

Competitive paper
for the IMP 2007 Conference at Manchester Business School

**Criteria for composing product portfolio
– customer involvement and knowledge exchange**

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Introduction

How do we combine and develop the right portfolio of products satisfying the needs of our different customers?

Marketing and Development Manager at a Danish food manufacturer

It is extremely important for us to involve our costumers and get their opinion on our newly develop products before deciding which of these will become part of our product portfolio.

Development Manager at a supplier of ingredients to food manufacturers

These statements originate from an on-going research project in the Danish food industry and revolve around the issue of how to put together the company product portfolio of newly developed products. The wording of these statements reveals the conviction that customers involved in new product development may have a positive impact on product portfolio decisions. Thus the focus of this paper is how knowledge exchange with involved customers will influence criteria for putting together the company portfolio of new products.

In the food industry challenges framing product portfolio criteria are several. One is fast changing consumer trends having consequences for food-producing companies' ability to detect and act according to these. In the wake of this another challenge is retailers placing increasing demands for fast renewal of accessible new food products. Relationships to retailer are also changing due to expanding use of private label; in many instances making retail chains both customers and competitors. Yet a challenge is increasing consumer and customer awareness as well as legislation related to food hygiene and GMO; in some cases leading companies to seek the help of experts (Ministry of Food 2003).

Standard marketing and strategy textbooks (such as Jobber 2004; Thompson et al. 2005) discussing product portfolio management would recommend companies to build their product portfolio on the wishes and demands of customers combined with sound managerial strategic analysis, monitories of the development on the market and adjusted to the resources of the company. In other words textbooks like these would advocate and argue how companies must base the management of their product portfolio on the ideas gathered together with customers and users; align those ideas to the technological resources of the company and choose those ideas that fit the overall strategy of the company (Tidd et al. 2005). However textbooks like these seldom discuss how this can actually be done. Or discuss implications, possibilities or limitations. Rarely do the portfolio models presented address the problem of which customer to involve in product portfolio decisions; when to involve customers and how this may affect the organisation of the product development process and activities. Since these models do not take the relationship with an involved customer into consideration we need to look elsewhere in the search to gain a greater knowledge on what is going on.

Applying an IMP-approach in discussing product portfolio decisions in the context of the Danish food industry implies taking a closer look on at least three dimensions (Haakansson and Snehota 1995). One is; which customer is involved. The structure of the food industry entail that the final consumer in most instants are not the direct customer of a company. Several intermediaries may stand between a company and the consumer depending on whether the company is e.g. an ingredient supplier or a manufacturer of food products. Besides that a retail-outlet will in most cases be the final link between food producing companies and the consumer market. Therefore the involved customer in product development having an impact on product portfolio decision may be a direct industrial customer, a retailer as a final consumer. A second dimension is the process and activities related to putting together the new product portfolio. Which activities are actually forming the process for making the portfolio decisions and how is the customer involved? Third and final, which knowledge resources are exchanged between the involved customer and the company generating a ground for using information and evaluation inputs from customers when putting together the new product portfolio?

The purpose of this paper is to analyse and discuss knowledge resources exchanged; actors involved and activities forming and developing new product portfolio criteria taken into consideration by a focal company. The pivot point of the discussion is the knowledge transformation process going on between a focal company and selected customers. The empirical basis for the paper is an on-going research project studying product development activity in the Danish food industry. The paper outline is: an introduction to the focal company, the involved customers and the surrounding network; section two presents the knowledge transformation process as the theoretical locus; the third section concerns methodological issues whereas section four unfolds the case description. Section five discusses case finding and section six finalise with concluding remarks.

Forming new product evaluation criteria in a spice network

This section will introduce Spice Inc. a medium-sized Danish supplier of spice blends and marinades for meat products and the focal actor of our analysis. Spice Inc. uses two different strategies when developing new products for their various customers. One is to develop new products on customer requests. Existing as well as potential customers approach Spice Inc. asking the company to develop recipes and blends for industrialised production, based on customers’ more or less detailed specification for new products. Some specifications may be quite precise giving a finished recipe for a prototype that only needs to be developed into industrial production. Other specifications are broad and essentially an invitation for Spice Inc. to generate ideas and develop prototypes, in some cases under a specified theme – e.g. an Asian or Nordic theme and taste. Another part of the product development process at Spice Inc. is to develop their own portfolio of spice blends and marinades offered to various customers. This portfolio is related to the summer grill season. To prepare for a summer season the company initiates a process of internally generating ideas for new products, developing a broad range of prototypes, present those prototypes to selected important customer and ask them to evaluate the prototypes. Based on these customer evaluations Spice Inc. put together a product portfolio of both existing and new products for the coming grill season. This product portfolio is later presented to all customers. To analyse and discuss the criteria that is used for evaluating new product ideas and prototypes as well as to select which newly developed products that become part of Spice Inc.’s product portfolio the following paragraphs will present the company as a focal actor in a spice network. The activities conducted and knowledge resources utilized by Spice Inc. and other actors in the process of criteria formulation are also introduced.

Figure 1: Process for criteria formulation at Spice Inc.

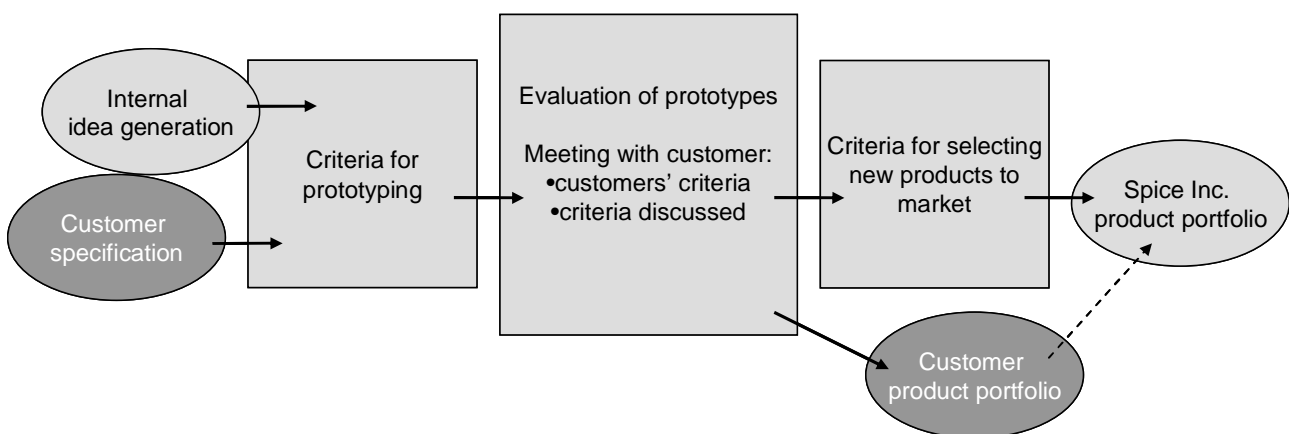


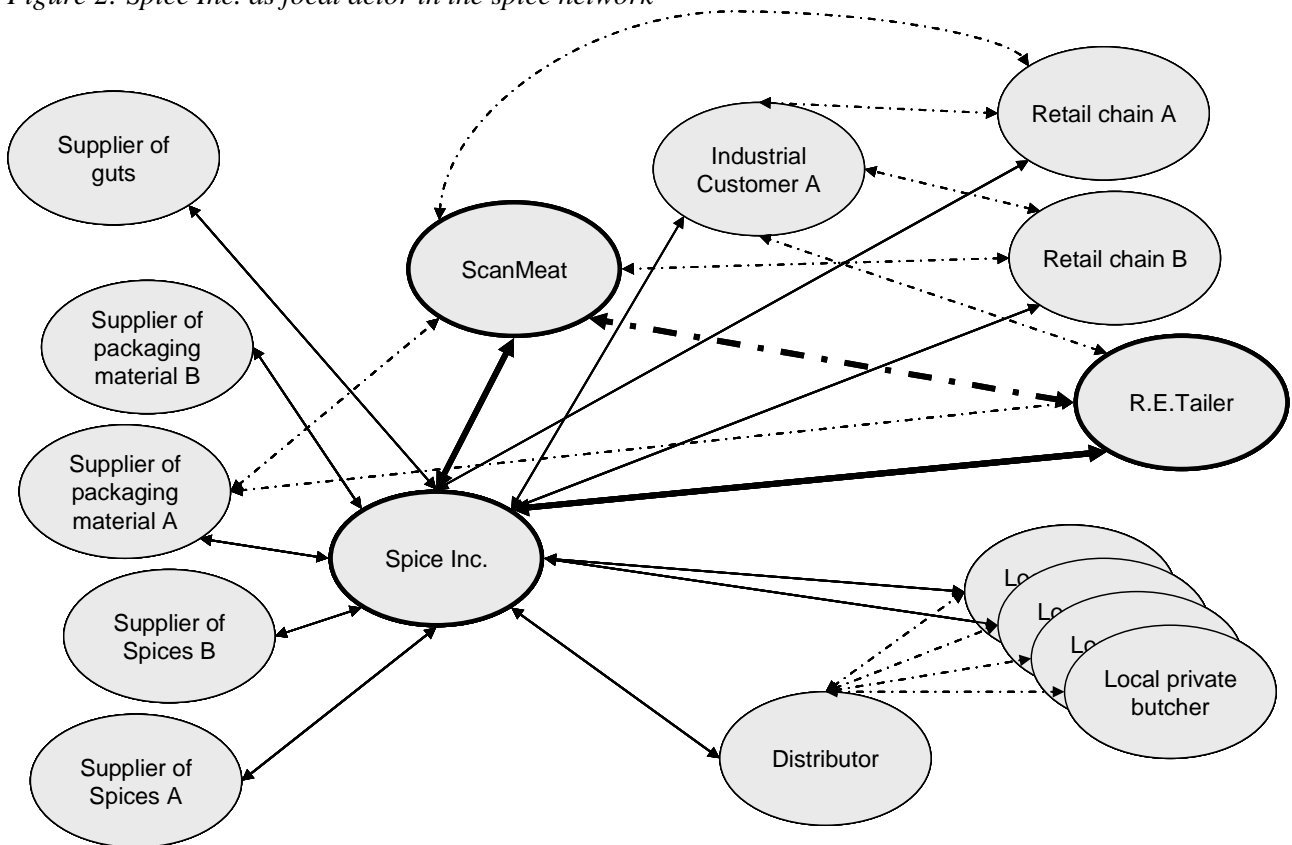
Figure 1 illustrates the primary activities in the development and evaluation of new product ideas at Spice Inc. This process is organised by Spice Inc. to collate knowledge input from customers. Ideas for new products may either be generated internally in the development department at Spice Inc. or be based on customer specification. New ideas are screened and some are chosen for further development into prototypes. These prototypes are presented to the customer and based on customers’ criteria they are

evaluated. If the process is initiated by customer specification then the process ends by the customer choosing among these and incorporates those in their portfolio. If the process is internally driven at Spice Inc. customer evaluations serve as an input to the final composition of the company's product portfolio.

Spice Inc. divides their customers into three groups: National retail chains, local private butcher stores and industrial customers, that is industrial producers of refined food products. For many years the main customers have been local private butcher-stores. For the last couple of years Spice Inc. has been focusing more and more on retailers and industrial customers. Thus the local butcher-stores are today mainly served through a distributor. The relationship to one retail customer R.E.Tailer goes back almost 45 years. However, only recently this relationship has become closer. This has partly been due to R.E.Tailer's introduction of a new convenience concept in their in-store butcher shops and partly due to Spice Inc.'s new strategy opening for an alignment of the parties' resources. Spice Inc. does not characterise the relationships to other Danish retail chains as equally close. However, R.E.Tailer only produces a selection of convenience products in their in-store butcher shops. Other products that only create a limited added value are produced by industrial producers of food such as ScanMeat. When producing for R.E.Tailer, ScanMeat is conditioned to use the ingredients and spices provided by Spice Inc.

ScanMeat is another actor in the spice network and considered an important industrial customer by Spice Inc. ScanMeat uses Spice Inc.'s blends and marinades for they own branded products sold to consumers through different retail outlets, among those R.E.Tailer. The relationship is rather young. It actually started out based on a request made by R.E.Tailer, asking ScanMeat to use the spice blends of Spice Inc. to a production of a specific meat product. Since then collaboration between ScanMeat and Spice Inc. has expanded and the joint servicing of R.E.Tailer is now limited to a smaller part of their collaboration and mutual business. The triad of Spice Inc., ScanMeat and R.E.Tailer constitute the main actors in this paper with Spice Inc. as the focal actor. Figure 2 pictures the spice network.

Figure 2: Spice Inc. as focal actor in the spice network



The shift from servicing smaller local private butcher-stores to focusing more on larger retailers and industrial customers has had an influence on Spice Inc.'s relationships to suppliers in line of new and more advanced demands for e.g. quality documentation (keeping qualities, descriptions of content etc.). But, the relationships to spice suppliers have also developed in terms of dependency related to product development. The Development Manager at Spice Inc. states *“As we have invested in product development, we are less dependent on our suppliers today. We are to a higher extent capable ourselves to access the quality than we were earlier on”*. The Development Manager is referring to suppliers of spices and marinades, on whom the company has been less dependent after the company started to develop and produce more advanced marinades themselves. Today Spice Inc. themselves specify the ingredients and produce from suppliers, thus making suppliers' resource input to product development activities much less. Relationships to suppliers of packaging material and guts are mainly based on purchase of and on-ward sale of standard packaging material to smaller customers.

Involving customers in evaluation of new products – a theoretical foundation

Using an IMP-approach for discussing criteria used for evaluating and composing product portfolio entails the final portfolio to be a result of the interaction between ranges of actors (Haakansson and Waluszewski 2002, Holmen et.al. 2005, Haakansson et.al. 1999). Each of these actors will hold criteria reflecting their own situation and interests. Actors' criteria rise from a history of routines and norms and therefore customers' criteria can only be but one complementing element in this process. Through the use of a set of criteria the determination of actors' product portfolios takes place in a network of related actors. Each actor uses different sets of criteria when discussing new product development elements. Examples of criteria discussed between actors in the Danish food industry are taste, appearance, packaging or price. If a new product or prototype fails on one or a combination of criteria it will be withdrawn. Related to actors we must define who the actors are and how they are related – that is to describe the bonds between them. This is to provide a basis for understanding the involved parties' expectations of the potential benefits and efficiency of the mutual interaction. Even though the focal company's expectations and organisation of the evaluation of new product ideas as a basis for combining their product portfolio, customers' reasons for participating in this evaluation may be driven by quite another agenda.

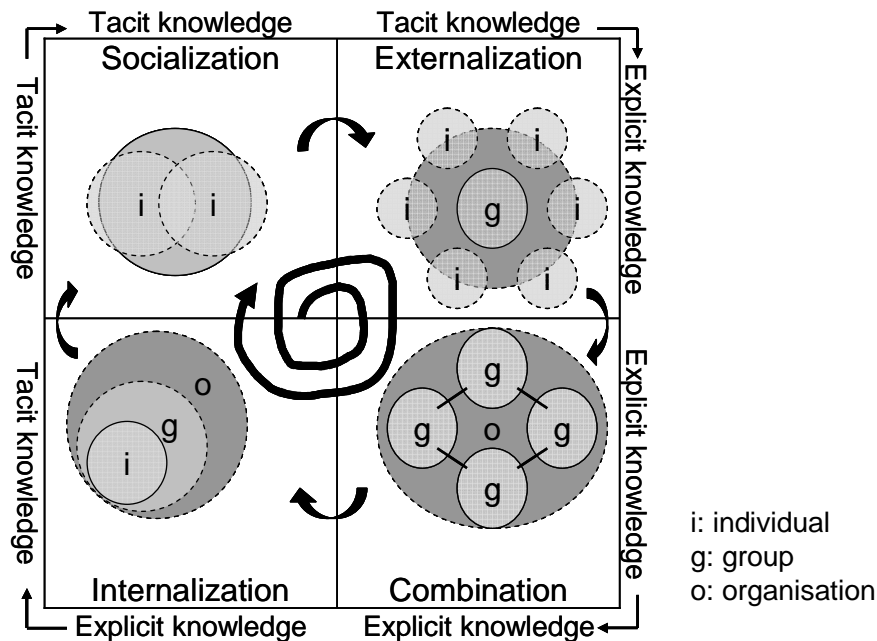
Related to the research focus of this paper the concept of activities will be focusing on evaluation of new product ideas. Selection among new product ideas is by Tidd et al. (2005) referred to as the strategic decision of, which signals to proceed with, developing a product concept, matching needs and possibilities with knowledge units and strategy. Such activities related to the focal company's internal combination of a new product portfolio are directly linked to the involved customers own development activities and some coordination between the parties may very well occur (Lindell 1991). This coordination may imply investigating which knowledge units the involved customers applies or builds on in a negotiation of evaluation criteria. This negotiation may be direct or indirect, tacit or openly as well as directed and dominated by one of the parties or a potential third party. Therefore the organising of the activities in terms of evaluating new product ideas will play a role in the information and knowledge exchange going on between the focal company and the involved customers.

Even though the basic building blocks for a new product portfolio may be previous and existing products, the analysis and discussion evolving around resources will be related to use and transformation of knowledge resources between the focal company and the involved customers. In this discussion we draw on the conceptual model of Nonaka and Konno (1998). This model describes a dynamic process of exchanging and transforming tacit and explicit knowledge. The model is used to analyse how a focal company creates and enhance their knowledge through interaction with customers providing a basis for evaluating and combining their new product portfolio. Briefly introduced the model – pictured in figure 3 – presents a knowledge transformation process with four phases:

- 1) *Socialization* where individuals are provided the opportunity to share tacit knowledge by being and spending time together. Mutual empathy is an essential foundation for socialization.

- 2) *Externalization* – tacit knowledge are converted and made accessible for others through articulation and dialogue.
- 3) *Combination* – the converted knowledge are integrated into more complex sets of explicit knowledge that is diffused and documented in the organisation.
- 4) *Internalization* when the new knowledge becomes tacit through making the explicit knowledge part of daily actions and learning-by-doing.

Figure 3: The knowledge transformation process



Source: Nonaka and Konno (1998)

The knowledge exchange and process of transformation as conceptualised in the Nonaka and Konno (1998) model is in this paper considered essential when a focal company is seeking to develop their knowledge of criteria used by important customers when evaluating new product ideas. With the model we see that the process of disseminating and internalising knowledge from customers has an important influential effect on the criteria used for composing a product portfolio.

It is a two way interaction and often appears as joint learning or interactive learning, but here we emphasise, that the model point to different ways of learning from a customer. When the supplier and customer spend time in visits and meetings the supplier learns about the final customers through the experiences expressed by the customer. At different occasions the ideas and criteria are expressed more directly. When new product ideas and prototypes are presented in discussions, on paper or as prototypes the knowledge becomes more explicit. The knowledge is externalised. The externalized knowledge from the meetings between individuals representing customers, suppliers and others can be handled according to experiences with other situations related to the product idea or criteria. The individuals can either imaging or act in related situations as production, cleaning, logistics etc. situations. In this sense knowledge is combined in combination processes. From the different situations individuals participate in they will learn different things depending on their intentions and situational context. The knowledge becomes internalized.

In the following paragraphs this quite dogmatic use of the knowledge transformation process will be integrated in an activity, actor and resource perspective from the IMP tradition.

Methodological considerations

Case studies are considered valuable for investigating dynamic or complex conditions in organisational settings (e.g. Yin 2003). This qualitative method provides the opportunity to explore and gain insights of the process of transforming criteria for evaluating and combining the product portfolio of a focal company in collaboration with selected customers. This means that we use the case study as point of departure for describing the activities organised and coordinated between a triad of actors and thus analysing how the interaction influence the transformation of knowledge related to putting together product portfolios. Using a triad in the case analysis provide a basis for discussing not only the interaction between the focal company and the individual customers but also the implications derived from the interaction between the two customers on the focal company. The case study consists of one period related to the seasonal product development process at the focal company Spice Inc., thus following the company from generating ideas for new products to the final composition of the new product portfolio.

The empirical basis of the paper is data from an ongoing research project of customer involvement in product development in the Danish food industry. Data has been collected through interviews and participant observation in a medium-sized supplier and manufacturer of ingredients to food products as well as in two selected customers involved in the company's product development and playing a central part in developing and combining the product portfolio of the focal company. Observations on meetings between the business actors have been completed focusing on links, bonds and ties with a special focus on knowledge interaction. Semi-structured interviews have been conducted with every personnel directly participating on these meetings. Several informants have been interviewed both before and after meetings. Interviews have focused on clarifying the criteria considered related to the evaluation and composition of company's product portfolio.

The following paragraphs describe the process at Spice Inc. of developing new products for their portfolio is in more details (as pictured in figure 1) as well as present the companies in the triad and the relationships between them. The focus will naturally be centred on the activities and resources connected to developing new products. Activities related to inviting selected and important customers to evaluate the new product ideas are presented. These activities are providing the ground for Spice Inc. to put together their product portfolio for the up-coming grill season. The process is described to provide a detailed picture of how the selected customers' knowledge and evaluation criteria are potentially influencing the criteria for putting together the final portfolio.

Case description

The development of new seasonal products at Spice Inc. begins almost a year before the grill season, where the products are introduced to end-consumers. This relatively long time horizon is not only due to the actual development and production of new spice blends and marinades. In the internal process of development activities Spice Inc. also has to take into consideration the sequential development process going on at customers. Depending on the position of their customers in the delivery chain Spice Inc. has to offer their new products in due time for the customer to prepare their offering of new products to their customers. Firstly, Spice Inc. presents their prototypes of new products to the industrial customer ScanMeat – since Spice Inc.'s products work as an input for idea generation at this customer that as well has to prepare their own product portfolio to present to their customers. Secondly Spice Inc. presents their prototypes to the retail customer R.E.Tailer.

Idea generation

Returning to the development preparation at Spice Inc. the first internal activity is carried out by the marketing assistant drawing up a line of current and coming food trends in a report. The report reflects overall food trends – e.g. a trend of a greater focus on the local kitchen that is a focus on Toscana instead of on the Italian kitchen in general; new flavour trends in spices and tastes; or textures that is believed to spin the development in food trends the coming season. The trend report is the vantage point of a discussion on a following internal idea-generation-meeting led by the Development Manager. Participants at this meeting are development employees and a newly hired employee in the quality department. The discussion and

generation of ideas for new products are centred on the trend-report supplemented with the participants own expectations of coming food trends related to consumers, based on their personal experiences and observations from fairs, trade-shows, magazines etc. Another vital issue in the discussion is the existing product portfolio at Spice Inc. Often the participants are referring to what is missing or what is not included in the current product portfolio.

At the meeting every new idea coming up is written directly into a power point presentation so it is visible to all participants. Even though the discussion at the meeting is centred on criteria concerning coming flavour as well as more general trends the idea generation process are directly link to the three product categories in the existing company portfolio – that is marinades, spice blends and special blends for flavouring sausages. Every category are discussed and related to potential trends as a basis for generating new product ideas. At the meeting any idea related to other potential product categories are however also listed. Even though the internal meeting is mainly for generating ideas for new products in a creative discussion several upcoming ideas are argued to potentially create production-related problems. Such ideas are not listed. Additional ideas are evaluated and some are coincide rejected because of their similarity to existing products in the company portfolio. Other ideas are listed because they are evaluated as a good supplement to existing products.

Selection criteria for prototyping

The decision of which new ideas to prototype are not made at the meeting, instead the Development Manager and the Development Assistant meet a couple of days later to evaluate the generated ideas. They make a first selection of new ideas to prototype by basically going through every potential new product on the list from the idea generation meeting. The selection criteria are not explicitly formulated and directly discussed. However the discussion between the two development employees is centred around two main criteria. One criterion is whether the potential new product is related to the selected overall theme for this years grilling season. If it is, the product is listed to be prototyped. Another criterion is whether the new product idea will supplement the existing product portfolio or not, essentially whether the company has or not has a similar product. If the product does not exist in the portfolio and the development manager 'believes in it' it is listed to be prototyped. However if the development manager does 'not believe in' a new idea, it is dismissed. Thus the decisions on which new ideas to prototype is based on considerations related to the internal composition of the company product portfolio and to considerations related to the marketing theme the products are to belong to. At the end of this meeting the ideas considered worth developing into prototypes are prioritized.

Involving customers - ScanMeat

As prototyping is finalising industrial customers are starting to stir. Their process of generating ideas and putting together a portfolio of new products are in the start-up phase. One industrial customer is ScanMeat who uses Spice Inc.'s products for seasoning or marinating e.g. convenience or gourmet meat products sold to consumers through retail chains as well as to production of private label meat products. Even though the two parties have an on-going relationships characterised by continuous collaboration for new products it is customary that ScanMeat sends out an addressed but open invitation to several selected suppliers of spice blends and marinates among those Spice Inc. The invitation is send by e-mail and address the wish of developing a list of new product ideas into industrialised products. ScanMeat thus invites not only Spice Inc. but also other suppliers to present matured prototypes based on the customer's specification as well as supplement their presentation with the suppliers own ideas. This season ScanMeat has generated the specification and ideas in collaboration with a professional chef with an expertise in Asian cooking.

Even though the sender of the invitation to contribute to the customer's product development is ScanMeat, it is Spice Inc. that invites ScanMeat to a joint development meeting. At the meeting the specified new product ideas of ScanMeat and ideas derived by Spice Inc. are prepared as prototypes; tasted and evaluated by the participants from the development departments of both companies. One of the owners of Spice Inc. participate as well both because ScanMeat are considered an important customer and because he prefers to join in when new products are introduces and discussed to maintain a feeling of the market. Spice Inc. do

however not prototype every specified idea but select those ideas that are in the reach of their technological resources as well as ideas where the development employees assess that they can create some added value to the industrialised product.

ScanMeat's criteria for evaluating new product prototypes

At ScanMeat the selection of which new products to become part of the company's product portfolio is based on two steps. Firstly the product development department put together a broad variation of new products selected from 3-5 different spice and marinade supplier. Secondly this rough selection of new products is presented to the sales department that takes the final decision on which products to become part of the product portfolio. When combining a selection of new products to be presented to the sales people the development department's primary criteria for selection is appearance and taste of the new product, since these are considered important purchase and re-purchase criteria for consumers. However whether the new product is compatible with the production processes at ScanMeat is also an essential selection criterion. Moreover keeping qualities and absence of aroma additives are considered important criteria; where as issues such as hygiene and bacteriology are considered given. Before presenting new products to the sales department, development staff therefore conducts different tests to ensure that a new product will maintain its appearance until a given expiry date as well as live up to hygienic and bacteriologic criteria. A final criterion for prototypes selected to be presented to the sales department is novelty value. ScanMeat development staff regard it part of their mission to develop the open-mindedness of sales representatives regarding taste. By presenting prototypes that they expect sales representatives to reject they anticipate sales representatives will be more open to other ideas; maybe not this season but maybe for seasons to come.

When the first broader sample of new products is presented to sales representatives, price is an evaluation criterion in line with appearance and taste. In putting together the final product portfolio for the coming grill season variations in taste, colour and the cutting-out are also considered. ScanMeat's customers – national and international retailers – do not play an active role in the composition of the company's product portfolio. When the sales department have selected among the products presented by development the products are later presented to retail customers. Some products are offered through out the season, others are presented in groups as part of seasonal campaigns. The reasoning behind this is mainly to be found in practical consideration related to ScanMeat's production. However it is also part of a marketing related strategy to be able to present new products during the entire season.

Criteria discussed during evaluation meeting between Spice Inc. and ScanMeat

The main joint activity at the meeting between Spice Inc. and ScanMeat is tasting and evaluating the appearance of the prototyped products. At the beginning of the meeting the appearance of the raw seasoned meat are discussed however the development assistant from ScanMeat soon says: *Now I have seen this, let's focus on the taste. If the taste is right, there will also be plenty of opportunities to correct appearances.* Thus the taste is a highly appraised criterion and through out the meeting the taste is very much the centre point of discussion. Spice Inc. often ask the ScanMeat development representatives on their opinion on the taste of the product – whether they consider any adjustments necessary e.g. spicier, more salty, less strong etc. As well ScanMeat is asked by Spice Inc. to evaluate the appearance of the prepared meat. During the discussions the ScanMeat development representatives as well as the Development Manager from Spice Inc. take notes on every prototype. The development responsible from ScanMeat uses these notes for remembering the distinctive feature of the prototypes, so she has a tool for deciding which prototypes to choose. The development manager from Spice Inc. on the other hand uses the notes for making decision on how to adjust prototypes for further development.

When presenting every prototype Spice Inc. makes an effort to express the reasoning for choosing the product idea. Thus the development manager often mentions behaviour and expectations of consumers to emphasize and make a point of the taste discussion:

...

Spice Inc owner: *It's heavy... But don't people also hold a tendency to enjoy the spicy stuff?*

ScanMeat Development Responsible: *Yes*

Spice Inc owner: *There are lots and lots of chili on the market, so people have gotten used to things really tasting of it. If it doesn't they think we just wrote chili to sell it.*

Spice Inc Development Manager: *I believe that people not necessarily associate Mexico with something spicy. I mean, when you buy Mexican food you can choose mild or medium or hot, right?*

ScanMeat Development Responsible: *Well yes, it's true...*

Spice Inc Development Manager: *...Then it's not necessarily spicy. But if you say this is chili-seasoned, then people know it is spicy and then they can leave it if they don't fancy that. But Mexico is not bring exactly the same association to peoples' mind that it's spicy.*

...

During his argumentation for a prototype the Development manager from Spice Inc. also refers to the preferences and actions of retail customers. Whether retailers are also using these products are used as an argument for acceptance on the market:

...

Spice Inc Development Manager: *So we have captured the taste of Mexico in this marinade called Mexico. And if you look at it... so this is a product, well UP Retailing use it, R.E.Tailer uses it as a spiceblend. So there is actually an acceptance of this product in terms of taste in the to big retail chains, so...*

...

This way of selling in to the development employees at ScanMeat is a conscious and deliberate strategy, as stated by the Development Manager from Spice Inc.: *The result is, one could say, out of our hands on that time. We can do our best to influence the opinion of the ScanMeat development staff... so they believe our products to be so good, that their will present them to their sales department. When they approach their sales department, we a little stranded... we are dependent on how well we presented our products to the development staff so they have the best tools for kind of selling them on to them. So when... we are conscious about making these presentations to provide them (the development staff) with some arguments that they might use as arguments to their sales representatives, right...*

Involving customers – R.E.Tailer

An essential characteristic of the relationship with R.E.Tailer is that Spice Inc. is single supplier of marinade and spice blends to every in-store butcher in the retail chain. This is special because R.E.Tailer is the only retail customer in Spice Inc.'s customer portfolio the company is single supplier to. As well it is the not the general supplier policy at R.E.Tailer to hold single suppliers. The main reasons for R.E.Tailer to keep Spice Inc. as a single supplier is that this company earlier on has proven to be competitive on their prices and that they are open for continuous negotiations on prices. This is supplemented with reflection by the purchasing manager that the cost of coordination requirements for having multiple suppliers would exceed the potential gains. Besides, Spice Inc. takes on a great deal of services. Spice Inc. consent this position and values it since they conceive R.E.Tailer as a prominent partner with an innovative lead on the market.

The introduction of new products in the retail chain is not only related to the grill season. Therefore the two partners meet regularly to evaluate prototypes for potential new products to be introduced in the in-store butcher shops in R.E.Tailer. When the retail Purchasing Manager begins to plan for the coming grill season the partners informally agree to meet to discuss and evaluate potential new products based on ideas generated by Spice Inc. and ideas generated by the Purchasing Manager.

R.E.Tailer's criteria for evaluating new product prototypes

At R.E.Tailer the Purchasing Manager responsible for the in-store butcher shops posses a multiple function. He plans and decides new product introductions, makes decisions on the composition of the product portfolio, trains and coaches employees at the in-store butcher shops as well as prepare for marketing of new and existing products. When evaluating and selecting among new product ideas several criteria are important. Firstly his personal experience as a butcher in R.E.Tailer's in-store butcher shops provides him with a feeling of what might be a successful new product. It is all about having '*that unexplainable sense and gut feeling*', he states. Secondly, the refinement or production processes at the in-store butcher shops are

critical. It is important that a new product is relatively easy to produce and do not demand allot of time at the shop. History determines that complicated new products will not be prioritized. To be a success a new product has to be easy to produce. Third, the appearance of a new product is important in the sense that it provides an eye-catching effect on consumers. Fourth and closely related to the appearance is the taste of the products. Since many of the products produced by the in-store butchers are convenience products it is considered important that consumers have a good experience with the product – to they keep coming back. Price is a fifth issue since it according to the Purchasing Manager influence the consumer purchasing situation. Summing up the criteria taken into consideration is the purchasing manager personal hunch and experience, considerations on the internal production or refinement process at the retail chain's in-store butcher shop and finally consumer buying behaviour. Finally hygienic and bacteriologic issues are an on-going concern and the retail chain has their own laboratory for continuous monitoring of new and existing products.

To decide on the composition of the product portfolio of the in-store butcher shops statistics on sales plays a great importance as well. Sales of existing products are evaluated on an on-going basis and the same apply for newly launched products. When deciding on when to launch new products the Purchasing Manager also takes seasons and religious festivals into consideration, since these have an influence on the type and price of meat products consumers are buying.

Criteria discussed during evaluation meeting between Spice Inc. and R.E.Tailer

The meeting between R.E.Tailer and Spice Inc. are characterised by the instant decision making done by the Purchasing Manager from R.E.Tailer. At the meeting he decides product for product which he will launch in the retail chains in-store butcher shops and when. He informally leads the meeting held at Spice Inc.'s development kitchen where the participating partners – the Development Manager, Development Assistant and one of the owners of Spice Inc. as well as the Purchasing Manager from R.E.Tailer and his assistant – taste and evaluate every prototype of potential new products. Three different categories of new products are evaluated. Firstly, several of the prototypes evaluated are products that have been improved on taste since they where evaluated on previous meetings. When the taste of these products is approved or it is decided how to adjust them the Purchasing Manager decides and coordinates the timing of the ensuing production, marketing and launch activities at the receptive parties. Secondly, new product ideas that are presented as prototypes for the first time at the meeting are evaluated by the Purchasing Manager and his Assistant on several criteria. These are not stated or discussed directly by e.g. the Spice Inc. Development Manager asking the customer for evaluation on certain criteria but occur continuously and repeated during the mutual discussion going on. Every time a new prototype is tasted the appearance and taste is commented on. When a prototype is accepted or it is decided to be adjusted the Purchasing Manager takes note as well as the Development Assistant from Spice Inc. Whether or not a new product are accepted depends on criteria related to sales statistics on existing and former products; whether it will cause potential problems in the production or refinement process at the in-store butcher shops; the potential revenue and whether it is consistent with the R.E.Tailer convenience concept. The discussion of these criteria is informal but very direct with an almost harsh tone. The new product prototypes in these first two categories are mainly based on ideas generated at R.E.Tailer or in joint collaboration with Spice Inc. The third new product category discussed at the meeting is based on ideas developed by Spice Inc. Some of these products are rejected by R.E.Tailer on their appearance, even before they are tasted. When the Development Manager refers to industrial customers using these products the Purchasing Manager rejects them with reference to his personal preference:

...

R.E.Tailer Purchasing Manager: *Well, what we can tell is, it's our barbeque marinades this year, they are totally flopped, right? It only works for spareribs. That is what we must learn; it works for nothing else, only for spareribs.*

Spice Inc. Development Manager: *This is actually a... but actually it was different in the beginning...*

R.E.Tailer Purchasing Manager: *Well, I still won't eat it. You don't have to sell it to me.*

Spice Inc Development Manager: *Then we have taken our Mexican blend and...*

R.E.Tailer Purchasing Manager: *Well, but we can't sell this!*
 Spice Inc Development Manager: *No, but... we actually had a product that was less thick and much prettier (...) Then we have developed it into a ScanMeat product.*
 R.E.Tailer Purchasing Manager: *Continue with them...*
 Spice Inc Development Manager: *Exactly. What they wanted was...*
 R.E.Tailer Purchasing Manager: *Continue with them, continue with ScanMeat, that's a really good idea.*
 ...

Related to the rejection of most of the presented prototypes based on ideas generated by Spice Inc., the Development Manager concludes: *Well that is... it's always annoying to present new products that you have worked on for quite some time (...) and then they (R.E.Tailer) say that it's all crap. That they can't use any of it. Well but eh, but I have kind of learned, that it's not necessarily a measure of their opinion, eh... it might be their opinion today (...) and then when we latter present them, some of these products, then it's actually suddenly good. It is because they want their own ideas (...) I believe that it's more about him (the R.E.Tailer Purchasing Manager) feeling that he is not a part of this... when we develop these products, and that is why he doesn't think it's good (...) But I bear a great respect for him having a meaning about things. Rather than having no opinion (red: like other retail customers).*

Criteria for composing the Spice Inc. product portfolio

The final product portfolio at Spice Inc. consists of both customized products developed and produced on requests as well as of Spice Inc.'s own spice blends and marinades sold to various customers. This composition reflects that some customers prefer to specify and develop their own blends and marinades in collaboration with Spice Inc. while other customers place more weight on issues concerning price and delivery and prefer to choose among fully developed products. Yet other customers go for a combination of these approaches. When developing potential prototypes for their 'own' portfolio, Spice Inc. takes customers' evaluations into consideration and use the information gathered at the described meetings to adjust taste and appearance of new products. However, several internal discussions are succeeding customers' evaluation before deciding which new products to incorporate in the portfolio.

Parallel to fine-tuning the taste and appearance of products several criteria are internally discussed and used for composing the actually portfolio. One is a wish for renewal. E.g. a total product category is replaced by a new one, whereas on-going categories are supplemented with new variants. Secondly the criteria of marketing related thematizing considered in the beginning is maintained. A third and final criteria is the professional gut feeling and sense of the market that customers' evaluation has brought about. As stated by the Development Manager: *'we hear, sense and feel'* and through this a final decision emerge.

Case discussion - knowledge interaction, resource interfaces and on-going exchange activities

In the case presented the final product portfolio at the focal company Spice Inc. is a result of the interaction between the involved actors. Each of them with criteria reflecting their concurrent situation, interests as well as tacit knowledge and resources. The actors' criteria rise from a history of routines and norms and therefore customers' criteria can only be a complementing element in this process. At the development meetings presented in the case the essential activities evolves around the knowledge exchange, knowledge interaction and knowledge development between the involved actors. In many ways the unfolding dialogue at these meetings are closely related to the concrete ideas and prototypes of new products to be potentially introduced on the consumer market. However the knowledge exchange and knowledge interaction evolving around the new product ideas and prototypes are based on different knowledge resources that come to life through knowledge processes as explained by Nonaka and Konno (1998). Through these knowledge processes similarities occurs mainly as internalisation and socialisation. Similar knowledge resources or knowledge types can be regarded in the case, as described in the following section. On the other hand dissimilarities occur as well in the knowledge processes. The individual persons' ideas, interests and experiences, different business problems in the different organisations involved, different contexts etc. are reasons behind

externalisations and combinations illustrating different knowledge resources and types. Some of these similarities and dissimilarities are illustrated in the case.

First of all, all three actors use technical knowledge related to the raw product as a legitimate criteria for discussing the value of a product idea or prototype. Spice Inc. uses technical knowledge on raw products related to e.g. qualities of different spices and the composition and texture of marinades whereas ScanMeat and R.E.Tailer draws on knowledge related to different meat qualities, cuttings and refinement. Technical knowledge is however also linked to the different actors' production facilities and production processes. Knowledge of how these resources may facilitate or hinder the potentiality of a new product's introduction is used as legitimised input in the discussion at the joint development meetings. At both meetings technical knowledge is used as an evaluation criterion for deciding whether a new product has a potential and should go into the final development phase. Through externalisation and combination the different actors' knowledge becomes explicit, and participants 'learn' to legitimate with technical evidence. Through internalisation and socialisation technical knowledge becomes 'obvious' as argumentations of the pro or cons for the development of a product. The meeting plays a crucial role in all four parts of the knowledge process.

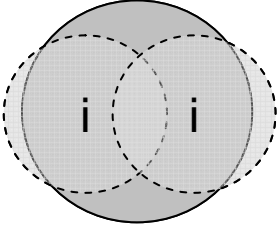
A second resource used as a basic criterion is knowledge of consumers, their behaviours and preferences. Since consumers are the final users of the new products developed by the triad partners, information and discussions of consumers are used as legitimate arguments in dialogues of the potentiality of a new product idea. Even though the participating actors have different access to knowledge of this type, the relevance of the criterion seems obvious to everyone.

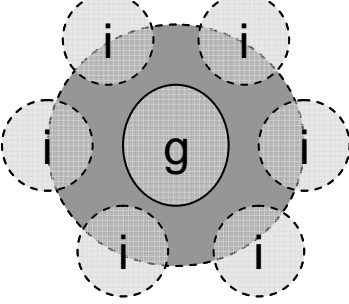
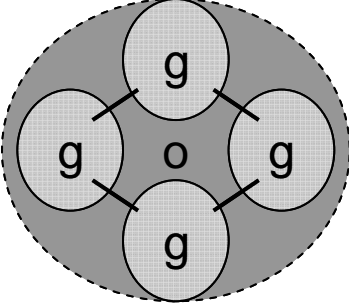
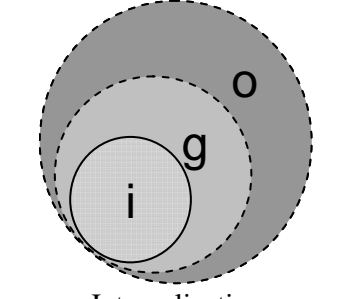
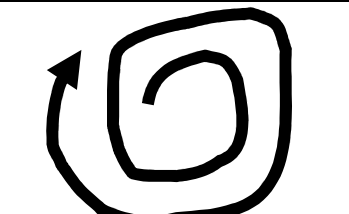
Thirdly, relationships to third parties are used as a resource in the knowledge interaction and new product discussion. Relationships are used as means of legitimisation e.g. when Spice Inc. refer to what other partners do or don't do.

Forth and final, in presented case taste is perceived by all involved actors as a decisive criterion when deciding whether a new product idea or prototype is to be developed and introduced on the consumer market. This perception is related to a conviction of how the taste of food products is but one important parameter for consumers to repeat their purchase. Again, there is a strong mutual perception of this as an important type of knowledge resource. However the problem with taste is that it is perceived as linked to personal preferences, which are difficult to articulate in wording. Additionally it is perceived to be even more difficult to comprehend another individual's preferences in taste. Therefore developing new food products and deciding which one to introduce and launch on the consumer market is not a straight forward organisational task since the criteria for making this decision is closely related to the intangible issue of taste. Instead the actors in the case emphasises the personal gut feeling or sense of their business as an overall criterion when deciding which new product ideas to go for.

Tabel 1 presents examples of the knowledge transformation process in the described case. It is important to stress that these are only examples, and that the different phases or elements in the process not are to be viewed as linear and successive. Indeed knowledge transformation processes is continuous and evolves simultaneously internally and externally to every single actor in the case.

Tabel 1: Knowledge transformation process in combining Spice Inc.'s product portfolio

 <p style="text-align: center;">Socialization</p>	<p>In the case of Spice Inc. the development meetings with R.E.Tailer and ScanMeat respectively are organisations for socialization. At the meetings the individual actor are dialoguing, trying to understand and share the experiences and tacit knowledge of the other participating individual actors</p>
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 <p>Externalization</p>	<p>Through the interaction and dialogue at the developing meetings the tacit criteria presented by each individual actor are articulated to make them more explicit. When the Development Manager from Spice Inc. is asking ScanMeat development representative to express their opinion and evaluation of each tasted product, the actors are dialoguing to translate tacit knowledge into explicit knowledge. Through out the meeting the discussed criteria are challenged. Some are preserved others may be changed.</p>
 <p>Combination</p>	<p>When putting together the Spice Inc. product portfolio. The now explicit knowledge collated at the development meetings are diffused internally in the Spice Inc. organisation. The knowledge is put into use and the customers' evaluations and criteria may be met by other criteria of e.g. production optimization, prices or the like.</p>
 <p>Internalization</p>	<p>New procedures are learned and the explicit knowledge are incorporated internally at Spice Inc. as well as in the relationship with ScanMeat and R.E.Tailer.</p>
	<p>Procedures are institutionalised and opportunities are delineated.</p>

Knowing what resources to draw on is a result of foregone knowledge exchange and knowledge interaction or to use the conceptualisation of Nonaka and Konno (1998) through previous internalisation and socialisation. When employing different knowledge resources the actors are arguing to legitimise their evaluation criteria in the ongoing externalisation. They are thus developing or even changing their criteria and existing knowledge through the inputs received via externalisation and combination. Therefore the ongoing process of knowledge transformation in both the relationship between ScanMeat and Spice Inc. and R.E.Tailer and Spice Inc. bear some similarities. However, there are several differences in how knowledge resources are put into use. Thus, the combination of knowledge the meetings created, developed and utilised in different ways by the actors as well as they create different effects on the focal company's criteria for putting together their portfolio of new products. To obtain a deepened understanding of these different effects and the knowledge or resource interactions that creates those effects we have looked into the knowledge exchange and transformation going on.

To Spice Inc. the development meeting with each of the two customers are perceived as input to the company's final decision on which new products to incorporate in their product portfolio. In the combination of Spice Inc.'s technical knowledge with that of their customers', it becomes possible to foresee and eliminate potential technical problems of the new products. Problems which may be an issue to other customers as well. And as stated in the introduction of this paper the development manager from Spice Inc. considers the opinion of customers an important input to this decision. Thus each joint development meeting is a mean for facilitating a process of externalization through dialoguing on the more tacit knowledge of customers' preference of e.g. taste and appearance of new product prototypes. The information gained at the joint development meetings are diffused and utilized internally in the following development of prototypes into final products and in this sense the new knowledge is internalised in the new products becoming a part of Spice Inc.'s product portfolio. However the effect from the varying knowledge interactions with the two different customers plays rather distinct roles in the internalisation.

To R.E.Tailer development meetings with Spice Inc. are considered an important aspect of their on-going relationship. Because the perceived purpose of the meeting is multiple, the different actors externalise quite differently. One specific purpose is the actual development of new ideas as well as making the decisions on which new products are to be introduced and when. Since these decisions are made directly and explicitly by the R.E.Tailer Purchasing Manager during the meeting Spice Inc. are provided with the opportunity to combine and integrate this information into their internal product development process and organisation. The meetings thus give the participants different knowledge input to bring home to their own organisations, to combine with other knowledge resources.

One essential distinction between the development processes at R.E.Tailer and ScanMeat is timing. All though ScanMeat continuously develops new industrial or private label products to their customers the development of their own brand is more disperse and related to selected seasons and religious festivals whereas R.E.Tailer work with a continuous and more evenly distribution of new product introductions. Thus the presented development meeting between Spice Inc. and R.E.Tailer are to a higher degree characterised by the parties' on-going interaction and joint development activities. To R.E.Tailer a second purpose of the joint meeting is facilitation of the on-going mutual coordination of development and business exchange activities between the parties. First of all this is revealed in the discussion and information exchange concerning unresolved issues in on-going development projects, practical business exchange matters as well as affairs concerning third parties, who are joint collaborative partners. This is activities which forms part of an internalisation and socialisation process. Moreover the presentation and discussion of Spice Inc.'s new product ideas are lend much less time and devotion by the R.E.Tailer representative compare with the commitment and enthusiasm unfolded when discussing their own or joint new product ideas. This could be interpreted as R.E.Tailer viewing Spice Inc. as a less important or skilled development partner. However, this is not exactly the case. As a third purpose of the meeting R.E.Tailer discern the continuously enhancement of the collaboration and coordination skills of Spice Inc. R.E.Tailer thus appreciates Spice Inc. as a very skilled and knowledgeable, but also views Spice Inc. as a partner whom they have to assist in improving their competencies as a development partner. In other words R.E.Tailer perceives Spice Inc. to be a development partner that still hasn't reached their potential.

The case illustrates several examples of the way combination occurs in the knowledge process. At the development meeting R.E.Tailer not only exploit Spice Inc.'s technical developmental knowledge and resources but also request for the additional services and resources that is a part of their on-going relationship. E.g. Spice Inc. makes standard recipes to R.E.Tailer's in-store butcher shops and produce customized packaging and labelling for all existing as well as new spice blends and marinades. Incremental changes and improvements concerning these issues are also discussed at the development meeting. When Spice Inc. on the other hand draws on their relational knowledge on third parties' preferences R.E.Tailer are dismissive. These activities are becoming the next steps in the knowledge process: Internalisation and socialisation.

In the relationship with ScanMeat Spice Inc. holds a different position as a development partner. Foremost Spice Inc. is not single supplier to ScanMeat. This entails ScanMeat to search for developmental input from other suppliers as well. To ScanMeat the primary purpose of the meeting is to draw on the technical knowledge and resources of Spice Inc. to develop new ideas into industrializable products. A second purpose is to use Spice Inc. as a source for new ideas serving as an input to ScanMeats product portfolio for the coming grill season. The main discussion and knowledge exchange at the meeting is therefore related to evaluating the different prototypes of new product ideas. The knowledge exchange between these actors thus centres the prototypes presented. Drawing on their personal experience and technical product knowledge the partners join in a mutual discussion on each prototype. During these discussions Spice Inc. often ask for detailed information on the customer's opinion on the taste, appearance and potential of the prototype. This externalized knowledge is later used for either dismissing the product or integrated and internalised in the further development of the prototype into a product incorporated as part of the suppliers portfolio. When to discuss prototypes Spice Inc. employ their relational and market knowledge to externalise their knowledge of retail customer and consumer preferences. Naturally thus dialoguing is a mean to persuade ScanMeat to buy their products. Still this information becomes available to ScanMeat. This is also an illustration of the different positions held by actors in the process. Through the externalisation actors may become aware of new actors or perceive a lack of knowledge which could lead to the involvement of new actors in the knowledge process. New actors in the process cause new externalisations and possible combinations, which could be a step forward to developing new criteria and dimensions of criteria.

Concluding remarks and implications

As depicted in figure 1 Spice Inc.'s final product portfolio is composed of both standard and customized spice blends and marinades. When deciding which new standardised products to incorporate in the portfolio the company values the opinion and input from selected important customers and internalise this knowledge into the final development of new products. The process of knowledge exchange and transformation proceed quite alike, but the content and impact may be characterised as rather different

The case gives insight in the way users and customers can be involved in forming criteria and future product portfolios. Through knowledge processes in meetings, through their activities and resources the suppliers, customers and other involved externalise, combine, internalise and socialise. An important implication of these processes is how the actors obtain capability to understand each other deeply. The case illustrates how they can learn to put them selves in someone else's shoes. Or as expressed by Nonaka and Konno (1998) they learn to emphasize and sympathize. They learn how the customer and the customer's customer think and act. Not necessarily explicit, but, through the internalisation and socialisation they get tacit knowledge to put themselves in someone else's shoes – e.g. the customer. In this process the criteria to judge which products and product portfolios to choose have a tendency to become identical. All the participants know the important criteria and other aspects do not count. This supports an effective and mutual communication in the meetings and the following activities in the different organisations. The institutionalisation which occurs leads to a certain way of thinking and handling customers interests. The way of emphasizing with a customer may become rigid and difficult to change. It closes the network and problem area. Development can be restricted from good commercial ideas. If this is a strong tendency it can lead to negative lock-in effects.

New externalisations comes from new practices, personal ideas, new combinations e.g. between the actors at the meetings. But, new input to product development and product portfolios also come from the externalisations of new actors. If involving new ideas, new or other actors is to be possible it is important that the knowledge process is suitable to cause new ways of externalisation and combination. The purpose is not to find the right institution for deciding product portfolios, but, to keep looking for new externalisations and combinations, which could lead to products for future customers.

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