ICT Enabled Distribution of Services: Service Positioning Strategies, Front Office Information and Multi-channeling

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In this chapter I do pattern matching between the propositions presented in chapter four and the patterns recognized in the four case studies. I will explain deviations from proposed patterns to enhance our thinking on service strategy and front office information requirements. This leads to confirmations and revisions of the theory proposed in chapter four. Several of the case studies show a strategic pattern in which strategy oscillates between two generic strategies in the same business unit. This pattern deviates from general thinking about service strategy in which it is proposed that different strategies to approach the market would be organized the best in different business units. The pattern in the case studies is explained by using insights from Gallouj and Weinstein on service innovation and types of innovation. The explanation leads to a revision of Gallouj and Weinstein’s service innovation diagram and innovation types.

I do not only confront the case studies with the propositions presented in chapter four, but I also confront the cases with some basic assumptions behind the propositions. These assumptions have been presented in chapter one and have been elaborated on in chapter two and three.

Besides confronting the cases with theory, confrontation of the four cases between themselves leads to some interesting observations. The four cases show quite an overlap in their field of working. The cases have a theme in common. The four companies in the case studies and many of the service providers around these companies are in what I propose to denote the employability industry. Why I propose this new term for an already existing industry is discussed in this chapter. The cases show several initiatives in the employability industry in reaction on changing legislation, which is discussed as well in this chapter. I discuss the cross case analyses in five sections.

- Confrontation of proposition one with the cases.
- Confrontation of proposition two with the cases.
- Confrontation of proposition three with the cases
- Confrontation of the basic assumptions with the cases.
- Confrontation of the four cases: the employability industry.

Besides a cross case analysis, I present the conclusions on the research questions presented in chapter four as well in this chapter. In the conclusions I relate the three generic service positioning strategies to the front office information model, to the
revised service innovation diagram and to the business ecosystem. Furthermore I
draw some conclusions on the research design and I will discuss the limitations of
the study. This chapter ends with an overview on further research.

Before starting pattern matching and explanation building, I like to reflect on a
term which is often used in the service marketing and management literature, but
which is quite confusing: the term ad hoc. The term ad hoc is used in the sense of ad
hoc innovations, like in Gallouj & Weinstein (1997); is used in the sense of ad hoc
structured processes (de Jong et al., 1992) and in the general sense of meaning, i.e.
somewhat unorganized arrangements for a certain case or affair. Although ad hoc
innovations and ad hoc processes are arrangements for certain cases, the connotation
of unstructuredness doesn’t apply. Ad hoc innovations with a clear process of a
posteriori recognition, dissemination and codification of new built competencies
doesn’t have to be unstructured at all. I introduce a new term to denote these kinds
of innovations: customer specific innovations. This is precisely what these
innovations are about. Usage of the term specific complies with the sense of
meaning of the word in the resource based view on strategy (specific assets reduce
in value if these are not employed for the original purpose). Furthermore ad hoc
processes don’t have to be unstructured as well. What seems to be unstructured for
the outsider might be quite structured for the insider (the professional performing
these kinds of processes). To denote these processes, the term professional
knowledge based processes seems more appropriate to me. Ad hoc processes are
often associated with professional services. In the cases of Sioo, Interpolis and
Unique professionals performed these kinds of processes in an often structured or
quasi-structured way based on their professional knowledge and experience. By
introducing these two terms, I leave the general connotation of unstructuredness to
the term ad hoc. In this chapter I use the new introduced terms.

Cross Case Analysis

Confrontation of Proposition One with the Cases
Proposition one address the first research question.

Q1. How is the degree of customization of services, that needs to be specified in
the front office, related to the information requirements in the specification process
and can front offices be classified based on this relation?

I start with a discussion of the proposed pattern in proposition one versus the
analyzed pattern in the cases. I finish this section with a short discussion on the
relation between loose specifications and reliance on relationships as becomes
apparent from some of the cases.
Chapter Nine: Cross Case Analysis and Conclusions

The Proposed Pattern Versus the Analyzed Pattern in the Cases

All cases support proposition one. The front office types found in the cases and its information patterns are summarized in table 9.1. The Sioo, Unique and CWI Zwijndrecht cases don’t show any deviations from the proposed pattern in the information model. Gak R&V showed requirements at the field and inside service level, but hadn’t arrived at that situation yet. Gak Polisbeheer and Interpolis show deviations, which are explainable and don’t lead to rejection of proposition one. Explinations of the situation of Gak R&V, Gak Polisbeheer and Interpolis will be given in the next sections. CWI played a limited role in the specification of services, which I discuss after the discussion on Gak R&V, Gak Polisbeheer and Interpolis.

Gak R&V shows requirements on the field and inside service level, thus supports proposition one. R&V hadn’t arrived at such information yet (account planning can be seen as a first step). The limited time period R&V operated commercially explains this situation. In the past, relation information was built to support contacts with branches that were bound to Gak as a supplier for a long time period. Product and process information hadn’t been built for commercial reasons at all. This information was production oriented.

<table>
<thead>
<tr>
<th>Case</th>
<th>Front office type</th>
<th>Information pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique branch offices (Uq-BO)</td>
<td>Field and inside service (FIS)</td>
<td>Information available on the FIS level (except process information on secondment).</td>
</tr>
<tr>
<td>Unique Relation management (Uq-RM)</td>
<td>Symbiosis</td>
<td>Clear need for customer profile extension towards the symbiosis level (stemming from account plan and interviews); product and process information available on the symbiosis level.</td>
</tr>
<tr>
<td>Gak R&amp;V (G-R&amp;V)</td>
<td>Field and inside service (FIS)</td>
<td>Showed a need for customer profile improvement and for product and process information on the FIS level. Product and process information was hardly available at all.</td>
</tr>
<tr>
<td>Gak Polisbeheer (G-PB)</td>
<td>One stop shop (OSS)</td>
<td>Relation information was on the FIS level; product information on the OSS level and process information on the counter level (no delivery norms for assortments).</td>
</tr>
<tr>
<td>Gak CWI Zwijndrecht (G-CWI)</td>
<td>Counter</td>
<td>Information available on the counter level.</td>
</tr>
<tr>
<td>Interpolis’ BU EB (IP-EB)</td>
<td>One stop shop (OSS)</td>
<td>Relation information on the FIS level; product and process information on the OSS level.</td>
</tr>
<tr>
<td>Sioo open programs (Si-OP)</td>
<td>Field and inside service (FIS)</td>
<td>Information available on the FIS level.</td>
</tr>
<tr>
<td>Sioo in-company programs (Si-ICP)</td>
<td>Symbiosis</td>
<td>Information available on the symbiosis level.</td>
</tr>
</tbody>
</table>

Table 9.1: Front office type found in the front office cases and its information pattern
Polisbeheer shows a deviation from the proposed pattern in two directions. Both are explainable. Their building of a customer profile is explained in the conclusions on the Gak case as a need to support the service operations function of Polisbeheer in the first place and some elements (like account planning and information on commercial processes) could be explained from their support function for R&V and the B-branch. The other deviation from the proposed pattern is insufficiency in process information. Lack of clear delivery time norms led to the need for Polisbeheer to approach back office departments (limited protection of the back office). Polisbeheer showed some need for clearer delivery norms for all products in its assortment, but didn’t show a clear need for delivery time norms for packages. This can be explained by the fact that the packages were loosely defined. The combination of social security insurances with data supply products was merely a cross selling opportunity that a clear package, like in the case of EB module one of Interpolis. The fact that Polisbeheer showed a need for delivery time norms for its cross sellers and that the lack of process information led to ineffectiveness indicates information requirements on the one-stop-shop level and supports proposition two.

The Interpolis case shows a deviation in relation information. The relation information in the form of a customer profile relates to the specification of customized standardization and at least suffices for segmented standardization. Relation information on a customer profile level could be explained by the fact that the customer profile is not only used for EB module one specification but for many other services as well (for which the degree of customization is not established in this study). Furthermore, this relation information is not only used for service specification purposes but also for marketing purposes (analyzing the local market). Last, it could be expected that relation information will support forthcoming EB modules for which a more modularized service offering could be expected.

The case of CWI is somewhat disappointing. The CWI played a marginal role in the specification of services. It had just the function of portal and a function in the completion of standard application forms. The front office can be typified as counter and is supportive for proposition one, although it is not of strong support because of its limited function in the specification of services. Remarkable is the ‘intake’ paradigm in CWI Zwijndrecht and the CVCS. Phase 2 and 3 clients were served in the second line (by the affiliated organizations) and not by the first line (the CWI). For this reason I decided not to enlarge the study on CWI’s. The period didn’t seem suitable and I had doubts on whether more research results could be expected.

**Relation between Loose Specifications and Reliance on Relationships**

In Sioo open program specification and Unique’s relation management the highest level of customization is specified, often leading to more loosely defined service specifications. As the services are innovative and the customer situation might change, degrees of freedom for service adjustments during run time (at Sioo) or during implementation (at Unique) are built in the service specification. To a lesser extent this seems to be the case for Sioo’s open programs and Unique’s branch offices as well. This is congruent with the proposed relationship between the degrees of customization and tight versus loose specifications, proposed by Chase and Acquilano (1995). The observation made on both case studies suggests that with
higher degrees of customization, the reliance on the relationship with the customer increases. In the absence of opportunities to completely specify the service, the only way to reduce customer fear and to improve its perceived service quality is through the relationship. This reasoning means increasing reliance on relation information to reduce customer fear and to increase perceived service quality, instead of reliance on full service specification (through the availability of product and process information), when the degree of customization increases.

**Confrontation of Proposition Two with the Cases**

Proposition two states that the effectiveness of the front office decreases when the information requirements for the specification of the corresponding category of customization are not met. Ineffectiveness is supposed to manifest itself as limited proactivity; specification quality problems; longer specification lead-time or limited protection of the back office. Proposition two addresses the second research question.

Q2. How is the effectiveness of the front office influenced if the required information for the specification of a certain degree of customization is not available?

I start with a discussion on the confrontation of proposition two with five front office cases, which showed ineffectiveness. I end with a short discussion on the idea that front office workers deal with production surrogates packed in product and process information, as I already suggested in chapter four.

**Five Front Offices Showing Ineffectiveness**

Five of the eight front offices showed ineffectiveness due to insufficient information, thus supporting proposition two (see table 9.2). The other three cases didn’t show insufficient information in the front office and therefore didn’t show the ineffectiveness. The case studies support the idea in proposition two that ineffectiveness manifests itself in limited proactivity, longer specification lead-time or limited protection of the back office. The idea that ineffectiveness manifests itself in specification quality problems is not supported by any of the cases.

<table>
<thead>
<tr>
<th>Ineffectiveness</th>
<th>Due to insufficient:</th>
<th>Uq-BO</th>
<th>Uq-RM</th>
<th>G-R&amp;V</th>
<th>G-PB</th>
<th>IP-EB*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited proactivity</td>
<td>Relation information</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product information</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Specification quality problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Longer specification lead-time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product information</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process information</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Limited protection of the back office.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product information</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process information</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Table 9.2: Cross case pattern of ineffectiveness due to insufficient information in five front offices *) Concerning the former EB product
ICT Enabled Distribution of Services

It becomes clear from table 9.2 that insufficient relation information limits proactivity, as does insufficient product information. As proactivity is seen as a requisite for relationship building (Berry and Parasuraman (1991), insufficient relation and product information limit relationship building. I proposed to view proactivity as ‘knowing whom to go to and knowing with which commercial message’.

The Unique relation management case shows sufficient information on the commercial offer, but lacked relation information to know ‘whom to go to’. The Unique branch office case showed the opposite. Relation information sufficed, but they lacked product information on secondment to be proactive. The R&V case showed both effects. Beside the fact that limited proactivity as a result of insufficient information, limited relationship building (which was the object of Unique’s branch offices and relation management and Gak’s R&V), it also limits employee’s assurance on products and the relationship. This suggests that insufficient information in the front office results in a decrease on one of the dimensions of service quality.

Longer specification lead-times might result from insufficient product information as in the case of Gak’s R&V, but insufficient process information availability seems to be more frequently the cause of longer specification lead-times. In proposition two, I proposed that longer specification lead-time is a manifestation of lack of responsiveness, suggesting that insufficient information in the front office results in a decrease on yet another dimensions of service quality.

Limited protection of the back office is a result of insufficient product and process information in the front office. Two cases show an interesting pattern (Uq-BO and G-R&V). In these cases limited protection of the back office goes hand in hand with longer specification lead-times due to insufficient product or process information. To come to complete specifications, in these cases, the front office consulted the back office for its needed product and/or process information.

None of the cases showed specification quality problems although product or process information was missing in four of them. As becomes clear from the former paragraph, in two cases (Uq-BO, G-R&V) specification quality was guaranteed through back office consultation. In the case of Unique’s branch offices and Interpolis’ former EB, insufficient product information led to limited proactivity, i.e. not offering the product. Back office consultation or limited proactivity could be expected in general to circumvent the problem of low quality specifications. Nevertheless, it is still thinkable that specification quality problems might result from insufficient product or process information. It could be expected that this will be in situations where front office employees do offer the service and don’t consult the back office. In such situations front office employees are acting on insufficient information, probably without knowing that the information is insufficient. Although the cases don’t support this part of the proposition, I think it’s too early to leave this part out of the proposition.
Chapter Nine: Cross Case Analysis and Conclusions

Production Surrogates through Process and Product Information

In the general remarks on the model of the information requirements in the front office (see chapter four), I propose that high contact workers (the front office) deal with production surrogates packed in product and process information. Product information provides information on the structure and sequence of service activities and process information provides information on the capacity to perform these activities. It becomes clear from the cross case analysis on proposition one that front office employees need this kind of information to specify services. From the cross case analysis on proposition two, it becomes clear that effectiveness problems arise when production surrogates are not part of the information in the front office.

Confrontation of Proposition Three with the Cases

Proposition three addresses the third research question.

Q3. How are the types of front offices related to the business unit’s service positioning strategy?

At first I discuss the cross case analysis on the three generic strategic patterns presented in proposition three. Then I discuss the relation between these patterns and the front office type to answer research question three. Then I address the question whether it makes sense to distinguish five degrees of customization in the front office information model. In the section on service positioning strategies: oscillation and innovation I discuss the interesting pattern in some of the cases in which two generic strategic patterns could be recognized in the same business unit. In this section Gallouj & Weinstein’s service innovation diagram is used to explain the phenomenon of oscillation between two strategic patterns in the same business unit. The service innovation diagram is revised in the next section based on the innovations shown by the cases and a discussion on the suitability of Gallouj & Weinstein’s diagram to understand innovations in e-commerce and e-business in general. The last part of this section is devoted to service strategy and network positioning and relies solely on observations made in the Interpolis case.

The Three Generic Service Positioning Strategies in the Cases

The three generic service positioning strategies derived from the literature in chapter two and being part of proposition three can be recognized in three case studies. Unique and Sioo showed a combination of scope and partner orientation. Gak planned to move from a clear mass orientation towards a scope orientation through its change program Aansluiting. Their strategic plans showed this movement.

Interpolis showed a pattern in between mass and scope orientation. Interpolis deliberately chose a migration strategy towards more complex services (module two/three) by first introducing a standardized package in which they could emphasize their relationship marketing and advice bank intention and by which they could create awareness in the market and readiness in the distribution channel. The combination of mass and scope characteristics in its service positioning strategy could be recognized and explained by the proposed generic strategy patterns in
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proposition three. The plans on module two/three indicate more customization opportunities, indicating a migration towards scope orientation with more emphasis on mass customization, component based service processes, a more interactive and client focused value adding process and a sparring interaction governance. Whether the migration path indeed brought them to scope orientation couldn’t be determined during the period of study. Furthermore, the scope of the Interpolis study was rather limited. Only the EB strategy has been studied. The characterization of the EB strategy as a migration towards scope orientation doesn’t mean a characterization of the overall service positioning strategy for all financial products at Rabo. To come to this conclusion the scope of the study was too limited.

The Sioo and Unique cases show a deviation from the proposed interaction governance characteristic. The interaction governance in partnership orientation in both cases is not of the proposed jobbing type. In the kind of professional services Sioo and Unique provide, pure jobbing interaction governance (in which the service provider works by order of the customer and the customer highly influences the specification and controls the service delivery process) doesn’t seem to apply. The fact that professionals with a surplus on professional knowledge and experience are insourced, give them the opportunity to negotiate interaction governance based on their professional knowledge. In the conclusions on the Sioo case, I proposed that in partnership oriented strategies the interaction governance is not of a jobbing type, nor of a sparring type but of a partner role type. This conclusion was based on literature used in Sioo’s professionalization programs (Block, 2001). I combine the insights on the partner role with Chase and Acquilano’s (1995) idea of the relationship between high level customization and diagnostic skills of employees. Diagnosing the customer’s problem and situation is described as one of the early tasks of professionals in the partner role in Block (2001). Based on this combination of insights, I propose that the interaction governance type in partnership oriented strategies is not of a jobbing type but of a partnering and diagnosing type. In this type, interaction governance is negotiated with the customer based on the service professional’s diagnostic skills and his strive for a partner role. In the partner role the professional is coupled to the client’s system, i.e. client and professional are mutually dependent, decision making is bilateral, control is negotiated, cooperation is essential, communication is mutual, responsibilities are determined by mutual agreement and the aim of the professional is to provide a permanent solution. In the Sioo case, the partner role stance is deliberately taken and diagnostic skills can be recognized. In the Unique case, the partner role as described by Block (2001) is implicitly taken and diagnostic skills can be recognized. Unique, for instance, advised against customer’s perceived solutions for their problems, reframed and redefined customer’s problems and cooperates intensively with customers, indicating a partner role stance.

The Relation between the Generic Service Positioning Strategies and the Front Office Type

In proposition three I proposed that service providers focusing on mass oriented strategies rely on the front office types 'counter' and 'one-stop-shop'. Service companies with a scope oriented strategy rely on the 'field and inside service' and
'control room'. Service providers with a partnership orientation rely on the 'control room' and 'symbiosis'. All cases support this proposition. Unique’s and Sioo’s strategy showed to be a mix of scope and partnership orientation. The field and inside service front office type was used for specification of mass customized services and the symbiosis type was used for specification of pure customization.

Gak moved its strategy towards scope orientation but showed many characteristics of mass orientation during the period of study. Polisbeheer deliberately was designed as a single point of contact for (loosely packaged) standardized services. Polisbeheer was introduced during the period before the start of the study and reflected Gak’s mass orientation during that period. During the period of study R&V grew into its commercial role and faced the challenge of customizing services out of modules to implement Gak’s strategic change towards scope orientation. As a result of the mass oriented focus in the years before, R&V suffered from insufficient information, but they clearly showed a need for information on the field and inside service level.

The Interpolis case supports proposition three as well. In the mass oriented strategy for the SME market, the front office type ‘one-stop-shop’ is recognized. Interestingly, in Interpolis’ front office for specifying EB module one the relation information is a customer profile, which is congruent with its empowerment perspective and relationship marketing approach in its strategic pattern. The customer profile supports the relational elements in the module one service offering and empowers front office employees to perform these elements.

Proposition three proposes a change in front office information requirements as a result strategic change. In the Unique and Gak cases such a change in strategy was going on, showing changing front office information requirements (see table 9.3).

<table>
<thead>
<tr>
<th>Case</th>
<th>Strategic developments</th>
<th>Changing front office information requirements</th>
</tr>
</thead>
</table>
| Unique | The third process: creation of customized new concepts based on vision forming and strategic developments at clients. | • Awareness of product and process information on the symbiosis level.  
• Need to expand customer profile towards symbiosis level.  
• Need to formalize information on relations and customization cases.  
• More structural information exchange between BO and RM. |
| Gak | Development towards mass customization and commercial relationships with customers. | • Increase in relation information towards the field and inside service level at R&V.  
• Shift in orientation in product and process information from operational to commercial.  
• Increase in product information to the field and inside service level at R&V (modularization).  
• More structural relation information exchange between PB and R&V (i.e. by account plans). |

Table 9.3: Strategic developments in the Unique and Gak case and changing front office information requirements
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In chapter four, I stated that answering research question three (how are the types of front offices related to the business unit’s service positioning strategy?) might lead to the eight characteristic of the three generic service strategies in table 9.4 which characterizes the information needs of the front office: the front office type. Together with the theory revision on the interaction governance in partnership orientation and the new terms introduced to replace the term ad hoc, I conclude that the three generic service positioning strategies can be characterized by eight characteristics (see table 9.4).

**Three versus Five Degrees of Customization**

Differentiating between five instead of three degrees of customization in the front office information model takes a more detailed perspective on customization than is done in the traditional literature on which the three generic strategy patterns of proposition three are built. The question rises whether this contributes to our thinking.

In proposition one I suggest that ‘standardization’ and ‘segmented standardization’ should be seen as being standard services both. The category segmented services draws attention on the opportunity to targeted standard services to a specific market segment through the possibility of bundling standard services into a service package or to couple standard services to cross sell related standard services (related in the sense of targeted to the same segment).

<table>
<thead>
<tr>
<th>Service positioning strategy</th>
<th>Mass orientation</th>
<th>Scope orientation</th>
<th>Partnership orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>characteristics:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature of the service process</td>
<td>Standardized /</td>
<td>Modular /</td>
<td>Professional</td>
</tr>
<tr>
<td></td>
<td>Infrastructural</td>
<td>component based</td>
<td>knowledge based and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>interconnected with</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>customer processes</td>
</tr>
<tr>
<td>Service type</td>
<td>Product (</td>
<td>Service/product</td>
<td>Pure service</td>
</tr>
<tr>
<td></td>
<td>standardized)</td>
<td>(mass customized)</td>
<td>(customized)</td>
</tr>
<tr>
<td>Value adding focus</td>
<td>Process and source</td>
<td>Process, interactive and client</td>
<td>Client and interactive</td>
</tr>
<tr>
<td>Interaction governance</td>
<td>Selling</td>
<td>Sparring</td>
<td>Partnering and diagnosing</td>
</tr>
<tr>
<td>Management approach</td>
<td>Production-line perspective</td>
<td>Empowerment perspective</td>
<td>Empowerment perspective</td>
</tr>
<tr>
<td>Marketing approach</td>
<td>Transaction marketing</td>
<td>Relationship marketing</td>
<td>Relationship marketing</td>
</tr>
<tr>
<td>Economies</td>
<td>Economies of scale</td>
<td>Economies of scope</td>
<td>Economies of relationships</td>
</tr>
<tr>
<td>Front office information requirements</td>
<td>Counter or one-stop-shop</td>
<td>Field and inside service or control room</td>
<td>Symbiosis or control room</td>
</tr>
</tbody>
</table>

Table 9.4: The three generic service positioning strategies adapted
Chapter Nine: Cross Case Analysis and Conclusions

The Interpolis case (EB module one as a package with a specific legal assistance insurance as cross selling opportunity) and Gak Polisbeheer (standardized umbrella policies with cross selling opportunities of data supply products) showed that both in theory as in practice it is attractive to take the category of segmented standardization into account, although it is just a standard service and thus belongs to the mass oriented service positioning pattern.

‘Tailored standardization’ is taken into account in the model for other reasons. ICT provides us with the opportunity to combine on the lowest thinkable level of smallest replicable units (Quinn & Pacquette, 1990), to price discriminate on that level (Shapiro & Varian, 1999), to analyze information on customer relationships on a longitudinal basis to follow the development of the relation and to provide us with a detailed status on the assignment of capacity on customer orders (for example by using workflow management technology). “Anything that can be digitized can be customized” (Pine et al., 1995) and as digitization is possible on the lowest level, customization could be done on that level as well. For these reasons it is theoretically attractive to distinguish an ‘advanced level’ in between mass customization and pure customization to investigate whether this level makes empirically sense.

The case studies in this thesis don’t show a clear control room pattern. But the Unique and Gak study show service elements and combination procedures that can be recognized as smallest replicable units and indeed were digitized on that level as well. At Unique the management information to customers on temporary employment services was digitized on the lowest level of numbers of hours per period, etc. and the ATS method consisted of smallest units to make the best match and could be digitized on that level as well. At Gak the smallest replicable units were the data in the bill of data elements of the data logistics method. In both cases services were specified on a lower degree of customization in the first place but the organizations had the opportunity to specify services on the level of smallest replicable units. The opportunity to specify on that level seems to be relevant for all kinds of administration services because these services have a high level of digitizeability. Because this study does show some customization practice on the level of smallest replicable units, I do think it still makes sense to distinguish the advanced level of the control room in the model of proposition one. This advanced level draws attention on customization opportunities due to advanced ICT application and its proposed consequences for relation, product and process information. ‘Tailored standardization’ and the ‘control room’ should be seen as a to be explored area between mass customization and pure customization, making this type of front office suitable for both scope and partnership oriented strategies.

Service Positioning Strategies: Oscillation and Innovation

Some cases show the interesting pattern that two generic service positioning strategies are followed in the same business unit. This is contrary to Shaw’s line of thinking and more in general contrary to Porterian thinking on strategy. According to Shaw (1990), business units often have trouble in focusing on more than one position in the spectrum of table 9.4. This is not to say that companies couldn’t serve
different market segments, but the best way to do so would be by different business units.

I explain the pattern of following two generic strategy patterns within the same business unit by the resource based view on service strategy and the need to extent resources to react on market heterogeneity through innovation. Through especially customer specific and recombining innovations specialized resources are developed or recombined to offer a diversified set of related services to the market.

I followed Gallouj & Weinstein's (1997) definition of a service as “a set of processing operations carried out by a service provider on behalf of a client, in a medium held by the client, and intended to bring about a change in this medium”: I followed many other scholars in their assumption that service strategy could be understood from a resource based perspective and that Gallouj & Weinstein implicitly took that perspective in their definition of services and their categorization of innovation types. Gallouj & Weinstein (1997) generalize products and services in a diagram constituting of the four abstract competence vectors CC, PC, PT and O. Based on these vectors they distinguish radical, incremental, customer specific (ad hoc) and recombining innovations. These innovations differ in their effect on competencies on the range of competence destruction to competence enhancement, with competence destruction being more an exception than the rule. It follows from the definition of services as being a set of processing operations that the innovation logic in services doesn't start with product innovation but with process innovation, a logic known as the 'reverse product cycle' (Barras, 1990).

Gallouj & Weinstein's innovation types and the reverse product cycle are recognized in the cases. The main examples of innovations in the cases are summarized in table 9.5.

As most of the innovations are of the recombining, customer specific and incremental type, these innovations contribute to the service provider’s competencies in an enhancing, reconfiguring and component competence preserving way. These innovations contribute to organizational learning and render unique service outcomes. I like to emphasize that the innovations at Unique and Sioo rendered new service outcomes without radical innovations. Changes in the service outcome resulted of evolution, disappearance, appearance, association and disassociation mechanisms in both customer competencies and the provider's competencies and technology. This supports Gallouj & Weinstein’s observation that a distinction between radical and incremental innovations in services is problematic, as was mentioned in chapter two.

Taken from a resource based view, many of these innovations contributed to key resources and firm heterogeneity. The innovations were of customer value. Especially the customer specific and recombining innovations at Unique, Sioo and Interpolis contribute to barriers of duplication due to intransparancy. These are tacit (skill/experience based), complex (by their interconnectedness of resources and assets) and specific (reducing in value if the innovation is not employed for the original purpose, like in the case of customer specific innovations). By the innovations, resources are developed over time in reaction on heterogeneity in demand, thus the innovations are path dependent. In the Sioo, Unique and Interpolis cases, the innovations let to a diversified set of related services.
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<table>
<thead>
<tr>
<th>Case</th>
<th>Incremental innovations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique</td>
<td>New tests.</td>
</tr>
<tr>
<td>Gak</td>
<td>Changes in forms.</td>
</tr>
<tr>
<td>Interpolis</td>
<td>Frequent asked question lists, the learning community at <a href="http://www.eb">www.eb</a>.</td>
</tr>
<tr>
<td>Sioo</td>
<td>Transference of learning instruments from the ECP to the BO; changes in the A&amp;O program based on experiences in the UviX innovation project.</td>
</tr>
</tbody>
</table>

**Customer specific innovations**

<table>
<thead>
<tr>
<th>Case</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique</td>
<td>The customization initiatives mentioned in the frameworks 5.2; 5.3; 5.5 and 5.6.</td>
</tr>
<tr>
<td>Gak</td>
<td>Some of the innovations resulted from customer pressure and were triggered through customer contact, as for large customers like KPN.</td>
</tr>
<tr>
<td>Interpolis</td>
<td>Innovations resulting from customer interaction with large enterprises in the market unit GO.</td>
</tr>
<tr>
<td>Sioo</td>
<td>The innovation project for Gak; the specification of a program for BestCable.</td>
</tr>
</tbody>
</table>

**Recombinative innovations**

<table>
<thead>
<tr>
<th>Case</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique</td>
<td>The above-mentioned customization initiatives in which existing building blocks of Unique’s services are combined with new elements.</td>
</tr>
<tr>
<td>Gak</td>
<td>The one-dealing office concept, employer teams and expert concentration in one office; the main elements of Aansluiting; supply chain integration with the data roundabout.</td>
</tr>
<tr>
<td>Interpolis</td>
<td>Module one and the Starter project; ideas on module two/three and the themes ‘Mobility’, ‘Personal Benefits’, ‘Absenteism’ and ‘Provisions for the future’; Compaan services; the ‘multi-arbo’ service; combination of competencies on income insurances, pensions and data roundabouts with other partners through the merger.</td>
</tr>
<tr>
<td>Sioo</td>
<td>The design of the ECP program out of the BO program; learning from the difference in learning strategies between the BMC and ECM; use of action learning experience in the BMC for the UviX innovation program; part of the program for BigBank.</td>
</tr>
</tbody>
</table>

**Radical innovations**

<table>
<thead>
<tr>
<th>Case</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique</td>
<td>No indications.</td>
</tr>
<tr>
<td>Gak</td>
<td>No indications.</td>
</tr>
<tr>
<td>Interpolis</td>
<td>Investment in a salary system; the data roundabout; the EB effectivity scan, RHCS and PBS; through the merger: occupational health care services and a set of new distribution channels.</td>
</tr>
<tr>
<td>Sioo</td>
<td>No indications.</td>
</tr>
</tbody>
</table>

Table 9.5: Main examples of innovation types in the cases

**Sioo Case**

In the Sioo case, the interconnectedness and intransparency of Sioo’s resources that are built over time, produced service outcomes that are of customer value. They interconnect tacit resources like their staff’s design, teaching an coaching repertoire; the design, teaching an coaching repertoire of its network members; Sioo’s platform function for knowledge accrual and dissemination; its relationships with professional associations; it reputation and its customer base providing Sioo with challenging service requests. These resources sometimes render services, which are specific to customers (for instance in the case of in-company programs) which make them even harder to duplicate. The a posteriori recognition, dissemination and
codification of customer specific innovations, in for instance the innovation program for UviX, further contributes to Sioo’s key resources; i.e. Sioo’s relation network; its transformation process, its competence to offer social psychological safety and its reputation. The innovations stemming from the in-company domain are translated into innovations in its open programs, vise versa. Through this oscillating movement between scope and partnership orientation, Sioo enhances its competencies in a path dependent way, making these competencies hard too duplicate and contributive to Sioo’s heterogeneity.

Unique Case
Unique sees itself not so much as a supplier of individual services and products, but more as a partner in lengthy and business critical processes, as advisor during the concept phase, followed by active support during the implementation phase of developed flex-models. To make this strategy operational, Unique deliberately innovates through customized services. Most of these innovations are customer specific and recombinative. Unique attempts to standardize the new elements from innovations and make them recombinant for future offerings using manuals, procedures, methods and function profiles. A clear form of a posteriori recognition, dissemination and codification of newly built competencies, although they often lacked capacity to do so. For customization Unique uses a series of elements from its existing services and adds new ones. It tries to standardize the new service elements to sell them to a wider market.

I characterize the above-mentioned innovations as an oscillating movement between two generic strategies: the scope and partnership orientation. Through this oscillation Unique enhances its competencies throughout the years in a path dependent way. The tacitness of their innovations contributes to duplication barriers. The campaign development for an ICT company is based on tacit knowledge about promotion campaigns in the labor market. The joint venture with the logistics company was based on tacit knowledge on HRM and pool management. The customization cases in the Unique case also show interesting patterns of interrelatedness of resources and intertwining of processes. In the case of Banta the logistical service process of the customer had become dependent on Unique’s ability to provide the right people. In the case of De Amersfoortse, Unique and De Amersfoortse aligned their processes to provide re-integration services. In the case of the joint venture with the logistics company, Unique acted on the logistical planning process of its customer. In the case of the campaign for the ICT company, Unique worked closely together with the HRM department of its customer. These cases show interrelatedness with customer processes in a customer specific way (these were all customer specific innovations), contributing to barriers of duplication. Many of Unique’s innovations started with conceptualization by relation management, but were rolled out to the branch offices to implement the new service, yet another example of (semi) complex interrelatedness.

Interpolis Case
Interpolis combined hard to duplicate competencies as well, in order to arrive at their current position in the market. The case study shows some episodes in their
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path dependent building of key resources. Interpolis combined their fruitful experience with services packaging; Rabo's / Interpolis' strong position in the SME market with the fact that all components for employment benefits services were available in the Rabo group (insurances, pension products, banking products, investment services, (company) card services, leasing and factoring, etc.). By combining these services and by enhancing their experience with Compaan and with the occupational health care service Relan, they realized EB module one and the multi-arbo service and they were able to generate ideas on module two/three and the four EB themes for their large enterprise market. Experimentation with a thin business unit EB to organize content and to facilitate marketing and distribution taught them the limitations of this organizational model. This lesson combined with long term partnerships with Relan and Van Spaendonck over the last past years brought them to a merger in which existing competencies of several partners were combined, new distribution channels became available and the scope of the market enlarged such that innovations like the data roundabout and the new salary system could profit from network externalities.

I characterize the first steps in Interpolis' EB strategy (module one, Compaan, the multi-arbo service, module two/three and the themes Mobility, Personal Benefits, Absenteeism and Provisions for the future) as recombinative innovations, i.e. systematic reutilization of components of the business system without changing the core design concept behind many of the components, but with changing the architecture of the system. The BU EB itself for instance, was such an architectural change. Architectural competencies (like Interpolis' organizational and informational structure, intermediary sales processes and co-operations with third parties) needed to be reconfigured and component competencies were preserved.

Some of the later steps were radical innovations, for which new competencies were needed to create new service outcomes. I characterize the investment in a salary system and the data roundabout to provide reduction of administrative burden services and to provide EB statements; and the EB effectivity scan, RHCS and PBS as radical innovations for which new competencies needed to be build and for which Interpolis searched co-operation with several third parties. Van Spaendonck for instance, already had experience with data roundabouts. The merger led to competence enhancement and reconfiguration.

Interpolis built a set of competencies, which are hard to duplicate. It is a complex set of interrelated resources (a combination of their market position; EB sales tools; a wide range of distribution channels; combinations of reintegration, prevention, absenteeism control and financial services; EB statements; the data roundabout, etc.). Many of these resources are tacit (like reintegration services and occupational health care services) and some of these resources are only economically feasible due to network externalities, making them altogether hard to duplicate. Some of the resources are specific as well, like specific pension products and EB services in the large enterprise market.

This path of innovation supports the premise of resource based thinking that resources are developed over time through breakthrough innovations and incremental innovations in processes and by continuously responding to market needs (Hunt & Morgan, 1995), which could be recognized at Interpolis. This path
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dependent resource building contributes to the firm’s heterogeneity. Whether the innovations will lead to an oscillation between two of the three generic strategies as could be recognized in the Unique and Sioo case studies, can’t be concluded due to the limited scope and time window of the case study. The parallels between the plans to approach the large enterprise market and the SME market, the new distribution channels Interpolis acquired through its merger and its multi-channel distribution intention, suggest a partnership oriented strategy for its large enterprise market in combination with a more modular based service offering for its SME market and the ‘personal benefits’ employee market.

Gak Case
The Gak case merely tells a story of ‘contra’ resources (resources that limit the company’s abilities on the market). Gak’s strategy was to innovate from a mass oriented strategy without any real competition towards a scope oriented strategy to retain existing customers in an environment of rising competition. The mass oriented strategy of the past years and the lack of competition generated an operations oriented organization. Protection of the standardized operations (‘the factory’) made recombinative innovations and customization hard to realize and marketing and sales were underdeveloped (as can be seen in the R&V and Polisbeheer front offices). Although customer specific innovations can be recognized, a posteriori recognition of new built competencies wasn’t done. Leaving these customer specific innovations ad hoc in the general sense of meaning, i.e. unstructured / uncontrolled. The tremendous change program Aansluiting had to bring the major organizational, informational and technical changes needed to move from a mass oriented strategy to a scope oriented strategy. Large parts of the operations of the organization needed to change and a complete new marketing and sales organization had to be built. Such major effort shows that many of Gak’s existing resources had become contra resources. After Gak would have arrived at a situation in which mass customization would be possible, they aimed at a strategy of mass customization for sectors and large customers and packages of standardized services for SME’s. This could be characterized as scope orientation for large customers combined with mass orientation for SME’s.

The Unique and Sioo case explicitly show a pattern of oscillation between scope and partnership orientation, in which the scope orientation is strengthened by the partnership orientation, vise versa. Working with modules in their organization made it possible to combine existing modules with new ones to create unique service outcomes on the one hand and created opportunities to enhance their base of modules through a posteriori recognition and dissemination of new built competencies on the other hand. This way of working not only strengthens pure customization and mass customization but strengthens relationship marketing as well. Having good relations with customers might result in service requests beyond the scope of current customization options, driving the supplier towards customized solutions to retain the customer. Oscillation couldn’t be recognized in the Interpolis case due to the limited scope and time window of the study. But their overall EB strategy for the large enterprise and SME market suggest a combination of
partnership orientation and scope orientation. The Gak case shows another combination: mass and scope orientation. Although Gak hadn’t arrived at this situation yet, this combination seems to make sense. With a modular organization, it is not hard to standardize certain service combinations into packages to service particular market segments as in Gak’s case the SME market (a typical case of the ‘reverse product cycle’).

I conclude that combinations of scope orientation and partnership orientation in one business unit make sense in the following three situations.

1. The business unit wants to continuously enhance its existing base of modules. Experimenting with new service elements in customer specific innovations and a posteriori recognition, dissemination and codification of new built competencies is an alternative for traditional service enhancement through process/product innovation. In this alternative the cost of the innovation effort is (partly) paid for by the customer who receives the first unique service outcome.

2. The business unit’s emphasis is on partnership orientation and pure customization, but sees a market opportunity to standardize part of its service into standardized modules to serve a larger market without giving signals to the market that services aren’t customized (the fact that a service is customized out of standard modules doesn’t have to be visible in the market).

3. The business unit has (large) customers, which need to be retained, and which now and then have service requests beyond the scope of current customization options, thus driving the supplier towards customized solutions.

I like to emphasize that, as with many management decisions a trade off needs to be made between the advantages and disadvantages of combining the two generic strategies.

1. The danger of the first above-mentioned situation is that customers who coproduce in customer specific innovations might become to view themselves as guinea pigs after it became clear to them that service innovations at their supplier, for which they paid a price, are used to serve a larger market. This will especially be painful if the customer perceived the relationship with the supplier to be a good one (a prerequisite to innovate together) or if the customer paid a premium price for the unique service outcome (which some time later turns out to be not as unique as thought). Clear agreements between both parties seem advisable.

2. In the second situation the danger obviously is that it becomes visible to the market that the solutions provided are merely standardized instead of customized and that the price paid is too high. In this situation the service provider’s reputation of premium priced customized solution provider is damaged and prices are expected to decrease. To circumvent this danger, the service provider might start service specification always in the partnership
mode (having both mass customized and customized solutions available). When it becomes clear that the customer’s request could be served with a mass customized solution, the service provider might lower its price, because costs are lower.

3. The danger of the third situation is ‘drifting strategy’. Too many requests for pure customized solutions from a set of valuable customers or an ever-enlarging set of perceived valuable customers might erode the business logic of the business unit. Premium pricing of customized solutions and clear criteria of valuation of customers are needed in this situation.

A combination of scale and scope orientation seems plausible if higher prices and a certain amount of volume for mass customized solutions outweigh the costs of building a modular organization and low priced standard services are needed in certain market segments (for competition reasons for example). If volume and price of mass customized solutions doesn’t outweigh the costs of modular organizing, there might still be a reason to build a modular organization: shortening the time to market for standardized solutions in combination with (low volume) opportunities to mass customize. The trade off in combining these two strategies is the trade off between the cost of modularization and the amount of volume in standardized business on the one hand and volumes and prices of mass customized solutions and the business opportunities arising from shorter time to market on the other hand. If the second doesn’t outweigh the first, a strategy of mass orientation seems advisable.

In general, business units need to make the trade off between the volumes of their business made in two different generic strategies (a trade off in proportion of business made under both strategies). If the volume made under one strategy increases to the expense of the volume made in the other strategy, the moment has come to clearly differentiate the market and serve market segments from one of both strategies. This might result in different business units or might result in different distribution channels, i.e. in differentiation of front office activities and service offerings to market segments, leaving back office activities to one and the same production unit (see part two, chapter ten).

Revising Gallouj & Weinstein’s Service Diagram

The Interpolis and Gak case show several innovations in which the provider’s technology is connected with technology on the customer’s side and in which changes have to be made in the customer’s technology. In the data roundabout initiative of both Interpolis and Gak the technology of the service provider is connected to the personnel and salary systems used by customers or their administration offices / accountants. The same accounts for Gak’s data supply products, Gak’s Reflex project and Interpolis’ combination of personal benefits statements and worksite marketing. In this last initiative Interpolis envisioned to provide information on its employment benefits services to employees through the company portal of the employee’s employer, through which personal benefits statement could be provided as well.

These innovations could not be modeled through the service innovation diagram of Gallouj & Weinstein and ask for a revision of the model. Gallouj & Weinstein
assume that customers interact with the provider’s technology, which isn’t the case in the above mentioned service innovations. In these innovations customers interact with their own technology and the innovation is on the interface between the customer’s technology and the provider’s technology, sometimes even requiring changes in the customer’s technology.

I propose a revision of the service innovation diagram in which customer’s technology is explicitly taken into account, which shows the interaction possibilities between the customer and it’s own technology and the provider’s technology and which shows the interfacing between customer’s technology and the technology of the provider. The revised diagram is depicted in figure 9.1.

The above-mentioned innovations by Gak and Interpolis could be categorized as e-commerce / e-business innovations. In e-commerce, the sales cycle business logic is programmed in software. In e-business, networks and chains of service processes performed by several parties is supported by ICT infrastructure and applications (Deise et al., 2000; Alt et al. 2001). The network ecosystem of Kluber et al. could be seen as an e-business model. Through the revised service innovation diagram we are able to understand e-commerce and e-business innovations in general. E-commerce should be seen as replication of service processes in the most literal meaning. The process logic is interpreted by the customer’s personal computer, i.e. the process is replicated on the customer’s machine and the service process is literally positioned in the customer’s home. In traditional service facility layout the process was positioned on the market by physical facility layout and process logic could only be replicated that far as the front door of the service facility. Nowadays with telephone technology and e-commerce applications (including mobile commerce applications), service providers have the ability to reach with their service process positioning and replication that far as the customer’s technology in his home or his pocket. The customer interacts with his own technology which is interfaced with the provider’s technology, as was already the case with traditional telephony.

Figure 9.1: Revised service innovation diagram
The Revised Service Innovation Diagram and E-commerce

The revised service innovation diagram draws attention to several topics, which are central in e-commerce and e-business.

The revised diagram draws attention to the complexity of coproduction in e-commerce. The diagram shows that in e-commerce applications the customer needs to be knowledgeable about coproduction on four levels.

- He needs the skill to use his own technology in general (which isn’t that obvious as it looks like, because to many people ICT is a quite complex technology).
- He needs to know how to use the service provider’s specific software in which the service process is replicated and distributed and which is run by the customer’s browser (which is not obvious because e-commerce applications vary in interface design, procedures, disclaimers, mercantile models, etc. A mercantile model is the model of interactions between customers and providers in a selling situation. (Kalakota & Whinston, 1996)).
- He needs to be knowledgeable enough about the service to understand the service and its customization options, to be able to specify the service (which is not obvious for complex services like pension plans for instance).
- He needs to know how to coproduce with the service provider through the software to produce the service.

If we look at e-commerce from this perspective, coproduction in e-commerce is significantly more complex than in traditional service distribution and production. It is certainly more complex than just filling in application forms, eventually supported by personal contact over the telephone. Whether customer’s willingness to acquire all these skills to coproduce determines the success of e-commerce applications and how companies could provide customers with incentives to acquire and use these skills is still an under researched area. Viewed from this coproduction perspective, e-commerce applications could be seen as applications with e-learning elements (an insight that is quite rare in current literature).

The revised service diagram further draws attention on customer technology – provider technology interfacing and the need for standards on several levels (based on the network ecosystem).

- The IT and communication level (technology standards).
- The transaction level (like payment standards).
- The process level, like for instance by standard mercantile profiles. Standardization of mercantile models is supposed to contribute to e-commerce acceptation (Kalakota & Whinston, 1996).

The extended service diagram places the definition of services into another perspective. In this thesis I followed the definition of services as a set of processing operations carried out by a service provider on behalf of a client, in a medium held
by the client, and intended to bring about a change in this medium. In e-commerce applications, there is always a secondary medium involved, the customer’s technology (vector CT), for which the service provider has to provide a set of processing operations to enable the customer to use its technology (like for instance technological usage support). Furthermore, the provider might provide changes in the customer’s medium (his technology / vector CT) to enable the customer to coproduce. Both are for instance the case in e-banking in which the customer has to install software on his PC (a change in his medium) and the bank needs to provide technical support to support the customer in the usage of the software (set off processing operations). Furthermore the provider needs to maintain the software (again providing operations to change the medium held by the customer).

In addition to this, the revised service diagram draws attention on the fact that e-commerce applications are always layered service offerings in which a complex network of service providers provide the service. According to the layers in the network ecosystem, the process and coordination providers (as being the primary service providers that actually want to distribute their services through electronic channels), become dependent on infrastructure providers like IT and telecom providers. The performance of the underlying layers determines the performance of the e-commerce application, i.e. the policies on the perishability / capacity constraint problem (see chapter two) of the service providers in the underlying layers determines the performance and capacity constraint problems of the service providers in the upper layers of the network ecosystem. To give an example, if telecommunications capacity falls short during peak time and the telecommunications company’s perishability policy is to provide its customers with financial incentives to use their services during the evenings, a shift in the use of e-commerce applications of the upper layer service providers to evenings might be expected. This results in new capacity constraint problems for these service providers (for instance, e-commerce system operators need to work at night time). To make things even a bit more complex, the price structure of the complete service is not only determined by the prices of upper layer service providers, but also by price structures of the under layer providers, meaning that the customer often needs to pay for its coproduction in electronic channels (even when the end product is not sold), simply because he has to pay for telecommunications or new browser versions. Last but not least, perceived service quality of the end service might be influenced by the performance of the under layer service providers (in terms of reliability and responsiveness in the first place). Perceived service quality of the customer even becomes dependent on his own technology (vector CT) and his competencies to use this technology (vector CC). It should be stated that the dependency on underlying layers in the network ecosystem applies to both the customer side of the diagram (underlying vector CT) as the provider’s side (underlying vector PT) and thus applies to the interfaces between both sides.

The Revised Service Innovation Diagram and E-business
The revised diagram facilitates thinking about e-business applications as well. Gallouj and Weinstein’s original diagram took chains or networks of businesses into account by denoting a provider’s side in the diagram. But in their discussion on the
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diagram they are quite implicit about this. I recommend to make the network perspective more explicit by stating that the diagram should be read and used recursively, i.e. that in a network or chain the C and T vectors of downstream providers could be viewed as client C and T vectors by upstream providers. This way the revised diagram is in line with current thinking about e-business in which the T-vectors of different parties are connected to support each other’s C vectors. Furthermore in e-business the idea is to connect the CC vector of the end customer by his CT vector to a full range of service providers. In this way, e-commerce applications that connect end customers to a network of service providers through their technology serves as a multifunctional access point to the network (as was proposed in the literature review of chapter two).

The Revised Service Innovation Diagram and Service Innovation Cycles
The revised model further draws attention on a specific cycle of innovation in scope/partnership orientation hybrid strategies in which e-commerce is applied. The innovation cycle runs as follows.

1. Customer specific innovation at the customer – provider (human) interface, leading to an outcome vector which is a customer specific solution and new built competencies in vector PC.
3. Codification of new built competencies to that level of detail that digitization becomes possible and the competencies become part of the vector PT.
4. Replication of process logic in PT thought electronic channels over the vector CT.
5. Training the customer in new coproduction skills (competence enhancement in vector CC).

This cycle could be viewed as an extended reverse product cycle (extending Barras’ cycle). The traditional cycle is extended by the idea that service innovation starts in the interaction with the customer (often during service specification) and that it ends with distribution channel choice and innovation (replication of new service processes over physical service facilities and/or electronic self service facilities).

The Revised Service Innovation Diagram and the Definition of Innovation Types
Based on the revised service innovation diagram and the critique on the usage of the term ad hoc at the beginning of this chapter, the definition of innovation types provided by Galloj & Weinstein needs some adaptation as well (see table 9.6). It should be noted that the concept of recursiveness applies to the innovation types as well.

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<table>
<thead>
<tr>
<th>Innovation type</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Radical innovation</td>
<td>• The entire system of vectors CC, CT, PC and PT is changed to provide a new service outcome (vector O).</td>
</tr>
<tr>
<td></td>
<td>• Competence destroying and reconfiguration.</td>
</tr>
<tr>
<td>Incremental innovation</td>
<td>• Improving certain characteristics of vectors CC, CT, PC and PT, without changing the system.</td>
</tr>
<tr>
<td></td>
<td>• Competence enhancing.</td>
</tr>
<tr>
<td>Customer specific innovation</td>
<td>• Interactive (social) construction of a solution to a particular problem posed by a given client.</td>
</tr>
<tr>
<td></td>
<td>• The outcome vector can be seen as an original solution.</td>
</tr>
<tr>
<td></td>
<td>• Mainly produced at the client/provider interface.</td>
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<tr>
<td></td>
<td>• A posteriori recognition, dissemination and codification of new built competencies (PC).</td>
</tr>
<tr>
<td></td>
<td>• Competence enhancing.</td>
</tr>
<tr>
<td></td>
<td>• Customer specific innovations apply also to vectors CT and PT and their interface, as is the case for proprietary systems in business-to-business electronic interaction for instance.</td>
</tr>
<tr>
<td>Recombinative or architectural innovation</td>
<td>• Systematic reutilization of components of the system (out of vector CC, CT, PC and PT) without changing the core design concept behind components but with changing the architecture of the system (the way in which components are integrated and interlinked).</td>
</tr>
<tr>
<td></td>
<td>• Two basic forms: creation of a new outcome by combining the characteristics of a service or by splitting a service into two or more new ones.</td>
</tr>
<tr>
<td></td>
<td>• Architectural competence destruction and reconfiguration and component competence preservation. Implementing information architectures to support E-commerce/E-business serves as a contemporary example of this innovation type.</td>
</tr>
</tbody>
</table>

Table 9.6: Types of service innovation, adapted

#### Service Strategy and Network Positioning

As stated in chapter one, the interorganizational / network perspective on service strategy hasn’t been part of the initial research design but became part of my thinking during the study. For this reason the ‘network ecosystem’ framework of Klüber et al. (1999) has only been used as an analytical instrument to model roles and services provided in a network of service providers in one case, the Interpolis case. This means that a cross case analysis on this part of the study can’t be done and that further confrontation of this framework with practice is left for further research. Nevertheless on the basis of the Interpolis case some remarks could be made on the framework and on the thinking on service strategy as presented in chapter two.

The complete EB strategy (module one, two/three and the strategy towards large enterprises) of Interpolis indeed had a logic of bundling services in a network of suppliers to broaden offerings to satisfy the market and to protect the existing
customer base, as described in chapter two. In Quélin’s (1995) terms, Interpolis allied with companies with complementary resources which are already available and in which the alliance focuses on existing markets (like for occupational health care services and re-integration services) and Interpolis allied with companies, which focus on the development of new resources (like in the building of the salary system and data roundabout).

The ‘network ecosystem’ framework of Klüber et al. (1999) showed to be relevant to analyze the BU EB’s network positioning and to explain some of Interpolis’ strategic developments. Interpolis clearly took the position of establisher, maintainer, standard setter and operational manager in the network to take maximum control over the network. In this position, Interpolis recognized the limitations of network organization. The variety of requirements from the market units (service requests) on the product units (service providers) showed to be too large resulting in too much SLA’s. I argued that the large amount of different process providers was hard to coordinate in the absence of a mature information, data and transaction infrastructure, which often is the glue that holds together business processes. Mowshowitz (1997) already stated that the feasibility of virtually organizing increases with the availability of such an infrastructure (see chapter two). Interpolis had to build this infrastructure (data roundabout, salary system, EB statements) themselves. Standards were not available, so they had to set de facto standards. The infrastructure could only be economically exploited with critical mass. In a network structure with autonomous parties, there is always the danger of not arriving at critical mass because parties are not obliged to participate, or to subscribe to a standard. Through the merger Interpolis gained control over a large part of the process providers, which made it easier to arrive at critical mass and to set de facto standards in the market. Furthermore, Interpolis enlarged its infrastructure by gaining access to the infrastructure of its partners. The front offices Rabo banks and Rabo NL, together with the BU EB could be viewed as the access point to the service network. In the activities of this access point we recognize one of the functions of service specification mentioned in chapter two: specification of the implementation set of the service network.

**Confrontation of the Basic Assumptions with the Cases**

The propositions are based on several assumptions taken from the literature review in chapter two and three. In this section I confront the main assumptions with the cases to see whether the assumptions hold. The propositions are based on the following assumptions.

- The definition of services and the basic characteristics of services.
- The front and back office dichotomy in service delivery design and Normann’s differentiation between two customer contact types: one for service specification and one for coproduction in service operations.
- Seven functions of service specification derived from the literature in chapter three.
Service Definition and Service Characteristics

I followed Hill (1977) and Gallouj and Weinstein (1997) in their definition of a service as “a set of processing operations carried out by a service provider on behalf of a client, in a medium held by the client, and intended to bring about a change in this medium”. All services in the case studies meet this definition (see table 9.7). All these services are intangible and especially professionalization, temporary agency and re-integration services have a high degree of production/consumption simultaneity, thus meeting with the two basic characteristics of services. Furthermore, all services in the cases are on the pure service end of Shostack’s service-goods spectrum.

Front and Back Office Dichotomy and Differentiation Between Service Specification and Operations

A second important assumption in this study is the front and back office dichotomy in service delivery design and Normann’s observation that the customer appears twice in the service system, to specify requirements and to take part in service production.

<table>
<thead>
<tr>
<th>Service in case study</th>
<th>Examples of processing operations</th>
<th>Medium held by the client</th>
<th>Examples of changes in that medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary agency services (Unique and to some extent Company in the Interpolis case).</td>
<td>Recruitment, selection, matching, training, pool management.</td>
<td>People and mental stimulus processing.</td>
<td>Work experience, skills and knowledge building.</td>
</tr>
<tr>
<td>Insurance and administration services (Gak, Interpolis).</td>
<td>Informing, advising, contract / policy management, claims processing, benefits determination.</td>
<td>Information processing on policies / contracts which contain customer’s rights.</td>
<td>Changes in the policy due to tenure or wage mutations.</td>
</tr>
<tr>
<td>Re-integration services (as part of the Unique, Gak and Interpolis case).</td>
<td>Settlement of re-integration plan, advising employees and employers, psychological or medical interventions.</td>
<td>People and mental stimulus processing and some information processing (on claims and benefits).</td>
<td>Changes in people’s bodies or minds and in non-physical assets as their income.</td>
</tr>
<tr>
<td>Professionalization services (Sioo).</td>
<td>Assessment, teaching, coaching, consultation.</td>
<td>Mental stimulus processing.</td>
<td>Changes in professional motivation, repertoire, knowledge and skills.</td>
</tr>
</tbody>
</table>

Table 9.7: All services in the case studies meet the definition of services
I start with Normann’s observation. Based on the research material in this study, I come to the conclusion that there are at least four different kinds of service encounters or moments of truth and thus customer contact functions (see figure 9.2).

1. *Promotional* customer contact, like in the case of EB events for SME employers by Interpolis / Rabo. In these contacts services or problems for which a service might be the solution are brought to the attention of the market in a general (non-customer specific) mode.

2. Service *specification* in which general promises made through advertising or promotional contacts are confirmed by matching customer specific requirements on service offerings.

3. *Operational* contacts, in which the customer coproduces.

4. *Supportive* contacts, like Gak’s usage support for data supply media.

In reality these different kinds of contacts could be mixed and could take place in the same organizational unit (which often will be denoted by front office), as was for instance the case at Polisbeheer in which service specification and operational contacts (for policy management) were mixed. For theoretical/analytical reasons these contacts need to be differentiated because contact types might require different employee skills, knowledge and information. For this reason, I provided a stipulative definition of the front office as being the part of the organization in which customers have contact with the service provider to reach an agreement regarding the service to be delivered. This definition restricts the general meaning of the word front office to service specification activities in this thesis.

Unique’s branch offices, Gak’s R&V and Polisbeheer, the CWI’s and the Rabo banks in the Interpolis case are all clear front offices in the general sense of meaning (being a (often physical) part of the organization where the organization has customer contact) and were designed as single points of contact. Interpolis BU EB, Sioo’s program management and Unique’s relation management are more abstract, less physically defined as in the general sense. All people working in these front
offices recognized their customer contacts, recognized their service specification activities and saw some differences between front office and back office. But all these front offices had broader functions that just service specification. In many cases they performed service operations activities as well (like program management at Sioo for instance and the mixture of service specification and service management tasks for managers at Unique). For analytical reasons the scope of the study was on service specification and not on the complete activities of front line employees in front offices in the general meaning. It should be noted that the findings of the study are limited to this scope and that front offices which have a broader task than service specification, will have broader information requirements than those that can be derived from this study.

The difference between service specification and service operations is a gray area in some services as became apparent from the Sioo case study. In Sioo’s programs, specification of services continues at run time according to the degrees of freedom designed in the program. Specification activities for in-company program design might already be subjected to contracts. Furthermore, service specification of in-company programs might already be an intervention in the customer’s organization and thus has service operations characteristics. For analysis and synthesis it is important to note that this layerness of service specification might exist and that service specification might be in itself a form of service delivery as well. It doesn’t mean that theoretically differentiating between service specification and service delivery doesn’t make sense, as has been discussed in the conclusions on the Sioo case.

**Seven Functions of Service Specification**

In chapter three, based on the literature study, I assumed that the specification process in the front office forms the link between service marketing and production and that service specification has seven functions. I reviewed the cases to see whether these functions could be recognized in the cases. As shown in table 9.8, many cases show these service specification functions.

**Unique Case**

The branch offices of Unique inform and advise customers on the kind of service they provide (temporary employment, secondment, recruitment and selection, etc) and the abilities to make a match. The application of the employer is always processed completely to enable him to specify his needs, thereby a complete service specification is drawn to initiate service delivery (the matching process). Even if a match is expected not to take place, the application is still processed, explicitly meant to support relation building (and is done through personal contact for the same reason). Customer fear is reduced through a complete set of specifications and a warning if matching will be hard to achieve. The implementation set of the network (the amount of branch offices looking for a proper candidate in combination with advertising media) is set during specification. Information on the market is accumulated during specification on a local basis (‘in the heads of intermediaries’), but was not formalized. The branch office has just a signaling (minimal) function for service innovation through customized solutions.
### ICT Enabled Distribution of Services

<table>
<thead>
<tr>
<th>Service specification function</th>
<th>Uq-BO</th>
<th>Uq-RM</th>
<th>G-R&amp;V</th>
<th>G-PB</th>
<th>G-CWI</th>
<th>IP-EB</th>
<th>Si-OP</th>
<th>Si-ICP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers specify their needs and the service provider informs and advises.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>The building of customer relations.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Complete service specification reduces customer fear and improves perceived service quality.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Initiates service delivery processes by providing these processes with specifications.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>The implementation set of a service network is specified.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Interaction often forms the starting point for service innovation.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Accumulation of market information.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

X = indicates this specification function; X - = indicates this specification function partly

Table 9.8: Service specification functions in the cases

Relation management informs the customer about customization possibilities and sometime even advises negative on proposed solutions by the customer and reframe their problem to help them specify their needs and to build relations. They try to come to complete specifications, although they know that customization specifications sometimes are loosely defined and that these need to be refined throughout implementation. Therefore they seem to rely somewhat more on the relationship, than on complete specification to reduce customer fear. The implementation of customization is initiated by the specification process and is done in a network of branch offices, third parties, the customer and by hiring new functionaries. This network becomes clear during specification. It is clear that the interaction between customer and relation management is the source of innovation. Relation management accumulates information on the market through account planning.

**Gak Case**

R&V clearly faced the challenge to contribute to Gak’s scope oriented strategy by specifying mass customized services, but lacked relation, product and process information to do so. Furthermore, in the quite bureaucratic organization of Gak, they lacked the empowerment to do so. Therefore they weren’t able to come to complete specifications, to initiate service delivery processes by complete specifications or to specify the implementation set of the network. Information accumulation on the market had just started through account planning and
Aansluiting needed to provide tools for it. The interaction with customers let to some innovations, although a posteriori recognition and codification of these innovations couldn’t be recognized.

Polisbeheer proactively cross sells data supply products with obliged social insurances and informs and advises the customer on both service types and services from the B-branch. Especially for large enterprises Polisbeheer faced the same challenge as R&V when it comes to building relations between Gak and their main customers, although for the large bulk of small customers the specification interaction had merely the goal to handle mass transactions. Through WDS, Polisbeheer could come to semi-complete service specifications for the umbrella policy. Premiums still had to be computed in the back office. Specification of data supply products was almost complete as well, although they lacked standard delivery norms to completely reduce customer fear. Delivery processes in the back office were trickier by the specification of the umbrella policy. These back office processes were the same as the implementation set of the internal service network. I haven’t had any indications on innovations starting from interaction between customers and Polisbeheer and the accumulation of market information was restricted to the just started account planning to support R&V in focusing on the larger accounts.

The CWI’s played a limited role in service specification. Just two specification functions could be recognized at CWI’s. The implementation set of the network (UVI’s, GSD’s, ARBVO) was set at the CWI through their reference function and the initiation of service delivery processes was partly initiated by CWI by providing these service processes with the right and completely filled in application forms.

**Interpolis Case**

EB module one had the goal to inform and advise customers on their HRM risks and opportunities and to strengthen relationship with SME’s. In this process, customers could specify their needs (if they were aware of it). Through the simplified package, customer fear is reduced by full service specification and these specifications initiate service processes in the back office of the several suppliers in the network. The interaction with customers on EB module one didn’t show to be the starting point of innovations, but the interaction with large enterprises on EB at the market unit GO could be expected to show customer specific innovations. One of the information items OLI provided was a profile of customers who already took EB offerings to provide Rabo banks with insight into prospects (SME’s who resembled this profile). This market information was built throughout the specification process.

**Sioo Case**

For open programs as well as for in-company programs customers specify their needs in dialogue with Sioo staff who informs and advises (for instance through reframing the customer’s question en redefining his problem statement). Sioo tries to build relationships with its customers throughout service specification. The specification process provides information for program run and run time customization (this process continues during the program, as has been discussed in the conclusions of chapter eight). The specifications for in-company programs often
were quite loosely defined and even for many open programs the specification is loosely defined to allow run time customization, thus not indicating a strive for complete specifications. The Sioo case indicates that uncertainty rising from semi-complete specifications needs to be compensated by good relations. The implementation set (teaching and consultation staff) is set through the program specification on a global level. Depending on the course run adjustments can be made. Interaction on in-company programs is the starting point of many innovations at Sioo, and eligibility assessment and other interaction with (prospective) course members contributes to innovations as well. During specification their marketing database is built and market knowledge on the different in-company segments is built as well (although not in a formalized way).

Confrontation of the Four Cases: the Employability Industry

The four case studies in this thesis have a theme in common; the companies all provide services in the field of employability. The four companies in the cases and many of the service providers around these companies are in what I propose to denote the employability industry. Why it is of importance to denote a new industry is addressed in the first part of this section. In the second part, I discuss several of the initiatives deployed in the employability industry by the companies in the case studies in reaction on changing legislation.

The Employability Industry

I define the employability industry as the service industry in which services are provided to increase the opportunities for satisfactorily life time employment for employed citizens and the companies they work for, and for currently and hopefully timely unemployed citizens. A comprehensive range of services is provided in this industry.

- Employee/employment benefits services and many of the underlying financial services.
- Occupational health care services.
- Re-integration services (in the broad sense, i.e. including health care services).
- Flexible workforce services like temporary employment, secondment, recruitment and selection, pool management, etc.
- Educational services for life long education (ranging from initial education in the public domain to business education and professionalization programs). It should be noted that many re-integration services are educational in nature as well.
- Social insurances.
- Labor guidance services, like those of the CWI’s and the former employment stimulation agencies or assessment centers.

I have several reasons to suggest putting all these services under the umbrella of the new industry term employability.

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- It draws attention to a common goal: employability.
- It draws attention to relationships between services which otherwise wouldn’t be laid. For instance, it might raise the question whether professionalization education prevents from illness (given the fact that professionals might grow into jobs for which their initial education (partly) falls short, this could be the case).
- It draws attention to networks of service providers, providing a comprehensive set of services to support employability.
- It enables us to make comparisons with other countries on costs and maturity of this industry.
- It draws attention to the public/private hybridity of the industry and opportunities for public-private partnerships (for instance in education, social insurances/income insurances or reintegration services).
- It draws attention to a typical characteristic of the industry. It is a hybrid of business-to-business, business-to-employee, government-to-citizen industry, which has consequences for marketing and distribution of the services (for instance: workplace marketing).
- It draws attention on effects of deregulation (or Governmental withdrawal) on the complete industry.
- It draws away our attention from the unilateral resource connotation of human resource management and redirects our attention to a bilateral connotation of resourcefulness in which resourceful organizations enable people to be resourceful, vise versa.

Initiatives in the Employability Market in Reaction on Changing Social Security Legislation

In appendix B, I describe the developments in the general legislative context in which the case studies at Gak, Interpolis, Sioo and Unique have been done. I characterize this general context as one of a withdrawing Government regarding social security, changing legislation on the social security organization and increasing HRM related risks for employers and employees.

Through legislation like TAV (1992), the Wulbz (1996), the Pemba act (1998) and the Working Conditions Legislations (1994 and 1998), the Dutch Government laid the responsibility to prevent employees from illness and occupational disability at the employer. Reintegration initiatives by organizations were stimulated by the Dutch Government through the TAV (1992) and the Rea act (1998). This let to a wide range of private and public services in the field of prevention, insurance, re-integration and reduction of HRM-related administrative burden. Examples of these services become apparent from the case studies.

Sioo took initiatives to support occupational health care professionals, medical examiners, labor experts and re-integration professionals in their prevention and re-integration role. Through the A&O, CA&O and innovation project/action learning program for UviX, Sioo obtained to provide these professionals with knowledge and
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skills to intervene in illness producing systems (like organizations) in addition to intervention in the ‘patient’s system’ (the patient himself and his family for instance).

Interpolis (and many other insurers) provides insurances for those risks from which Government withdrew, like income insurances, Pemba insurances (an insurance against premium rise of another (public) insurance) and WAO-shortfall insurances. Interpolis linked its income insurances and Pemba insurances to prevention by occupational health care providers by setting standards on occupational health care contracts of their customers by the multi-arbo service and through a merger by which they became one of the largest players in the business care market. Through their EB-module one they created awareness on HRM-related risks and opportunities in the SME market and they planned to develop a range of instruments to assess HRM-related risks and opportunities for large enterprises. Furthermore, Interpolis linked financial risks due to illness and disability of their customers and damage reduction on income insurances and Pemba insurances to re-integration services, notably the complete range of services provided by Compaan (including support for the application of Rea-subsidies). Usage of Compaan’s services was arranged for in the multi-arbo service. The Compaan network with Adecco as one of the participants and the cooperation between Unique and the Amersfoortse shed some light on the role of temporary employment agencies in re-integration service networks.

Gak and Interpolis both took initiatives to reduce administrative burden during the period of study. Gak launched the initiative of ViaPrisma, worked on the Reflex project for the temporary employment agency industry and served many customers with their range of data supply products. Interpolis worked on the data roundabout for which they gained critical mass through the merger.

Interpolis not only reacted on the withdrawal of Government, but also perceived their ability to provide services in the employer – employee relationship as a business opportunity. In their concept of employment benefits, they conceptualized a comprehensive service offering taken together in four themes: ‘Absenteism’, ‘Provisions for the future’, ‘Mobility’ and ‘Personal Benefits’. This offering would be supported by the data roundabout, personal benefits statements and worksite marketing in a business-to-business / business-to-employee hybrid mode.

Gak, the other four UVI’s, 572 Gemeentelijke Sociale Diensten and the Arbeidsvoorziening, divided over 18 regions started cooperation in the SWI context to come to about two hundred CWI’s. The primary goal of the CWI’s was to have a single point of contact in which citizens without work would immediately be confronted with the demand site of the labor market and would be stimulated to find work as quickly as possible. Reality two years later was that only 48 out of 200 SWO’s were implemented, that occupational disability was only part of 30 of the 200 SWO’s, that the demand side of the labor market was not included in the CWI, that non of the CWI’s provided a complete overview of vacancies, that process integration hadn’t been reached yet, that most of the operational CWI’s were just offices shared by several organizations, that the CVCS was planned to be operational at the end of 1999 and that the CVCS pilot didn’t had a model of vacancy data. On the first of January 2002 the SUWI act became into force,
providing in a legislative framework to enforce cooperation in the CWI’s between UWV, LIWI and GSD in which all UVI’s merged into the UWV and the Arbeidsvoorziening was merged into the LIWI.

Based on the two acts on the organization of social security, the OSV (1995 and 1997) and the SUWI act (2002), Gak, as being the largest UVI, launched major initiatives to reorganize and revitalize their business. The Gak case shows that a major change program had to be launched to anticipated market changes and rising competition, which resulted from the OSV. The changes were taken together in the change program Aansluiting for which overall costs was budgeted at 294 million Euros during a period of four years. Only three years later, the Dutch government changed its strategy towards the organization of social security and decided to stop the privatization process of the UVI’s. During 2000 and 2001 the SUWI law passed the Dutch parliament, which arranged for the complete merger of all five UVI’s into the UWV by the first of January 2002. Again the UVI’s had to anticipate major environmental changes.

Overviewing all these initiatives, it could at least be concluded that there passes a severe time of several years between the enforcement of legislation and the effects of legislation in such a complex market / society. I will use the term incubation period to denote this time. To support this statement, the above-mentioned initiatives are related to legislation, which gave rise to the initiatives and a rough estimate of its incubation time in table 9.9.

The incubation period suggests that profound research on effects of legislation on society (taking into account the complete process from initiative taking to maturation of services to effects on illness prevention and re-integration), increasing attention of politics for organizational and implementation issues, combined with some patience (not inertia) could be an alternative for politics in which new legislation passes every two years (the Dutch politics of the last ten years).

It becomes clear from the Gak case study that the organizational efforts Gak had to make to adjust itself to the changing circumstances during the period 1997-1999 were profound, as are the current and forthcoming organizational changes due to the SUWI law. It seems to me that it would be of societal and political interest to study how much money the changing strategy towards the organization of social security during two successive periods of ‘purple’ government have cost (the OSV and SUWI acts). I recommend that part of this study should be to express the managerial time spend on reorganization instead of re-integration in financial terms. This raises the interesting question to what extend changes in the organization of social security have its intended effects on re-integration of unemployed or disabled people, how much time and effort it takes to arrive at these effects and to what extend alternative allocations of investments would have more effects on re-integration.

Since the period of the parliamentary inquiry of the commission Buurmeyer, Dutch Government has shifted responsibilities for prevention and re-integration and costs for absenteeism to employers. In the former period all costs were paid from social security funds to which employers and employees contributed. Nowadays, we live in a hybrid situation. Employers and employees still contribute to social security funds.
<table>
<thead>
<tr>
<th>Legislation</th>
<th>Initiative in the market / society</th>
<th>Roughly estimated incubation time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Conditions Legislations (1994).</td>
<td>Start of Sioo's A&amp;O program to support occupational health care professionals in their knowledge and skills on interventions in illness producing systems. It is obvious that it took Sioo several years to educate a large amount of these professionals (the program still runs) and that it took these professionals some time to master their skills in practice as well. At least it took them two years to finish the program.</td>
<td>3- many years</td>
</tr>
<tr>
<td>REA-act (1998) and Working Conditions Legislations (1994 and 1998).</td>
<td>In 1999 Sioo started the initiative for an open CA&amp;O program. The program never ran.</td>
<td>4-? years</td>
</tr>
<tr>
<td>TBA (1993) / Wulbz (1996).</td>
<td>It took Interpolis (and other insurance companies) a couple of years to quantify risks of illness absenteeism insurances (as Interpolis mentioned in their year report 1999).</td>
<td>1-3 years</td>
</tr>
<tr>
<td>Start Samenwerking Werk en Inkomen (1996).</td>
<td>Two years later (at the end of 1998) results were disappointing. Six years later cooperation between three new organizations was enforced by the SUWI act. Reorganizations are still running.</td>
<td>4-8 years</td>
</tr>
<tr>
<td>REA-act (1998) and the decision in the SUWI act (2000-2002) to leave reintegration services to the private market.</td>
<td>The Interpolis case shows that in the beginning of 2001 600 reintegration businesses were operating in the reintegration market, indicating an immature market with many SME's. One could have doubts about the marketing and distribution abilities of some of these companies. It could be expected that occupational health care services and UWV would face severe coordination problems in such a market.</td>
<td>3-? years</td>
</tr>
<tr>
<td>OSV (1995)</td>
<td>Gak envisioned the future in its business plan (1996) and started Aansluiting in 1998 (which was planned to run up until 2001). Aansluiting was dismantled at the end of 1999. Gak sold its commercial ventures in 2000 and prepared the merge into UWV from that year on.</td>
<td>4-6 years</td>
</tr>
<tr>
<td>SUWI (2000-2002)</td>
<td>Reorganization due to the merger is still running.</td>
<td>2-4 years</td>
</tr>
</tbody>
</table>

Table 9.9: Legislation, initiatives in the market / society and the estimated incubation time.
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Besides employer’s and employee’s contribution to social funds, nowadays they have to pay occupational health care contracts, WAO-shortfall insurances, re-integration services, Pemba premiums (conform the bonus-penalty ruling in the act), premiums for Pemba insurances, employee’s wages during the first year of illness (conform the Wulbz) and they have to deal with more suppliers contributing to their administrative burden. It is an open question to me whether society at large is better off nowadays. Are employers and employees paying more or less than before the withdrawal of Government? What has been the effect on the total costs of employing people (which is generally viewed as a major factor influencing the competitors positioning of the Dutch industry on the world market)?

Conclusions

The conclusions are divided into three sections, one on the theory, one on the research design and one on the limitations of this study.

Theory

Through the exploratory research presented in this thesis, I came to a more comprehensive understanding of services positioning strategies, the alignment of organizational design to service strategy, the contribution of service innovation to service strategy and the information requirements for the specification of services.

Confrontation of proposition three with the cases and redefinition of the term ad hoc leads to the idea of three generic service positioning strategies in which resources are combined in service processes and positioned in the market to perform sets of processing operations carried out by service providers on behalf of a client, in a medium held by the client, and intended to bring about a change in this medium. For these three service positioning strategies, the relation between strategy and organizational design is depicted in table 9.4. The relations are based on literature review and are recognized in the four case studies.

Knowledge on the relationship between service strategy and organizational design in the service industry has been expanded in this research on the following topics.

- Taking together insights from the literature on the relation between three generic service positioning strategies and organizational design principles into table 9.4. Although many of the relations in table 9.4 have been derived from the literature, these relations haven’t been taken together before in the literature to characterize the three strategic patterns. Denomination of the three strategic patterns in external oriented terms, merely than in internal oriented terms (like cost leadership), directs our thinking on the external orientation of service positioning.

- The relationship between three service strategy patterns and the information requirements for service specification in the front office expressed in the five front office types of proposition one. This provides an answer to research question three.
• The understanding that the nature of service processes in partnership oriented strategies is based on professional knowledge and that these processes often show interconnection with customer processes.
• The understanding that the interaction governance in partnership oriented strategies is not of the jobbing kind but shows a partner role and diagnostic skills pattern.

Some of the cases quite explicitly showed a pattern in which the strategic orientation of the same business unit oscillates between two generic strategy patterns. I explain this pattern by the resource based view on service strategy and the need to extent resources to react on market heterogeneity through innovation. Combining scope and partnership orientation could strengthen both strategies because working with standard modules makes it possible to combine existing modules with new ones to create unique service outcomes on the one hand and creates opportunities to enhance the base of modules and competencies through a posteriori recognition and dissemination of new built competencies on the other hand. Combinations of scope and partnership orientation make sense if the business unit wants to continuously enhance its existing base of modules, when the business unit emphasizes partnership orientation but sees a market opportunity to standardize part of its service into standardized modules or when the business unit has customers which need to be retained and which occasionally have service requests beyond the scope of current customization options. Combinations of scale and scope orientation are a trade off between the cost of modularization and the amount of volume in standardized business on the one hand and volumes and prices of mass customized solutions and the business opportunities arising from shorter time to market on the other hand. In general, business units need to make the trade off between the volumes of their business made in two different generic strategies. If the volume under one strategy comes to the expense of another, the two strategies need to be conducted in two different organizational units.

My explanation for oscillation between two generic strategy patterns in one business unit deviates from the prevailing idea that different strategies should be conducted by different business units. Combinations of two strategies within one business unit could make sense from an innovation standpoint as long as the resulting operational strain is manageable. This seems to be the case in organizations in which service modules are explicitly recognizable. Standardizing services from modules is easy and adding new modules to customize offerings is possible as long as enough specialism to conceptualize customization is available. Up until a decade ago the dichotomy between standardizes or customized services dominated our thinking. Now that we’re able to study modularization and mass customization, we’re not only able to recognize a new strategic pattern (scope orientation) but we are even able to recognize opportunities for oscillation between scope and partnership or between scope and mass orientation.

The service innovation diagram of Gallouj and Weinstein not only provides an analytical instrument to understand oscillation between two generic service strategies, but also provides an analytic tool to understand innovation in general and thus also innovation within strategic patterns. Based on some of the innovations in the Gak and Interpolis case and based on insights in e-commerce and e-business in
general, the diagram is revised, as is shown in figure 9.1. With this diagram, the service innovation types and recursive use of the diagram, we can reason about innovations, which have become common in the e-commerce and e-business field and the network perspective becomes more explicit in our thinking. The service innovation diagram explicitly shows human and technological competencies, which are exploited in service processes, which are positioned on the market.

As the four case studies show and as is recognized in the literature, today’s business logic in the service industry is one of bundling services in networks of providers to satisfy customer requests. In the Interpolis case this network view has been taken into account. The network ecosystem showed to be relevant to analyze the BU EB’s network positioning and to explain some of Interpolis’ strategic developments. Interpolis had the position of meta manager in the network. The Interpolis case indicates that the meta manager of the network doesn’t have to provide all services itself (reintegration services for instance were insourced from other process providers) and doesn’t have to perform access point (front office) processes itself either (which was done by their Rabo distribution channel as being a sales process provider). The case shows that the metanager has to provide for the glue between the processes, i.e. the design of specification processes in which service requests were matched with production capacity (which was the focus of the Starter project) and the implementation of an infrastructure to facilitate different process providers to work together. In the absence of such an infrastructure, Interpolis had to merge to facilitate their metamanagement function and to arrive at a critical mass to exploit such an infrastructure and to set de facto standards. The use of the business ecosystem in the Interpolis case indicates that this model is not only useful for analyzing roles and services in virtual organizations (its original purpose) but in network organizations in general, as I proposed in chapter two.

Combining insights from the service innovation diagram with insights on the process nature of services and insights from the business ecosystem draws attention on the layeredness of service offerings in e-commerce/e-business. Upper service providers in the ecosystem become dependent on lower level infrastructure providers. The policies on the perishability / capacity constraint problem of the service providers in the underlying layers determines the performance and capacity constraint problems of the service providers in the upper layers of the network ecosystem and the price structure of the complete service in the upper layer is not only determined by the prices of upper layer service providers, but also by price structures of the under layer providers. Perceived service quality of the end service is influenced by the performance of the under layer service providers, the customer’s own technology and his competencies to use this technology.

Front offices (and e-commerce applications as being self service front offices as well) could be viewed as access points to service networks. When it comes to the specification of services in these access points, seven functions of service specification are derived from the literature and confronted with the cases (see framework 9.1). Taking these functions together in a confrontation with the four cases adds to our understanding of the function of service specification. In addition to this, the literature only recognizes two types of customer – provider interaction, one in service specifications and one in service production. Based on the four cases,
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I differentiate four contact types: promotional, specification, operational and supportive customer contacts. In this thesis I focused on customer contact for specification of services.

The information model in proposition one and the confrontation of the model with eight front offices adds to our insight into the information requirements for service specification, a basic activity in service delivery. The model relates three types of information (relation, product and process information) to the degree of customization to be specified. All front office types could be recognized in the cases except the control room pattern. The Unique and Gak study however do show service elements and combination procedures that can be recognized as smallest replicable units and indeed were digitized on that level as well. Because this study does show some customization practice on the level of smallest replicable units, I do think it still makes sense to distinguish the advanced level of control room in the model of proposition one. Tailored standardization and the control room should be seen as a to be explored area between mass customization and pure customization, making this type of front office suitable for both scope and partnership oriented strategies.

The confrontation of proposition two with the cases shows ineffectiveness of the front office when information requirements for service specification are not met. Insufficient relation information limits proactivity, as does insufficient product information. Longer specification lead-times might result from insufficient product information but insufficient process information appears to be more frequently the cause of longer specification lead-times. Limited protection of the back office is a result of insufficient product and process information and sometimes goes hand in hand with longer specification lead-times because the necessary information needs to be extracted from the back office. None of the cases showed specification quality problems although product or process information was missing in four of them. Specification quality was guaranteed through back office consultation or by not offering the service (limited proactivity). Back office consultation or limited proactivity could be expected in general to circumvent the problem of low quality specifications. Nevertheless, it is still thinkable that specification quality problems might result from insufficient product or process information. Therefore I think it’s too early to leave this part out of proposition two.

<table>
<thead>
<tr>
<th>Seven functions of service specification</th>
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<tbody>
<tr>
<td>• Customers specify their needs and the service provider informs and advises.</td>
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<tr>
<td>• The building of customer relations.</td>
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<tr>
<td>• Complete service specification reduces customer fear and improves perceived service quality</td>
</tr>
<tr>
<td>• Initiates service delivery processes by providing these processes with specifications.</td>
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<tr>
<td>• The implementation set of a service network is specified.</td>
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<tr>
<td>• Interaction often forms the starting point for service innovation.</td>
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<tr>
<td>• Accumulation of market information.</td>
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Framework 9.1: Seven functions of service specification

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The findings on proposition two suggest that insufficient information in the front office results in a decrease in service quality. Limited proactivity limits employee's assurance on products and relationships. Longer specification lead-time is a manifestation of lack of responsiveness. Low quality specification might indicate reliability problems. Furthermore, the cases in which insufficient information was available indicate poor employee – technology – job fit, one of the reasons for one of the five potential shortfalls of service quality (i.e. gap three).

The front office information model serves as a reference work for the application of ICT in the front office and takes into account the basic logic of service specification: matching customer requests with service capacity. In the general remarks on the model in chapter four, I state that the first consideration to be made is to determine the highest level of customization to be specified. Software systems, which support this level of specification, can also support the specification of lower levels of customization. From the Sioo and Unique cases, it becomes clear that the relation, product and process information that is available in the field and inside service front office type is available in the symbiosis type as well and that this information is supplemented with information on the symbiosis level. Although not as clear as in the other cases, this can be recognized at Gak as well. R&V and Polisbeheer needed to exchange relation information (for instance account plans) and in both front office types product information on standard social insurances and data supply products was available. R&V clearly showed a need for a larger set of relation information and deeper product information (on the components level) to be able to specify customized standardization. This suggests that with information on the highest customization level / front office type, lower levels of customization specification could be done and the required information exchange between front office types (like for instance the relation information exchange between the branch offices and relation management at Unique and Gak’s R&V and Polisbeheer) could be facilitated. Thus, through designing software that provides that level of information, one presides over software which supports specification of lower levels of customization as well. This software would support varying front offices.

The information model serves as a reference work for service distribution management as well. Designing software that provides information on the highest level of customization / front office type, contains service specification process logic through which it is easier to replicate processes. As a result, new distribution channels can be set up relatively quickly making it possible for service providers to increase their flexibility and time to market. Usage of the model leads to software with the service specification logic of the front office type with the highest degree of customization and all the types with lower levels of customization. Through this software companies can support service specification in different distribution channels (like call centers, traditional front offices, self service machines, e-commerce applications, etc.) which are of the front office type with the highest degree of customization and all the types with lower levels of customization. Usage of the model in managerial decision making not only draws attention on the required degree of customization, required front office information and software design, but also draws attention to the training to be provided to people who need to use the software/process logic. This accounts not only to front office employees who specify
services but also to customers in the case of self-service specification (like is for instance the case with e-commerce applications). If the level of required training for employees or customers for a certain distribution channel appears to be too high, a lower level of customization for that distribution channel needs to be chosen or another channel (with higher educated people) needs to be chosen. Furthermore, the model supports one of the basic functions of service providers: matching customer requests (which become apparent in service specification) with service capacity. Service capacity is reflected in the model by product information (the structure of service activities to be performed) and process information (the actual availability of capacity to perform service activities). The model draws managerial attention on the availability of this kind of information in the organization and thus to the level of service process control in the organization.

To understand resource based service positioning strategies in service networks and the informational design of service specification in access points to these networks, I used four analytical instruments that reinforce each other and facilitates our thinking on the subject: the three service positioning strategies, the service innovation diagram, the front office information model and the business ecosystem.

The three strategic patterns facilitate thinking on the relations between organizational design and service positioning. In the patterns the nature of the service process is related to the marketing and management approach, obtained economies, the nature of the interaction governance, the value adding focus in the process and the information requirements for service specification. These strategic patterns are configurations of resources to provide services to the market. Whether these configurations are unique in the sense that unique resources are bundled, depends on its value to customers, its duplication barriers (due to tacitness, complexity and specificity) and its appropriability. It should be noted that the patterns in itself are complex configurations of (company specific) information; managerial, employee and customer coproduction skills and knowledge; and tangible and intangible competencies. The complexity and tacitness of these configurations limit duplication.

The service innovation diagram and innovation types facilitate our thinking on innovations within strategic patterns and on innovations stemming from oscillation between strategic patterns (which might strengthen both patterns). It further draws our attention to the dynamic relationship between human and technological competencies at both the provider(s) side and customer side, which sheds another light on e-commerce and e-business. Innovations of the customer specific, recombinative and incremental type enhance competencies and thus contribute to heterogeneity of organizations. For customer specific innovations, service specification is the starting point. For mass customization, recombinative innovations are a requisite and recombinative skills and information on recombination options are required during service specification.

The information model for service specification provides an informational design perspective on the design of access points to service networks in which information on relations is coupled to production surrogates in the form of product and process information to facilitate thinking on matching of customer requests to service capacity. It further draws our attention to the relationship between
information and employee/customer skills for service specification. The combination of information on customers, information on production surrogates, the required level of process control to provide for production surrogates and the specification skills of employees/customers in itself could be seen as a complex and company specific configuration which could be a unique resource of customer value.

The business ecosystem facilitates our thinking on bundling service processes of different process providers in complex multi-layered networks and the coordination of these networks. It draws our attention on the dependency of upper layers of process providers on lower layers of business network infrastructure providers and the role of metamanagement in these networks. The metamanagement role concentrates on the ability to facilitate matching of service requests on service capacity in the network through the design of an organizational and informational infrastructure that forms the glue between customers and the different parties in the network. The specification of services initiates contact between the customer and the network and defines the implementation set of the network. Service specification is one of the basic functions of access points to service networks. The front office information model thus gives more detail to our thinking on the metamanagement role. The production surrogates line of thinking in the model, together with the idea to build relation information to recognize customers (and their value to the company/network), the abstraction from implementation issues and the idea that front office information that supports the highest degree of customization in the company/network, also supports lower degrees of customization; provides metamanagement with a model to conceptualize software that might run in different front offices/access points. As was the case with Interpolis, these access points don’t have to be performed by the metamanager itself, but the design of it is an inevitable part of its role to facilitate matching of requests on capacity. The information model provides more insight into facilitation of that matching. Through the design of multiple access points to networks, the metamanager replicates service processes over different front offices to access different market segments. The information model facilitates our thinking on this replication, as I already discussed in these conclusions. Companies that perform metamanagement roles could be expected to be the most powerful in service networks. They design multiple access points to networks (and thus define distribution strategies); they match requests on available capacity; they accumulate market information through access points; they have a broker role in the determination of action sets and they facilitate the determination of implementation sets in service specification in multiple access points. Through these activities they accumulate knowledge on the market and on the performance and attractiveness to the market of the action set, unique resources on which strategies could be build.

Research Method
In de Vries and Roest (1999) in section two, I discuss six criteria to evaluate case research.

- Explication of the epistemological orientation of the study.
- The argumentation of the chosen research strategy based on the research theme.
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- The function of the study in the knowledge accrual process (exploration or explanation).
- The amount of cases, the unit of analysis, the site selection criteria and replication logic.
- The data collection approach: the sources of data, triangulation and the establishment of a review process.
- The data analysis techniques.
- The research protocol and case study database.

These criteria have been used to design the study. In this section I will reflect on the research design in the order of these criteria.

In chapter four I explained the epistemological orientation in this study (a positivistic one). My positivistic orientation stems from my educational background in the information systems / information management discipline, in which the positivistic orientation is the traditional one (Orlikowski & Baroudi, 1991). This could be said about business economics and marketing as well (in which I have some background as well). Throughout my research however, I became aware of the drawbacks of the positivist standpoint (it’s hard to hold on to the idea of one reality, which could be discovered objectively), but a complete redesign of the study couldn’t be done anymore. An epistemological discussion and re-orientation fell beyond the scope of this study due to time limitations. I chose to proceed with the initial research design. Nevertheless this study is not completely hypothetico-deductive in nature, because the theory of the study is hold against empirical data and revised if needed in an abductive fashion, i.e. the theory of the study guided data collection and analysis but the method left degrees of freedom to be able to collect and investigate data to adjust or refine the theory (in a more inductive way). In the presentation of the cases, I tried to let the people in the case studies tell their own story, but the presentation of the material is in the order of my theory.

In chapter four I stated that case research is an appropriate research strategy for studying the research theme service strategy in relation to front office information requirements. As becomes clear from chapter three, little research has been done on this research theme and the theme doesn’t have a strong theoretical base. The objective of the study was to generate theory by exploratory case research.

The amount of cases, four business units and eight front offices, seems to be quite high compared with the study on 55 case studies in de Vries and Roest (1999). Only 13% (7 out of 55) of all studies had more than eight cases. Taken from a front office perspective (the perspective which is central to the three propositions) eight front office cases are studied. The case studies were embedded and I differentiated between the central unit of analysis (the business unit and its front office(s)), the context and the subunits of analysis. The sites are selected on the criterion of maximum variation to be able to investigate all front office types. The Interpolis case showed to be a critical case as well and was selected for this reason. Although these selection criteria worked out quite well, it should be noted that it is quite hard to determine the type of front office from the outside before starting the study. Therefore I didn’t succeed in finding a front office which looked promising from the outside to investigate the front office type control room. In the theory building
process in the case studies and the cross case analysis I used replication logic, not a sampling logic, in which I used pattern matching between the proposed pattern and the empirically based pattern and I used explanation building to explain deviations from proposed patterns and to revise propositions.

The case studies are primarily based on three sources of data: interviews, documentation and information systems, which made triangulation possible. Furthermore investigator triangulation has been applied. In the Unique and Gak case a review procedure has been applied. In the other two cases I haven’t offered the interviewees the opportunity to review transcribed interviews. In the first two cases none of the interviewees reacted on it and I didn’t expect the interviewees in the Interpolis and Sioo case to do so. In all cases the results of the study have been presented to management and have been discussed with management. For all case studies a case study database is built and a protocol is followed. Content analysis of documentation and transcribed interviews has been used as the main data analysis technique and the tables presented in the case studies and the cross case analysis function as conceptually ordered data displays to present and analyze data.

The overall research design worked out quite well. The conceptual research design focused attention on the topics to be researched in the cases. The technical research design focused attention to side selection criteria, the units of analysis, the data sources and techniques to analyze data. The protocol and case study database were helpful in keeping order into the mass of data, which inevitably is part of qualitative research. The complete research design provided enough degrees of freedom to make sense of ‘surprising’ patterns in an abductive fashion, like for instance the pattern of two generic service positioning strategies in one business unit which could be explained by using Gallouj and Weinstein’s service innovation diagram, or to explore interesting topics that came upfront in individual cases, like Interpolis’ network positioning.

Limitations of the Study
Every research has its limitations, as is the case with the research presented in part one of this thesis. I discuss limitations on generalization, limitations due to perspectives taken in the initial research design and limitations due to the scope of the study.

Limitations on Generalization
The advantage of case research is the level of detail that could be reached, the degrees of freedom it provides to make sense of surprising patterns and its suitability to develop propositions. Its disadvantage is that generalization is restricted to analytic generalization (Yin, 1994). Statistical generalization wasn’t the goal of this research. For statistical replication, the propositions need to be made operational. The instrument in appendix A is a starting point to do so but needs addition. Analysis of contracts (the result of service specification), smallest replicable units in different services and applications of work flow management in which service activities are linked, might result in additions of the instrument on product and process information. The instrument on relation information contains enough detail
to make proposition one operational for statistical analysis. To make the relations in the three generic service strategies operational, instruments to measure constructs like management and marketing approach, economies, empowerment, etc. need to be developed. Given the state of research in fields like organizational design or marketing one could expect to find some questionnaires on empowerment or relationship marketing to build on.

The focus of this study was on the information requirements of service specification and its relationship to service positioning strategies. The information model in proposition one has been made as operational as possible in the instrument in appendix A, given the limited state of knowledge on information requirements in services. Detailed instrumentalization of the relationships in the service positioning strategies fell beyond the scope of this study, due to time limitations.

**Limitations Due to Perspectives Taken in the Initial Research Design**

In the initial research design, presented in chapter four, I make an abstraction from the parties involved in the service delivery process and I remained to do so throughout the discussion of the case studies and the cross case analysis. I limited my study to the functional issues of the production and distribution of services, i.e. the activities and processes to be performed to deliver the service. I explicitly didn’t take governance issues into account. It should be stated however, that in practice governance issues do play a role and that in applying insights from this study to practical situations, governance issues have to be taken into account. In service networks, for instance, independent operating organizations might not be willing to share information because this information is strategic to them and thus several organizations may strive for the metamanagement role. Furthermore, multiple access points of a service network, governed by multiple organizations, might result in channel conflicts in which the same service offering of the network is distributed to the same market segment by two different access points / front offices governed by different organizations.

In the initial research design, I didn’t take a network perspective on service strategy and front office design. I took an intra-organizational perspective, which is the traditional perspective in much research on information management and service marketing and management. This means that the unit of analysis in all cases has been on the intra-organizational level (the business unit) and that the site selection was based on that perspective as well. Taking networks of service organizations as the unit of analysis would have been beneficial to the network positioning issues in this study, which now has only been studied in the Interpolis case and only has been studied in that case from the perspective of one of the parties in the complete network: Interpolis. I came to the understanding that the intra-organizational perspective limits our understanding on service positioning strategies and front office design halfway during my studies. The Interpolis case, the literature review in chapter two and this chapter provided the only opportunities to discuss this perspective. I’m aware of the limitations of this discussion and the reader has to be aware of it as well, nevertheless I found the combination of the insights in the initial research design with the network perspective of the business ecosystem too interesting to withhold from the reader.
Limitations Due to the Scope of the Study

The scope of this study has been restricted to service specification and the service positioning strategy of the business unit in which front offices were studied.

In reality the four kinds of customer contact (promotional, specification, operational and supportive) could be mixed and could take place in the same front office. For theoretical/analytical reasons these contacts need to be differentiated because contact types might require different employee skills, knowledge and information. For this reason, I provided a stipulative definition of the front office, which restricted the meaning of the word front office in this thesis to service specification. This means that the information model and the ideas of ineffectiveness of the front office only apply to service specification. In practice a front office might have broader information requirements due to the fact that other activities than just service specification are done in that front office. To analyze these broader information requirements of front offices the information model of proposition one thus is only partly suitable (only for service specification activities).

Proposition three only deals with service positioning strategies and discussions in this thesis on service strategy only apply to that. Service strategy is broader than that, i.e. incorporating for instance issues stemming from marketing and competitor analysis, governance issues, human resource policies, branding issues, financial issues, etc. Service positioning strategy is thus not synonym for service strategy, but only deals with an aspect of service strategy.

Further Research

Throughout part one and especially this chapter, I gave several indications for further research. In this section I give an overview of topics for further research stemming from part one.

Towards Statistical Generalization

Further research on all propositions could bring us to statistical generalization. To do so all three propositions need to be made operational. I recommend to start with additional case research to find out whether the control room pattern needs to be taken into account because the case studies in this thesis don’t show a clear control room pattern although some cases showed service elements and combination procedures that can be recognized as smallest replicable units.

Towards ICT Implementation of the Front Office Model

The PrimaVera research program, former research in business reengineering and Davis and Olson’s preferred approach for information requirements analysis (synthesizing from characteristics from the utilizing system), motivated me to study whether business characteristics in the service industry influence information patterns and I asked myself the question which information needs to be provided by the ICT in the front office to enable process control from the front office and to facilitate customer focused servicing and front office employee empowerment. I
conclude that the information pattern in service specification (as being an important part of the service delivery process) is influenced by a main characteristic of services, matching customer requests on service capacity and by the service positioning strategy of the service provider. A logical next step to be taken based on the insights presented in part one is to express the front office information model in a modeling language suited for software engineering. First steps have been taken and have been published in a PrimaVera working paper (Dedene et al., 1998). This paper provides an object model based on the modeling technique of object-oriented business modeling by contract. The model allows examining the degree of complexity of front office information. I recommend verifying the model based on the insights from this thesis and to experiment with an implementation of the business model. In chapter ten of part two I introduce the concept of front, mid and back office architectures in which front office generic functionality is implemented in the mid office layer of these architectures to support different front offices with the same informational services. These mid offices couple front and back offices. This implicates that the relation, product and process information of the front office model should be implemented in mid offices.

The Relationship between Service Quality and Information Availability
In chapter one I motivated my research by a central theme in the service marketing and management literature: the relation between customer perceived service quality and the design of service delivery systems in the context of service strategy. Keeping promises throughout the complete service delivery process is an organizational design issue and it is widely recognized that service management can influence perceived service quality by service delivery design. Now that I build insight in the information requirements for service specification in the front office, further research could be done on the relationship between information availability and perceived service quality. The findings on proposition two suggest that insufficient information in the front office results in a decrease in service quality. Limited proactivity limits employee’s assurance on products and relationships. Longer specification lead-time is a manifestation of lack of responsiveness and low specification quality might indicate reliability problems. More specifically, I recommend further research on avoiding gap three, one of the five potential shortfalls of service quality (see figure 1.6). Knowing what information is required for service specification contributes to employee training and the quality of ICT applications and thus to employee – job fit and technology – job fit. Furthermore, role ambiguity and role conflict could be explained by lack of information. This raises the question whether the distribution of information to front office employees decreases role ambiguity and role conflict and thereby in the end contributes to customer’s perceived quality.

Towards Understanding of Multi Channel Service Distribution
In this thesis I explained the distribution of services as being a matter of making service processes accessible through the replication of processes and I shed some light on the replication of the informational aspects of service processes (assuming the increasing importance of ICT as carrier of service process logic and

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communication tool between the customer and service provider). The study in part one focussed on service specification, just one phase of the sales cycle. I recommend further research on the replication of the informational aspect of the complete sales cycle / service delivery process (from the attention phase to the after sales service phase). In chapter ten in part two I take a first step into this research endeavor by providing a theoretical framework for multi channel service distribution in which I take the complete sales cycle into account and in which I take into account that service providers increasingly try to serve their customers through different channels throughout the sales cycle. In this chapter I also introduce the informational concept of front, mid and back office architectures that support replication of service processes over different distribution channels. Based on new insights provided in chapter ten, I finish this chapter with an outlook on challenging research questions in the field of multi-channeling.

Four Kinds of Customer Contact
In this chapter I came to the conclusion that there are four different kinds of service encounters or moments of truth (promotional, specification, operational and supportive) instead of two (specification and operational). I recommend research on whether employee skills, knowledge and information differ over these customer contacts and how these differ to support service management in service delivery design to achieve service quality.

Towards Understanding of Service Network Positioning Strategies
As stated in chapter one, the interorganizational / network perspective on service strategy hasn’t been part of the initial research design but became part of my thinking during the study. For this reason the ‘network ecosystem’ framework of Klüber et al. (1999) has only been used as an analytical instrument in one case. I recommend further confrontation of this framework with practice. The network ecosystem showed to be relevant to analyze Interpolis’ BU EB’s network positioning and to explain some of Interpolis’ strategic developments. The use of the business ecosystem in the Interpolis case indicates that this model is not only useful for analyzing roles and services in virtual organizations (its original purpose) but in network organizations in general. Furthermore I recommend research on which unique resources metamangers could build strategies on. In this chapter I argued that companies that perform metamanagement roles could be expected to be the most powerful in service networks. They design multiple access points to networks (and thus define distribution strategies); they match requests on available capacity; they accumulate market information through access points; they have a broker role in the determination of action sets and they facilitate the determination of implementation sets in service specification in multiple access points. The question is whether these resources are unique. Based on the insights on front, mid and back office architecture build in chapter ten in part two, I will expand this idea for further research on the strategic question of network positioning.
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Understanding the Complexity of Coproduction in E-commerce
The revised service innovation diagram of Gallouj and Weinstein draws attention to the complexity of customer coproduction in e-commerce. The diagram shows that in e-commerce applications the customer needs to be knowledgeable about coproduction on four levels: skills to use his own technology, skills on how to use the service provider's specific software, understanding of the service and its customization options and knowledge on coproduction procedures of the service provider. I recommend further research on the relationship between customer's willingness to acquire all these skills and the success of e-commerce applications, on how customers could be provided with incentives to acquire and use these skills and on the applicability of insights from e-learning to e-commerce applications.

Service Quality in E-Business
The revised service diagram of Gallouj and Weinstein and the 'network ecosystem' draws attention on the fact that E-business applications are always layered service offerings in which a complex network of service providers provide the service. The performance of the underlying layers in the network, i.e. the policies on the perishability / capacity constraint problem of these service providers determines the performance and capacity constraint problems of the service providers in the upper layers of the network ecosystem. Furthermore, the price structure of the complete service is not only determined by the prices of upper layer service providers, but also by price structures of the under layer providers. Perceived service quality of the end service might be influenced by the performance of the under layer service providers and by the performance of customer's own technology and his competencies to use this technology. I recommend research on the relationship between customer's perceived service quality and customer's knowledge of his own technology, performance of the underlying layers of the ecosystem and the performance of the upper layers in E-business.

Knowledge Management in Service Networks
The case studies at Interpolis and Sioo showed some aspects of knowledge management in service networks or supply channels. Interpolis had to offer a thorough training program and informational support through its EB-site to all Rabo banks to support the introduction of its EB service. Sioo's networking arrangements and platform function provides different kinds of opportunities to exchange functional, operational and contextual knowledge in its network with customers, teachers, etc. In the study period I had the opportunity to study IBM's initiatives for knowledge management in its supply channel as well (together with Henriëtte Brijder). This study is presented in chapter twelve in part two. Based on insights from this study and the initiatives of both Interpolis and Sioo, I recommend further research on knowledge management to support exchange and building of functional, operational and contextual knowledge in supply channels. The Interpolis, Sioo and IBM cases suggest to do this research from a combined informational, social exchange and employee training perspective.
Chapter Nine: Cross Case Analysis and Conclusions

Effects of Legislation on Society

The incubation period between new legislation and maturity of services in society suggests that profound research on effects of legislation on society is needed (taken into account the complete process from initiative taking to maturation of services to effects on illness prevention and re-integration). It becomes clear from the Gak case study that the organizational efforts Gak had to make to adjust itself to the changing circumstances during the period 1997-1999 were profound. It seems to me that it would be of societal and political interest to study how much money the changing strategy towards the organization of social security during two successive periods of 'purple' government have cost and whether these changes had their intended effects on re-integration of unemployed or disabled people. Furthermore it is of interest whether society at large is better off in the hybrid situation of today in which employers and employees make costs on private as well as on public insurances in comparison with the period before the commission Buurmeyer. Such research could learn us more about effects of legislation on society and might unfold alternatives for politics in which legislation is changed every two years.