decoupling decisions, figure 4.7 shows that the process is decoupled in three sub processes. Consequently, two handovers of work are involved and in this case three different employees. Let's assume that for the process of delivering of mortgage, worker A represents a commercial support employee, worker B a mortgage advisor and worker C an administrative support employee. The commercial support employee (A) then carries out the first two steps in the process, whereas the mortgage advisor (B) takes care of the meeting with the customer, the calculation of the mortgage proposal and the mortgage offer. The administrative support employee (C) is involved to prepare the mortgage deeds and transfer the funds.

It is likely that the organization employs several commercial support employees, mortgage advisors and administrative support employees (worker  $A_1$  to  $A_n$ ,  $B_1$  to  $B_n$  etcetera). Therefore, it needs to be decided how the employees that are consecutively involved in the service delivery process are grouped together. We can derive from figure 4.7 that this organization has decided to group the commercial support employees and mortgage advisors together in sales teams. The administrative support employees form a functional department, consisting of all administrative support employees. In this way, figure 4.7 illustrates the three design decisions that make up a front office – back office configuration for a service delivery process.

Finally, figure 4.8 shows the conceptual model as we have constructed it so far. The framework to be developed in this research study will address three design decisions, their underlying considerations and the variables that influence them.

## 4.2 Considerations underlying design decisions

Front office – back office configurations, consisting of the three design decisions we have specified in the previous section, can be considered to be the result of a certain process. This process consists of a number of considerations, including trade-offs between

performance objectives, which lead to particular choices. Understanding these considerations is vital in order to develop a framework that provides insight in and so supports these design decisions. In this section, we address the way in which we operationalize the considerations as part of our conceptual model.

#### 4.2.1 Considerations for each design decision

For each design decision, there are several design options available, leading to a large number of possible front office – back office configurations for a particular service delivery process. A configuration could consist of, for example, a combination of front office and back office activities that are decoupled from each other and allocated to different employees that are grouped in functional groups. Another possible configuration for the same process could consist of mainly front office activities that are allocated to employees that also take care of the back office activities and form a functional group. These configurations will have different effects on the expected performance of the process, for example its speed, but also on the occurrence of sales opportunities and the amount of horizontal job specialization. Therefore, designing front office – back office configurations and making the design decisions involves careful considerations regarding the expected performance effects. Below we describe for each design decision some of the underlying considerations and trade-offs. They are summarized in table 4.2.

The first design decision regards the definition of front office and back office activities, i.e. the decision for each activity in a service delivery process whether it is carried out with or without customer contact. We already explained that back office activities are mainly chosen for their efficiency potential (e.g. Chase, 1978). High-contact or front office activities have the opportunity of increasing sales through cross-selling and customizing or personalizing a service, as well as involving the customer as co-producer (Mills et al., 1983; Chase and Bowen, 1989; Chase and Hayes, 1991). According to Chase et al. (1984), high levels of contact with the customer are justified when: (1) service production and delivery are absolutely inseparable, (2) marketing benefits are afforded by contact with the customer, or (3) contact with the customer is in principle avoidable but in practice necessary (p.544). Put differently, certain activities simply have to be high-contact activities, because they require the presence of the customer, such as checking a customer's ID. Others are far better off as high-contact activities because of the amount of information that needs to be exchanged, for example for exploring a customer's needs and wishes for a mortgage and explaining different mortgage options. For several activities, however, a choice can and should be made on the trade-off between production efficiency and the benefits of high contact activities.

The second design decision is the decoupling decision. In addition to the definition of front office and back office activities, it needs to be determined where to split the process



and how to allocate the activities to employees. The customer contact approach of Chase (1978), the different constellations of customers, front office employees and back office employees presented by Larsson and Bowen (1989) and the typology of decoupling strategies by Metters and Vargas (2000) show several options and considerations for decoupling front office and back office activities. In general, the arguments for decoupling a process have to do with, firstly, employing experts for particular tasks and matching personality types and abilities with task requirements and, secondly, sealing off back office activities from customer-induced uncertainties to operate efficiently. On the other hand, the arguments in favor of coupled processes are maximum flexibility and responsiveness and a high degree of utilization of front office capacity, as front office employees also perform the back office activities. Hence, there is a trade-off involved between, on the one hand, hiring specialists and sealing off back office activities and, on the other hand, operating with high levels of flexibility and responsiveness and with a high degree of front office utilization. According to Chase and Tansik (1983), decoupling is favored when (1) face-to-face contact for all operations is not technologically required (or desired by the customer), (2) separate workers are required to produce the service, (3) task requirements can be easily segmented into interpersonal skills and technical skills, (4) information exchange between service system and customer can be done by phone or mail, (5) price of the service is more critical to the customer than is convenience or customization and (6) tight coordination across task or departmental boundaries is not critical.

Leaving the distinction between front office and back office activities out of consideration, the decoupling decision can be considered somewhat similar to the issue of division of labor. Division of labor is often associated with job design and issues of horizontal and vertical job specialization. Two general approaches to job design are the mechanistic approach and the motivational approach (Campion and Thayer, 1987). The mechanistic approach has its roots in the Scientific Management approach (Taylor, 1911), advocating high degrees of horizontal and vertical job specialization to improve productivity. The motivational approach emerged as a reaction to this “inhumane” approach. This approach promotes job enlargement, job enrichment and job rotation to avoid “worker alienation”. The basic idea is that broad tasks increase employee motivation and so productivity and quality (see e.g. Hackman et al., 1975). It should be noted that jobs can be too narrow as well as too large. In fact, each approach has its own costs and benefits, for example in terms of training time, mental (over-)load, utilization levels and absenteeism (Campion and Thayer, 1987). Although we are interested in the front office – back office issue and process design, rather than job design or organization design, these considerations regarding the division of labor can provide useful insights in the decoupling decision. Therefore, we add the considerations regarding narrow and broad tasks to the other decoupling considerations.

The third design decision regarding front office and back office activities in service delivery processes is the grouping of employees that are involved in a process. Employees can be

Table 4.2 Design considerations for the three design decisions	
Front office activities	Back office activities
<ul style="list-style-type: none"> <li>▪ Cross-selling</li> <li>▪ Customizing or personalizing a service</li> <li>▪ Involving the customer as co-producer</li> </ul>	<ul style="list-style-type: none"> <li>▪ Efficiency potential</li> </ul>
Coupling	Decoupling
<ul style="list-style-type: none"> <li>▪ Maximum flexibility and responsiveness</li> <li>▪ High degree of front office utilization</li> <li>▪ Broad tasks</li> </ul>	<ul style="list-style-type: none"> <li>▪ Employing experts</li> <li>▪ Sealing off back office activities from uncertainties</li> <li>▪ Specialization effects</li> </ul>
Market groups	Functional groups
<ul style="list-style-type: none"> <li>▪ Workflow coordination</li> </ul>	<ul style="list-style-type: none"> <li>▪ Economies of scale</li> <li>▪ Cross-fertilization</li> <li>▪ More specialization and uniformity</li> </ul>

grouped by function or by market. Both ways of grouping have their own advantages and disadvantages. Mintzberg (1979) presents four criteria to select the basis for grouping positions into units: workflow interdependencies (to encompass complete or “natural” workflows), process interdependencies (to keep similar process steps together), scale interdependencies (to realize economies of scale) and social interdependencies (to facilitate social relationships). Functional groups, for example, are highly suitable for dealing with process and scale interdependencies. The intra-group coordination leads to cross-fertilization among employees and emphasizes further specialization and uniformity of the way in which the work is carried out. Furthermore, individual activities can often be carried out more efficiently in functional groups than in other groups, given the benefits of scale. Yet, functional grouping almost automatically includes that coordination with other functional groups is more difficult. Therefore, workflow interdependencies often suffer. In market groups, workflow interdependencies are the main reason for grouping, as coordination regarding the workflow is facilitated which often contributes to the speed and quality of a process. Still, this comes at the expense of scale economies, specialization and cross-fertilization.

To conclude, for each design decision several considerations can be identified, see also table 4.2. These considerations generally entail the performance effects of different design options. For the definition of front office and back office activities, there is a trade-off between the efficiency potential of back office activities and the opportunities for additional sales, customization and customer participation related to front office activities. The considerations regarding decoupling include, roughly, the benefits and drawbacks of specialization, such as the available expertise, the utilization of capacity, the need for handing over work and employee motivation. For the organizational arrangements, the

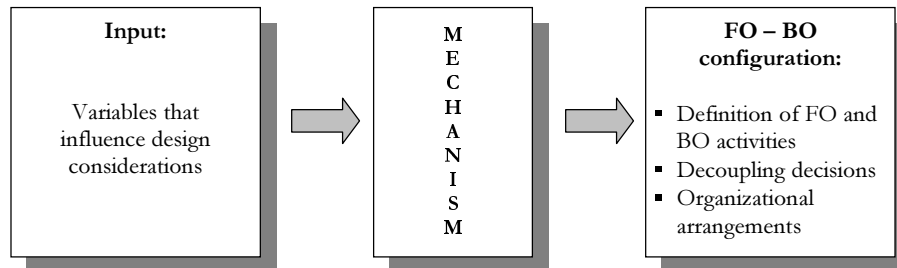
main consideration regards the workflow coordination in market groups versus the benefits of cross-fertilization, specialization and scale economies in functional groups.

### 4.2.2 A mechanism of considerations

Above we have addressed several considerations underlying the three design decisions in a front office – back office configuration. Yet, we consider the process of considerations to be more complex than simply trading off two performance objectives for each design decision. In this respect, we identify three factors that contribute to the complexity of the design process:

- From the presentation of the considerations above it becomes clear that each design decision involves multiple dimensions of performance, such as costs, speed, flexibility and quality. In addition, some performance objectives appear on both sides of a trade-off. For example, coupled and decoupled processes can both contribute to the quality of the service being delivered, yet in different ways. Furthermore, the exploratory case study revealed there might be even more considerations that play a part than we presented here, such as freeing advisors from office work, and that trade-offs can be overcome. Hence, the considerations regard several performance objectives and the weighing of these performance objectives against each other is not straightforward.
- We expect the design decisions to be related, at least to a certain extent. Although the design decisions do not determine each other completely, a choice on one design decision can be influenced by the choices on the other design decisions. In that case, the considerations include the previous or upcoming design decisions. For example, the efficiency potential of back office activities is best realized in a decoupled process, i.e. allocating the back office activities to back office employees. Likewise, in the exploratory case study we observed that in the process for selling company loans the organizational arrangements and decoupling decisions were related, as the market teams of business advisors and assistants were required to facilitate the coordination that was required due to the decoupling decisions. Put differently, what may seem as an appropriate design choice for a particular design decision may be less appropriate in the light of the front office – back office configuration as a whole. Therefore, we expect the design decisions are not made in isolation and the considerations include the relations with the other design decisions as well.
- We expect there to be several factors or variables that influence which design choices are appropriate. Following common operations management thinking, the design of a front office – back office configuration should be suitable for the service that is being delivered and contribute to an organization's strategic objectives, while dealing with all kinds of organizational constraints (e.g. Armistead, 1990). In other words, we expect such variables to influence the considerations underlying the design decisions. The

Figure 4.9: Developing the conceptual model (III): process and output



impact of the degree of service customization and information technology on the design of a service delivery process, for instance, was illustrated by the exploratory case study. Although these and other variables will be addressed in detail in the next section on the input side of our conceptual model, we can already posit they add to the complexity of the design process. Moreover, as it is very well possible that certain variables make conflicting demands on the design decisions, the process of making considerations might even be more complex.

To conclude, we expect the design decisions to be the result of a process of careful considerations, including trade-offs between performance objectives and finding ways to overcome trade-offs, in which the relations between the design decisions and several influencing variables are taken into account simultaneously. In fact, we expect a complex web of considerations that operates like a certain *mechanism* leading to the design of a front office – back office configuration. In this way, the mechanism comprehends the basic considerations for each design decision, the considerations regarding the relations between the design decisions and the impact of the variables that influence the design considerations. We include the mechanism in our conceptual model as the comprehensive concept for the collection of considerations and influences that lead to a front office – back office configuration. This is displayed in figure 4.9. Knowing and understanding the mechanism will provide a great deal of insight in the design decisions regarding front office and back office activities in service delivery processes. This particularly regards the coherence and interaction between considerations, which is one of the main voids in the current literature on the front office – back office issue. Therefore, identifying the mechanism that underlies the design of front office – back office configurations will be one of our main concerns for the remainder of this research.

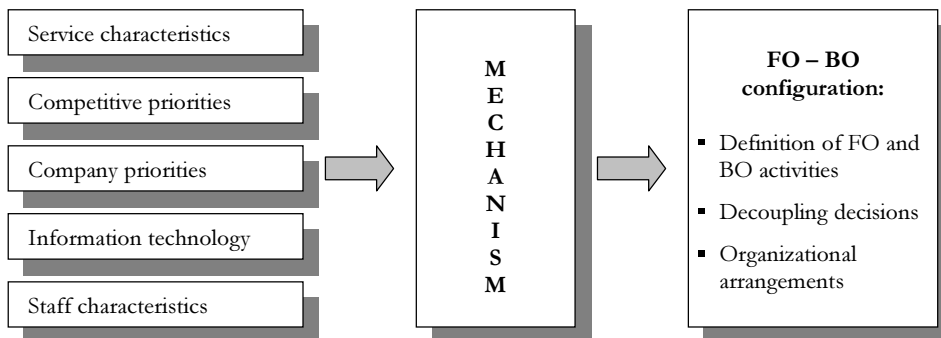
### 4.3 Variables that influence the considerations

As we put forward in the previous section, we expect the considerations underlying the design decisions to be influenced by several variables. These variables make demands on the design of front office – back office configurations or influence the design decisions otherwise. For example, we expect that the design of a front office – back office configuration is influenced by the service that is being delivered, the business strategy and several organizational constraints. Therefore, they can be seen as input for the mechanism of considerations. In this section we present five categories of variables that we expect to influence the design of front office – back office configurations: service characteristics, competitive priorities, company priorities, information technology and staff characteristics. We have derived these categories from the literature review and the exploratory case study. Below we address each category of variables in more detail. For each category we specify which variables seem particularly relevant, i.e. which service characteristics, competitive priorities, information technology etc., and explain how we expect them to influence the considerations underlying the design decisions. The conceptual model with the five categories of variables as input to the mechanism is displayed in figure 4.10. The complete model with the nested variables is presented in figure 4.11.

#### 4.3.1 Service characteristics

One of the most well-known factors influencing the design of a process is the product that is delivered by the process. Often products make demands on delivery processes or influence the design options that are available. A classic case is the product-process matrix by Hayes and Wheelwright (1979a; 1979b) in which product mix, characterized by the volume and variety of products, determines the choices of process type. As we explained in chapter 2, several authors have tried to develop similar matrices for services to address the relationship between service and service delivery process. One of their aims is identifying

Figure 4.10: Developing the conceptual model (IV): input, process and output



relevant product or service characteristics that are determinants of process types, such as volume and variety or other variables. Although to date no service matrix has dominated the literature like the product-process matrix has for manufacturing, there seems to be enough reason to accept the impact of a service on the design of its process. Matching service delivery processes with service characteristics is also a common feature in most of the strategic service design frameworks (see section 2.5). Therefore, we include service characteristics in our conceptual model as a factor influencing the design of front office – back office configurations.

There is debate as to which service characteristics are particularly important for the design of a service process. In the Hayes and Wheelwright framework, it is product volume and product variety. Some authors claim that the volume dimension should not be used in a service matrix. According to Silvestro et al. (1992) the volume of services or number of service outputs is less meaningful than in manufacturing. Due to the heterogeneity and intangibility of services, there are measurement problems. In addition, in service operations significant volume increases can be made without any change in the service process, for example by using a multi-site strategy. Product variety, on the other hand, is a highly common variable in “product-process matrices” for services, i.e. the degree of customization of the service that is delivered (e.g. Huete and Roth, 1988; Apte and Vepsäläinen, 1993; Kellogg and Nie, 1995; Tinnilä and Vepsäläinen, 1995; Collier and Meyer, 1998). Whether a service is standardized or customized has significant consequences for the design of its service delivery process. Particularly for the design of front office – back office configurations the degree of customization seems to be an important factor, which could also be observed in the differences between the three processes in the exploratory case study. For example, in the process for selling electronic banking agreements the back office activities could easily be decoupled from the front office activities and allocated to a central support department, whereas in the process for selling company loans market teams were installed to facilitate the required coordination between advisors and assistants. In general, for standardized services back office activities are more obvious than for customized services, as little interaction with customers is required. Furthermore, decoupling front office and back office activities might be easier for standardized services than for customized services, as coordination between consecutive employees is limited. With regard to organizational arrangements, for customized services workflow interdependencies might be more important than scale dependencies, while for standardized services it probably is the other way around. Therefore, we include the degree of customization of the service being delivered in our conceptual model as a variable influencing the considerations underlying the design of front office – back office configurations. Although we do not include the volume dimension, it is expected that in financial services organizations, standardized services will be delivered in much larger

quantities than customized services. Yet, it is the customization dimension rather than the volume dimension that impacts the design of front office – back office configurations.

Besides the degree of service customization, we identify another service characteristic that we expect to influence the considerations underlying the design of front office – back office configurations. This is the amount of inevitable customer contact, or the degree to which production and delivery are inseparable. This characteristic influences the considerations underlying the definition of front office and back office activities. If for a particular service a great deal of customer contact is required, e.g. physical customer presence, the definition of front office activities will be inevitable. Although in general in information-processing services, such as financial services, the amount of inevitable customer contact will be limited, particularly compared to customer-processing services, such as medical treatments, we expect it to play a part in the mechanism underlying the design of front office – back office configurations. For example, customer contact can be necessary for checking a customer's identity or signing documents. The design considerations for financial services that involve several of these moments will be different from those for financial services that hardly require a customer's presence in the service delivery system. This mainly regards the considerations underlying the definition of front office and back office activities. Hence, we include the amount of inevitable customer contact as a variable influencing the design of front office – back office configurations.

To conclude, the service characteristics that we expect to be particularly relevant for the mechanism underlying the design of front office – back office configurations are the degree of customization of the service being delivered and the amount of inevitable customer contact.

### 4.3.2 Competitive priorities

Competitive priorities are the second category of input variables in our conceptual model. Competitive priorities are the basis on which an organization wants to compete; they reflect an organization's positioning relative to competitors and so the benefits customers can expect. In this way, competitive priorities can be considered to be an organization's external objectives. Examples are being a high service or low cost service provider, delivering fast service or operating as a very flexible service provider. Combining the insights from the Metters and Vargas framework (Metters and Vargas, 2000), strategic service design frameworks and manufacturing strategy thinking (see also section 2.5), we can formulate the assumption that an organization's strategic priorities will play a large role in the mechanism underlying the design of front office – back office configurations. This is derived from the idea of fit between service delivery systems and strategic priorities, as an operations function should be capable of delivering what the organization is aiming for. Hence, in addition to characteristics of the service being delivered, we also expect the

competitive priorities of an organization to influence the considerations regarding the design decisions. In our conceptual model we start with five possible competitive priorities. They are the five dimensions that are commonly used in discussing the operations' task (Slack et al., 2001):

- Quality: doing things right and with high standards
- Speed: doing things fast
- Reliability: doing things on time
- Flexibility: being able to change what you do
- Price: doing things cheaply

According to Slack and Lewis (2002) these objectives apply to any kind of operations, including service operations. Yet, some authors combine speed and reliability in “delivery” and add “innovation” as a separate dimension instead of treating it as a type of flexibility. We now address the competitive priorities one by one to illustrate the expected effects on the considerations underlying the design decisions. It should be noted that we are not trying to be comprehensive, as our aim here is to illustrate the relevance of the variables.

**Quality** not only means doing things right, i.e. delivering products and services in conformance with specifications, but also regards the level of those specifications. We expect quality as a competitive priority to have an effect on the decoupling decisions. However, this effect is not straightforward, as delivering quality service can be an argument for both coupled and decoupled processes. A decoupled process can improve the quality of the service being delivered, because experts can be hired to do specific jobs, while a coupled process significantly reduces the risk of mistakes and loss of information at the handover between employees. Nevertheless, we expect quality to be an argument in the considerations underlying this design decision.

**Speed** and **reliability** both address the delivery of products or services. **Speed** means doing things fast, in order to minimize the time between a customer's initial request for a product and the receipt of the product in full. Speed can be an important factor in each of the three design decisions. For example, although the definition of back office activities can increase the efficiency of the service delivery process, it not necessarily means the total delivery time from the customer's perspective is reduced as well. In fact, work that has to be sent to a decoupled and centrally organized back office department often increases the delivery time considerably. For this reason, a strategy aimed at delivering fast service might call for other design choices.

**Reliability** (or dependability) means delivering the product on the promised due date, so delivery on time. In this way, emphasizing reliability as a competitive priority can influence the considerations underlying the decoupling decisions, as coupled processes are more likely to deliver reliable service than decoupled processes due to a lower number of participants. Furthermore, reliable service might be better achieved through market groups than through functional groups, as market groups facilitate workflow coordination.



**Flexibility** as a competitive priority means being able to change what the organization does. An organization can be flexible in adding products to the product mix or changing existing products, in switching between the production of various products of the product mix, in changing production volumes and in changing delivery times. Wanting to be a highly flexible service provider can have an impact on the design of front office – back office configurations, for example as front office activities are generally considered to have more potential for being flexible than back office activities. Likewise, coupled processes are often better for being responsive than decoupled processes. On the other hand, operating functional groups in a decoupled process can increase the flexibility of capacity. This illustrates how we expect flexibility as a competitive priority to influence the considerations underlying the design decisions.

Finally, **price** as a competitive priority is about delivering products or services at low cost. The impact of competing on price on the design decisions also regards all three design decisions. In fact, for a price competitor the definition of back office activities, decoupled processes and functional groups are obvious design choices.

To conclude, we expect an organization's competitive priorities for a particular service to influence the considerations underlying the design decisions regarding front office and back office activities in service delivery processes. We have illustrated some of the potential effects of competing on quality, speed, reliability, flexibility and price on the design of front office – back office configurations. Nowadays' service organizations will try to achieve several of these competitive priorities simultaneously. Yet, it is not unlikely that competitive priorities will make conflicting demands on the design of a front office – back office configuration. Therefore, for the remainder of this research it is important to understand how the competitive priorities jointly, rather than one by one, influence the design of front office – back office configuration.

### 4.3.3 Company priorities

In addition to service characteristics and competitive priorities, the conceptual model contains a category of variables called “company priorities” as input for the mechanism underlying the design of front office – back office configurations. Company priorities are strategic objectives of an organization that are not related to the positioning of the products and services, as are competitive priorities, but yet influence the design of front office – back office configurations. If we consider competitive priorities to be an organization's external objectives, company priorities are an organization's internal objectives. Often company priorities relate to decreasing costs or increasing revenues.

From the exploratory case study it becomes clear that an organization's internal objectives can play a large role in influencing the considerations underlying the design decisions regarding front office and back office activities in service delivery processes. For example, in the process for selling electronic banking agreements back office activities were

decoupled from front office activities for efficiency reasons and to improve the commercial power of front office activities. Yet, these decisions were not related to the bank's competitive position, as the bank clearly did not compete on price and increasing sales generally is not considered a competitive priority. Furthermore, the competitive priorities for company loans were offering personalized financial solutions and close customer relations. This would call for the Personal Service strategy in the Metters and Vargas framework (Metters and Vargas, 2000), i.e. a coupled process in which the business advisors perform most of the work themselves. However, the bank's internal objective of improving efficiency led to the decision to decouple the process and allocate several activities to the assistants, rather than the advisors. This illustrates that other objectives than objectives related to the way in which an organization wants to compete, can have a large impact on the considerations underlying the design of front office – back office configurations.

Furthermore, also in literature the influence of something other than competitive priorities on the design of services and service processes is recognized. For example, Armistead (1990) explicitly includes business objectives as one of the parameters for the design of a service delivery system. Business objectives and financial factors influence the choices that are available for the service delivery system and set performance criteria for the running of the service organization. Pullman and Moore (1999) discuss tighter coupling of marketing and operations aspects, i.e. conjoint analysis and capacity management, in the design of a ski-resort. Verma and Young (2000) add financial and market objectives to the operational objectives of quality, delivery, flexibility and cost in an operations strategy. Thus, we include a separate category in our model. We name this category “company priorities” to express the objectives mainly regard the company itself, rather than its customers or competitors.

In our conceptual model we include two specific company priorities that we expect to play a part in the design of front office – back office configurations: efficiency and sales. Efficiency and sales objectives not only play a leading role in the discussion concerning the definition of front office and back office activities (see, e.g. Chase and Bowen, 1989; Tansik, 1990), but can also influence other aspects of service process design.

- Efficiency regards the ratio of effective or useful output to the total input in a system. In other words, desired effects or results (i.e. a service) are produced with a minimum amount of resources. Naturally, efficiency or operating at low cost is a universally attractive objective. No matter what the competitive strategy of an organization might be, it most likely will strive for the highest efficiency possible, until the point where other objectives are jeopardized. Consequently, efficiency objectives are a well-known influence on the design of production systems. They also played a large role in the design of the processes we investigated in the exploratory case study.

- Increasing sales regards attracting new customers or selling additional products to existing customers. Sales targets can be expressed in terms of, for example, number of customers, number of transactions or market share. This variable is particularly relevant for the design of service delivery processes, compared to production processes in manufacturing, due to the simultaneity in production and delivery of services and the presence of the customer in the service delivery system. In most manufacturing organizations, measures for increasing sales are outside the boundaries of a production facility, as customer contact and the selling of goods are decoupled from the production of the goods. On the other hand, in many service organizations the production and delivery of the services are carried out simultaneously. This means that production capacity largely overlaps sales capacity and that sales opportunities following from direct customer contact may arise during the service delivery process. This brings about the opportunity to design service delivery systems with sales objectives in mind. Hence, sales objectives can be important driving forces for the design of service delivery systems, which was also illustrated in the exploratory case study.

In summary, we include both efficiency and sales objectives as particularly relevant company priorities in our conceptual model.

### 4.3.4 Information technology

The fourth variable on the input side of our conceptual model is information technology. We expect information technology to be an important part of the mechanism underlying the design of front office – back office configurations, in the sense that several applications of information technology can influence the considerations and trade-offs for the design decisions. In fact, we expect information technology to enable “new” front office – back office configurations and to overcome some of the traditional trade-offs in the design of front office – back office configurations. See also the discussion on trade-offs in section 2.4.

Particularly in financial services, due to their relatively large information component, the expected impact of information technology is considerable. Information technology has enabled, for example, large distances between front offices and back offices, service delivery that requires only front office activities and self-service whereby both front office and back office activities are transferred to customers, for example using the Internet. The exploratory case study also provided several examples of the role of information technology in the design of front office – back office configurations. We found that the new sales support system for mass consumer products will create a front office – back office configuration that mainly contains front office activities, yet will be very efficient. The electronic data transfer between the bank and the national support center for mortgages will contribute to short delivery times and a reduced risk of making mistakes.

Therefore, information technology should be included in our conceptual model as one of the factors influencing the considerations underlying the design decisions regarding front office and back office activities in service delivery processes.

However, information technology has many applications and not every one of them is expected to be equally relevant for the object of this study. Within the domain of financial services, common appearances of information technology are, for instance, telecommunications networks, databases containing customer information, Management Information Systems, Decision Support Systems, automated phone answering systems, workflow systems, ATMs, websites that provide information, Internet devices for electronic banking and e-commerce, Electronic Data Interchange with institutions that keep track of a customer's financial history, software for modeling or simulating service delivery processes and automated systems for transaction processing. Although we do not intend to be complete, this list provides an overview of the large number of possible applications of information technology in financial service organizations. We will not study the impact each one can have on the delivery of financial services. Instead, we concentrate on the form of technology that we expect to have the largest impact on the mechanism underlying the design of front office – back office configurations: information systems. Laudon and Laudon (1996) define information systems as sets of interrelated components that collect (or retrieve), process, store and distribute information to support decision making and control in an organization (p.9). Generally, they are a combination of hardware, software, databases and telecommunications. In particular, we include the information systems that are employed in the operational processes of delivering services, such as decision support systems, transaction processing systems and workflow systems. Often, these systems include the possibility for exchanging files and other data between employees electronically. We expect information systems to influence the considerations underlying each of the three design decisions, as they can provide opportunities for overcoming some of the trade-offs involved. Obviously, this regards the information systems that are available within an organization. Thus, the information systems of an organization are among the variables that we expect to influence the considerations underlying the design of front office – back office configurations.

#### 4.3.5 Staff characteristics

Finally, the fifth category of variables in the conceptual model regarding the design of front office – back office configurations is formed by staff characteristics. In addition to the four categories of variables we have described above, we expect certain characteristics of the available staff or human resources in a service organization to influence the considerations underlying the design decisions as well. In fact, the skills, knowledge and competences of the available employees can offer opportunities and limitations for the design of (service) delivery processes. Armistead puts it as follows: “Both customers and service personnel

need specific skills to play their part in the production and delivery process. The level of skills will in part be driven by the type of production and delivery system but the process must be iterative as the choice of system may be governed by the availability of skill levels or the need to include training for both staff and new customers in particular” (Armistead, 1990, p.11). Therefore, we include the skills, knowledge and competences of the staff of a service organization in our conceptual model as one of the variables that serve as input for the mechanism underlying the design of front office – back office configurations.

With regard to the three design decisions central to this study, we expect that employee skills can influence the definition of front office and back office activities. In the exploratory case study, for example, we observed that some mortgage advisors did not use the computer for calculating a mortgage proposal in the customer’s presence, because they did not master the program, or a computer in general, well enough. If this were the case for all mortgage advisors in a bank, the calculation of mortgage proposals would best be defined as a back office activity. Additionally, the skills of the available staff can influence decoupling decisions. If the workforce of an organization consists of relatively versatile employees, i.e. each employee has a number of different skills, there will be less need for decoupled processes to employ experts and match personality types with task requirements. Likewise, for a highly specialized workforce coupled processes will be less obvious than decoupled processes. Furthermore, the design decision regarding organizational arrangements can also be influenced by the skills of the service personnel. For relatively unskilled employees, for example, first-order grouping in functional groups rather than market teams might be an appropriate choice, as functional groups facilitate cross-fertilization between employees and uniformity of the way in which the work is carried out. In conclusion, we expect that the employee skills that are or are not present in an organization can influence the considerations underlying the design of front office – back office configurations.

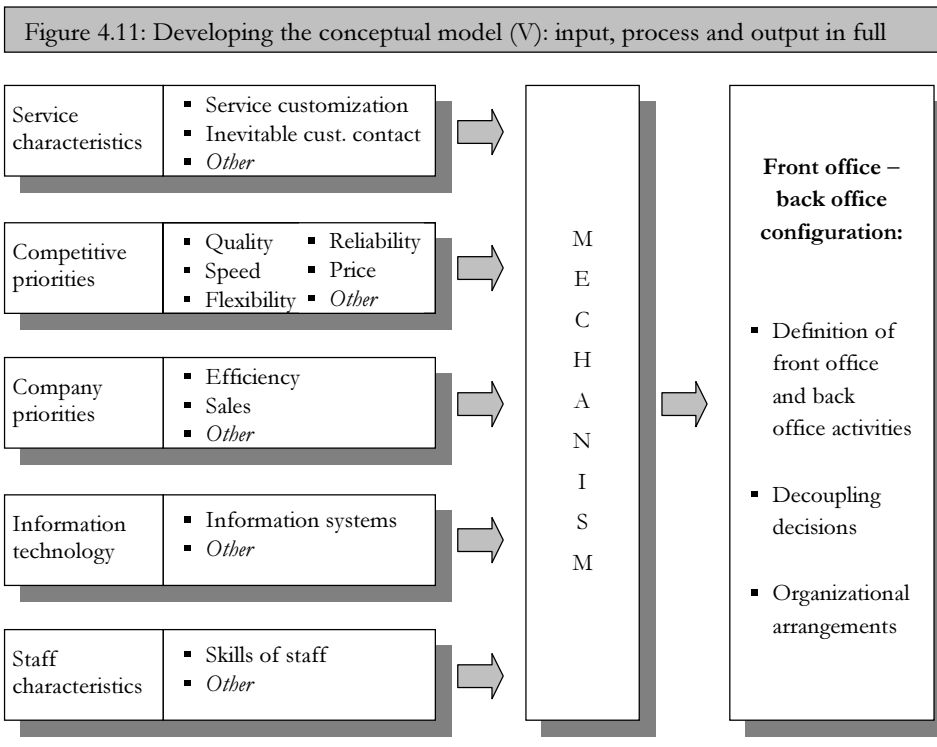
### 4.3.6 Additional variables

So far we have elaborated five categories of variables that we expect to influence the considerations underlying the design of front office – back office configurations. We have addressed service characteristics, competitive priorities, company priorities, information technology and staff characteristics. For each category we have identified variables that seem particularly relevant for the design of front office – back office configurations. The impact of these variables will be investigated in the empirical study to unravel the mechanism underlying the design of front office – back office configurations. However, we do not assume this list is complete. Based on the literature review and the exploratory case study we expect these variables to be worth investigating, but in each category of variables there might be other variables that prove to be relevant as well. For example, there might be other service characteristics, such as the complexity of the work involved in delivering a service, that influence the considerations underlying the design of front office – back office

configurations. In addition, there might be variables that are specifically related to the financial services sector, such as legislation or other regulations regarding risk control. Furthermore, financial service organizations might have specified performance objectives, either internal or external, that are typical for the financial services sector. Likewise, there can be applications of information technology or particular staff characteristics we do not foresee now. To facilitate the emergence of additional variables, we explicitly leave room for them in our conceptual model. In fact, we include a variable called “*Other*” for each category of variables. This is illustrated in the full version of our conceptual model in figure 4.11.

#### 4.4 Conclusions

In this chapter we have developed the conceptual model that consolidates the findings from the literature review and the exploratory case study to guide the empirical data collection. With regard to the output-side of the model, we have introduced the term “front office – back office configurations” to capture the design decisions regarding front office and back office activities in service delivery processes. We concluded that front office activities do not have to be carried out by front office employees that work in front



office departments and vice versa for back office activities. In fact, there are several design options available, leading to different configurations of front office and back office work. Front office – back office configurations consist of three design decisions. The first decision regards the definition of front office and back office activities to determine which activities in a service delivery process will be carried out with customer contact and which ones will not. Customer contact includes a direct encounter between a customer and a service provider that takes place in the same time, but not necessarily in the same space, and has the opportunity for interaction. The second decision of a front office – back office configuration involves allocating the front office and back office activities to employees. Doing so, a service delivery process is divided in sub processes that are carried out by particular employees, creating a need to handover work. These are the decoupling decisions. We concluded that decoupling not necessarily takes place based on the different requirements of front office and back office activities. Third and finally, the employees that are involved in a particular service delivery process can be grouped together in several ways, for instance by market or by function. The grouping decisions reflect the organizational arrangements in a front office – back office configuration. Thus, the three design decisions are the definition of front office and back office activities, the decoupling decisions and organizational arrangements.

With regard to the considerations that underlie the design decisions, we have explained that we expect a complex web of considerations that form a certain mechanism. This mechanism contains the considerations for each design decision, i.e. choosing between the expected effects on performance and overcoming trade-offs, as well as the considerations that regard the relations between the three design decisions and the impact of several influencing variables. Understanding the mechanism is one of the main objectives of the remainder of this research.

With regard to the input-side of the model, we have specified five categories of variables that we expect to play a part in the mechanism underlying the design of front office – back office configurations. We expect **service characteristics**, such as the amount of inevitable customer contact and the degree of customization, **competitive priorities**, including quality, speed, reliability, flexibility and price, **company priorities**, like efficiency and sales, the available **information systems** and the skills of the available **staff** to influence the considerations underlying the design of front office – back office configurations. We explicitly leave room for other variables to appear from the empirical study. The conceptual model as a whole is displayed in figure 4.11.