Organizational changes in connection with IPSO

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Abstract
Integrated product service offerings (IPSO) have the potential of obtaining better margins, profitability and less environmental impact. Becoming a service provider implies significant changes in the way companies do business, considerable changes within the organization and changes with the relationships to external actors. This paper aims to contribute to the research concerning these changes when companies start to provide IPSOs.

Changes within the organizations have been necessary for all the companies studied and especially the sales staff since trust, transparency and long-term relationships with the customer is crucial. Support from the top management is also of importance as well as working in cross-functional teams. Changes are also needed in the service organization and amongst the retailers. Apart from the change in the provider-customer relationships little has been done in including other external actors, but the companies see potential in doing so in the future to expand and develop their IPSOs.

Keywords
Integrated product service offerings organization, IPSO, organizational change, external actors

1 INTRODUCTION

The business climate is becoming more and more competitive and manufacturing companies can experience difficulties in receiving acceptable margins on their products as well as competing with standardized products. One way of continuously receiving revenue for manufacturing companies is to provide services throughout the whole life cycle of the products [1] and lowering environmental impacts at the same time as fulfilling customer needs in a better way [2]. Other beneficial outcomes of this so called Integrated Product and Service Offerings, IPSO, are the possibility of a larger market or more control over the product value chain [3]. With this change from product focus to becoming a service provider as well significantly affect the way the companies do business [1].To become a service provider considerable changes have to be made within the organization, the capabilities and the management of the firm, but not enough information concerning these challenges is available and more research is needed in this particular area [4]. The role of the supplier organizations have not yet been sufficiently assessed [1]. This is particularly interesting since the extent to which a firm should become a service provider is determined by the properties of the organization [4].

More information concerning the challenges and implications of the IPSOs is therefore needed, especially concerning the organizational changes since there are ongoing processes within the companies and an update is needed. This paper is a part of the KIPTES project which has the purpose of collecting and establishing knowledge concerning the activities of Swedish companies and researchers within the area of integrated product service offerings and subsequently to spread this knowledge. The study was divided into four parts; a literature review, mapping of Swedish researchers within the area as well as their research projects, mapping Swedish companies and their activities within the area and finally in-depth case studies using e.g. LCA and LCC which can be studied in [5]. This paper is based on the third study but is focused on a smaller area, namely the companies' organizational changes associated with IPSO.

1.1 Objective

The objective of this paper is to investigate what has changed for the organization of the companies internally and externally since they started to provide IPSOs. The specific research questions that evolved from this objective were the following:

- How and why has the organization within the companies changed when starting to provide IPSOs? *The structure, competence and management of the organization of a company providing IPSO plays a significant role in the success of the IPSO.*
- How and why have the relationships and co-operations with external actors changed when starting to provide IPSOs?
  With internal changes come external changes and relationships and cooperation with external actors, e.g. customers and suppliers will change when starting to provide IPSO.

2 METHOD

In order to find answers to the research questions and subsequently the objective of the paper firstly an explorative survey was performed to identify interesting companies for further interviews. The purpose of the survey was also to identify areas in which changes had occurred in the organization and the networks. These areas were later investigated further in interviews with selected companies to give answers to how and why the changes had occurred. The process of selecting companies for interviews is illustrated in Figure 1.

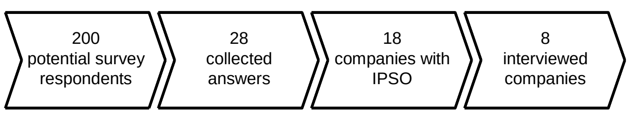

Figure 1: The process of selecting companies for interviews.

2.1 Survey

From the previous literature review [6] in the KIPTES project important factors and areas were identified and these were used to construct the survey. In total the survey consisted of 19 questions divided into three main sections. The first questions were concerned with the name and size of the company as well as contact details. Thereafter a screening question was conducted to separate the respondents into two groups; companies currently providing integrated product service offerings and those who do not offer them. The companies who did not provide these kind of offers where asked to explain why, while the ones who did provide the offers were asked more specific questions concerning their offers as well as more general questions such as profitability and drivers for the development.

The process of identifying respondents/companies included several different steps. Some companies were identified in the literature review that preceded this study, while others were found through the survey that had been sent out to Swedish researchers within the area. Organizational networks were also contacted as well as an advertisement in the popular science newspaper called “Ny Teknik” in Sweden encouraging companies to participate in the survey. None of these attempts were successful and instead company networks established in earlier research at Linköping University were used to reach respondents. Four different networks were used reaching a total of just over 200 companies.

2.2 Interviews

The following step in the study was the process of interviewing selected companies who had participated in the survey to provide a greater understanding of the companies and their offers. Criteria were set for selecting the companies for interviews to achieve a view as versatile possible. The following criteria were used:

- A completed survey
- The size of the company
- Type of industry
- How long the company had offered IPSO
- The percentage of the total sales consisting of IPSO
- The interviewee’s position in the company

The nine companies selected were the ones to meet the criteria and where the respondents accepted to participate. The interviews were performed over the phone, lasting in average 30 minutes. They were all recorded and a semi-structured interview guide was used.

2.3 Evaluation process

The results from the survey were collected and analyzed for similarities and differences. A split between large and small companies was made but no differences were discovered concerning the focus of this paper.

The information from the nine companies interviewed was gathered in individual descriptions to acquire a deeper overview of the companies. Thereafter similarities and differences were analyzed and compared to the literature review. Finally results and analyses were condensed to give answers to the objectives of this paper.

3 ORGANIZATIONAL CHANGES

The total number of respondents completing the survey was 20 and 8 of them were selected for interviews. Characteristics concerning the interviewed companies can be found in Table 1. Respondents working with business development, service development or with market responsibility were the most frequent. The departments within the companies that participated most in developing the IPSOs were product development, market and aftermarket. Concerning the small companies, the aftermarket department was not marked as one of the participating departments probably due to the size of the companies and them not needing a separate department for the different market activities and aftermarket. Most of the participating companies have only recently started to provide services but these types of offerings have existed for a longer time though under another name and among fewer companies.

3.1 Restructuring and the customer relationship

For almost all the companies, changes within the organization have been necessary in connection with providing IPSOs. For Company G which has provided IPSOs since the 1970s the new way of working has been adopted in the organization over time and the organization has grown into the role it has today. Other companies, such as Company E, who started providing IPSOs in 2008, has not made any major changes in the organization to date. In general, however most of the companies have made changes and the respondents especially emphasize the changed way of which they do business in combination with the increasing importance of the role of the sales person. Company D has completely changed the way in which they approach the customers. Instead of waiting for the customers to contact them the company has become more proactive in their sales process. The main focus for Company F has been the people in the organization since the working processes and the attitudes needed to change.

> *“The adaptation internally went good and when the co-workers realized the benefits with the new offers and thereby became more involved and committed, it then led to even more advantages”.*

The change was necessary according to the CEO since the employees now work closer to the customers in the process of providing services.

The one company that differs significantly from the others

Table 1: Characteristics of interviewed companies.

Name	Employees	Industry	IPSO share of total sales	Started providing IPSO
Company A	500	Logistics and material handling	20-30 %	1970s
Company B	2300	Aerospace-industry (Volvo Aero Corporation)	40 %	1970s
Company C	1800	Healthcare	10 %	2004
Company D	1300	Mining industry (Atlas Copco Rock Drills)	20 %	2000
Company E	800	Vehicle industry	5 %	2008
Company F	60	Subcontract work and logistics (EDC)	50 %	2000
Company G	30	Plastic industry (Plastema)	100 %	1978
Company H	50	Graphic industry	25 %	2003

is Company H since it is a service providing company that has started to integrate products in their offers. Problems within its organization are e.g. the lack of a product manager and the fact that new suppliers had to be found to be able to deliver the product parts. The company did have people within the organization who had experience from manufacturing companies and the respondent considers this the reason for why no specific changes have yet been made within the organization.

The companies claim that the relationships with the customers have become closer and more frequent and the goal has been to create more long-term relationships. Company G states that “the offer has spread from the current customers to new customers by word of mouth”. The respondent for Company F emphasizes the important of having a good partnership with the customers, but states it goes both ways; the customer too has to make an effort and become more transparent to make the IPSOs possible. And the level of transparency among the customers varies greatly according to the respondent, which makes it more or less difficult to provide the offerings.

Each of the interviewed companies claimed that their IPSOs are more profitable than the traditional ones. However, there have been difficulties arguing the value of the offers both internally as well as in convincing the customer due to the traditional mindset. Company E developed a calculation tool to avoid the risk of the retailers to misestimate the value of the offers and thereby avoid the cost for the company to be stuck with a non profitable deal. Still most of the companies base the pricing on physical products.

3.2 Coordinating activities and competences

All interviewed companies have had a typical product focus except one that started off as a service provider and recently began to add product to the offer. Constantly reoccurring during the interviews was the opinion that coordination of corporate activates and competences are required to succeed in the transition. Company B, which earlier put together a team when there was a need in the development process, now has identified the need for more structure in the organization to be able to transfer similar offers to other customer segments. Furthermore, competence and knowledge from other parts of the company group have been used in developing and realizing the IPSOs, e.g. IT-logistics. Mostly the work at Company B is focused on the service development and the knowledge concerning the customers and it is therefore required to better cooperate with the local markets since they work close to the customer. Another important change is the way in which the company measures success and now a longer perspective is needed than when only products were included in the offer.

Company C started the IPSOs in 2004 and is still struggling with the needs within the organization when developing services.

> *“To even out the skewed balance between product development and service development more focus in required towards services to increase sales and thereby prove that the concept is functioning.”*

The work is still very much divided and based more on a product logic than a service logic.

In Company A, B and C there have been difficulties in changing the mature organization where the employees believe that the current way of working is the right way. Company D has also experienced this according to the respondent.

> *“The IPSOs have not run into any strategic obstacles but have experienced certain resistance in some regions where the sales organizations have a mature structure and therefore have been less inclined to changes.”*

Furthermore, the dilemma of competing against the traditional offer can occur, which happened in Company D. The solution was to set criteria for when the IPSOs were to be sold, namely when a new product was sold and if the customer currently did not have a service agreement with the company.

3.3 Service organization

Changes in the service organizations have been necessary as well as changes in the work routines of the service technicians. In Company A the service technicians are provided with detailed information concerning the product at the customer plant before they leave the company. This is possible due to a wireless solution that sends operation information which the company can use both for maintenance work and development of the offer. Company A has realized that a back-office function will be needed to be able to make use of the information sent from the products.

> *“The plan is to redirect the quality history to the sellers and product development and thereby make improvement s within the offers.”*

Not all of the companies have their own sales or service organization like Company E which instead uses retailers who work with the guidelines set by the company. The retailers did already sell IPSOs but now the difference is that it is supported from the management.

3.4 External actors

Apart from the change in customer relationships changes in the supplier networks are consequences of the new IPSOs. Company B has started to involve the suppliers to a greater extent. Furthermore, Company C sees a potential in involving more external actors to create new offerings. Another external change is the education given to retailers by some companies who have organized their sales organization in that way. The education has included the way of selling and the actual offers themselves. However, some retailers have already sold these kinds of offerings but the difference is now that the procedures are centralized.

4 DISCUSSION

In this section the results from the survey and interviews are discussed following the procedure described section 2.3. The discussed information is mainly retrieved from the interviews. Figure 2 aims to illustrate the discussion and examples from the companies are used to concretize the chapter.

4.1 Participating departments

The departments within the companies that participated most in developing the IPSOs were product development, market and aftermarket. This is in line with the results with previous research [3] that present similar findings. This cross-functional way of working to design an IPSO is a necessity [1], meaning that representatives from technical design, commercial management and project management need to be involved. Concerning the small companies, the aftermarket department was not marked as one of the participating department probably due to the size of the companies and them not needing a separate department for the different market activities and aftermarket. Two of the smaller companies argue that with respect to the size of the company, everyone is involved in the development and that the different roles overlap.

In a gap analysis conducted by Östlin *et al.* [7] it was found that there is an organizational gap between the product department and service delivery department. In addition, less sharp boundaries between departments will facilitate the creation of well designed offers [8]. This has been illustrated in Figure 2 where the circle representing the cross-functional teams is in connection with all the participating departments in the company. These kind of issues are also further discussed by Östlin *et al.* [7] which also presents 10 key aspects that influence the performance of industrial product/service systems.

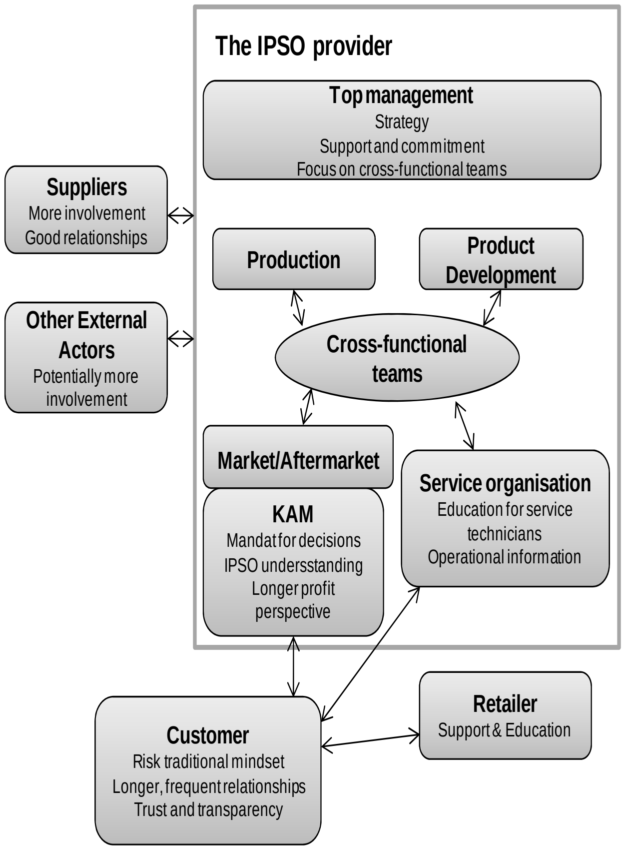

Figure 2: Relationships and co-operations between the departments and functions within the IPSO provider and with the external actors.

4.2 Centralization vs. decentralization

The top management support is a critical success factor [9] and several companies have understood the importance of this. In Figure 2 the importance of the role of the top management is shown by representing it on the top of the figure. No arrows were needed here to show the flow of the influence, instead arrows to all the participating departments as well as to external actors could be imagined. Examples of this includes e.g. Company E being the retailers which are supported in a centralized way and Company B having a more structured way of putting teams together from different departments to be able to transfer the offer to other segments. This is an example of a more cross-functional way of working which has been suggested to be successful [10]. This means that external changes such as the increased interaction with the customer to create an offer modifies the relationships between the departments [11]. This can be exemplified by Company A where a wireless solution is used to retrieve operational information about the product at the customer. This information is then sent from the service organization back to the development department and used to make improvements. This flow has been illustrated in Figure 2 by the arrow from the customer to the service organization and then further to the product development via the cross-functional team. This information loop will hopefully help to improve the product in a way that it lasts longer, both through structural improvements and maintenance improvements. Routines for feedback from parts of the organization working close to the customer has been recommended in earlier research [12] . The need for more structure in some parts of the company collides with the increased interaction between the company and the customers and the need for more decisions taken in a more decentralized way [11] to win the trust of the customer. This means that there is a need for *top management commitment* in the strategy but *individual customer decisions* need to be more decentralized, creating a delicate balance between these two critical factors.

4.3 Traditional mindset

The pricing of the IPSOs needs to be done properly [13] but there is a lack of knowledge in this area [14]. Other Swedish IPSO providers have also found this to be a great challenge in order to achieve a win-win situation [15]. Despite this all the interviewed companies consider their IPSOs more profitable than their traditional offers. This indicates that the companies at least have managed a pricing that makes it profitable to provide IPSOs. However, several of the companies experience difficulties in convincing the customers of the value of the offer. The pricing is still mainly based on the physical products probably due to that both the companies and their customers still have a traditional mindset and the customers prefer paying in a traditional way. In addition, using traditional mindset when designing the physical products have also been found to be an obstacle for success of industrial product/service systems [7, 16]. Earlier research has also pointed out the difficulties with a traditional mindset among the customers [17]. There is a need for models and tools that in a simple way can illustrate the economical benefits of the offers [18]. This has been done by Company E which developed a calculation tool for the retailers.

The issues with the pricing show how important it is for the companies to win the trust of the customers to be able to convince them of the benefits and value of the IPSOs by e.g. the role of a Key Account Manager, KAM. However, this requires a person with an understanding of IPSOs and who has the willingness to work in the new way. The driver for the sales person has traditionally been to sell as much as possible to generate profit. The profit was realized at short-term whilst now the profit realization period is longer and at the point- of- service [19]. Therefore a new way of thinking of the business is required of the sales persons. The role of the KAM has been illustrated in Figure 2 as part of the market/aftermarket department, but has been given a box of its own to emphasize the importance of this role.

In Company A, B and C there have been difficulties in changing the mature organization where the employees believe that the current way of working is the right way. This traditional mindset within the organization is an obstacle for developing IPSOs [14]. This is also in line with the findings of a previous study of IPSO providers in Sweden [15]. Furthermore, the dilemma of competing against the traditional offer might occur [18] , which happened in Company D. The solution was to set criteria for when the IPSOs were to be sold, namely when a new product was sold and if the customer currently did not have a service agreement with the company. Not only the company and the customer can have a traditional mindset, this also applies to retailers who prefer the traditional way of selling products [18]. The companies then need to support the retailers and provide concrete help such as the calculation tool Company E developed. This traditional mindset is not always an issue, which has been illustrated by that the retailers for one of the companies already sold IPSOs. In most cases, however, education for the retailers has been needed.

4.4 Customer relationship

The change of the way the companies approach and interact with the customers has been emphasized by most of the companies. This is something that has been frequently discussed in previous research in the area [1, 14]. The relationships have become longer and more frequent, but there is also a requirement of transparency, both from the provider and the customer and here the openness of the customers varies according to one company. The lack of trust makes the customer unwilling to provide the information needed to realize a great offer [20]. This has for some companies made it difficult to provide the offerings since mutual cooperation is of importance. To achieve cooperation and transparency the customers need to trust the provider and this is why the sales person is of utmost importance. This role has changed significantly and must now be more of a customer advisor than a salesperson [21]. The role of a Key Account Manager could be the way of handling both service and products. This is also one of the skills needed to be acquired by companies when starting to sell IPSOs [1]. The important relationship between the provider, the KAM and the customer is highlighted with the double arrow between the two actors. The customer relationships are of high importance when combining industrial product/service systems with product remanufacuting in order to retrieve used products that are in good conditions [22].

4.5 Increasingly more involvement of external actors

A few of the interviewed companies have made changes concerning their suppliers, Company B involves them to a greater extent and Company C emphasizes the importance of a good relationship to the supplier. The increased involvement of suppliers is shown as a double arrow between the IPSO provider and the supplier box. Furthermore, Company C sees potential in involving more external actors to create new offerings. Previous research has highlighted the need for changed or new networks needed to develop and provide IPSOs such as new distribution channels [4], research networks and regional and sectorial networks [23]. The main focus for the interviewed companies has been internal changes and the changed relationship with the customer. This is probably related to the fact that most of them have not yet been an IPSO provider for more than a few years and they are still focusing on developing and selling their current offer. When they have become more mature in their new role it is likely that they will include more external actors to be able to expand their offers or develop new ones. Therefore the arrow between the IPSO provider and the box for other external actors in Figure 2 has been dashed in the progress of the companies to develop these relationships more.

5 CONCLUSIONS

This paper aims to answer what has changed for the organization of the companies internally and externally since they started to provide IPSOs. This section describes how the paper specific research questions have been answered:

5.1 How and why has the organization within the companies changed when starting to provide IPSOs?

Changes within the company organizations have been necessary for all the interviewed companies. A critical factor has been the need for a change in the role of the sales person. The new type of sales requires a new competence, namely knowledge of how to sell IPSOs since it is more complex. The need for Key Account Manager positions responsible for the customers is advisable. These persons need understanding of IPSOs, a longer profit perspective than for traditional sales and also mandate to make customer decisions.

The importance of management support for the new way of doing business and for the service focus within the organization have also been discussed as important factors as well as a focus on cross-functional teams to develop and improve the offers, both services and products.

Changes have also been made within the service organization in the companies. New routines for the service technicians and more access to operational information are examples of these changes. The operational information is used by the companies to improve and develop the offer and also make improvements in the maintenance work. This makes the life cycle of the product longer, which is both economically and environmentally beneficial.

5.2 How and why have the relationships and the co-operation with external actors changed for the companies when starting to provide IPSOs?

The networks around the companies have changed, mainly through longer and closer relationships to the customer. Building long-term relationships with the customer is needed to be able to develop and implement the IPSOs in a satisfying way. This requires transparency and to achieve this transparency trust has to be built between the provider and the customer. In general, customers of manufacturing companies have a traditional mindset and trust is also needed to convince the customer of the new way of selling, i.e. the IPSO way. For organizations using retailers the needs for support and education concerning the new offers and the way they are sold have been required.

Other changes including external actors are primarily still in the planning stage. A few companies have started to involve the suppliers to a larger extent and they see potential in those types of co-operations and argue the importance of having good relationships with the suppliers.

The next step is to further involve external actors e.g. suppliers and other external actors such as other companies or organizations. The way of using external actors to expand the offers and develop them even further is a potential development indicated by several of the companies but for now it is not much more than an indication. The interviewed companies have in general only been IPSO providers for a few years and so far the main focus has been on internal changes needed and the relationship with the customers. The companies are starting out with changes in their internal organization and the external relationships that already exist. On the other hand, more internal changes will have to be made if a new external actor becomes involved since all parts are connected and work together to be able to provide IPSOs.

5.3 Future research

It would be of interest to keep following the companies on their way to become full-fledged providers of IPSOs. To return to the companies to e.g. see how the potential relationships and co-operations between the providers and external actors are developing. So far there have only been vague indications of these possibilities, but the ideas are there.

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