

Enhancing Public Sector Service Efficiency by Electronic Commerce

Anna Sell^{1,2}, Erkki Patokorpi², and Pirkko Walden²

¹ Turku Centre for Computer Science, Finland

² Institute for Advanced Management Systems Research, Åbo Akademi University, Finland

anna.sell@abo.fi,

erkki.patokorpi@abo.fi,

pirkko.walden@abo.fi

Abstract: In December 2000, the city of Turku, Finland, outsourced its open care grocery shopping to an online grocery retailer. The city officials expected that an outside e-commerce player would among other things bring time savings so that the open care service would be able to focus on caring for the elderly and the disabled at home. This paper examines the expected and realised effect of electronic commerce on the efficiency of the grocery shopping service from the viewpoint of the three main stakeholders: the customers, the employees and the management. The findings are based on employee and customer surveys as well as interviews with the open care management. The research combines both quantitative and qualitative methods.

Keywords: Open care, efficiency, electronic grocery shopping, e-government

1. Introduction

In Finland the public sector has the principal responsibility for providing for welfare services. In this way the Finnish state seeks to guarantee a sufficient and equal level of services for all citizens (Oksanen, 2002). The Finnish law was changed in 1993 to allow for the public sector social services to buy almost limitless services from outside (Valkama et al., 2002; Sasi and Aho, 2001). Compared with countries like Great Britain, the outsourcing of public sector services has been moderate, and as a rule only parts of service production have been outsourced and the municipal authorities have still been involved in, or at least retained a certain degree of control over, the actual production processes. As in most other western countries, the number of old people in Finland is constantly increasing, whereas at the same time less money is spent on municipal care (Hellstrom and Hallberg, 2001). The national social policy is to favour and develop municipal service forms which let the old people stay at home as long as possible. However, at the same time as the total number of open care customers has increased significantly, the number of open care personnel has stayed practically the same. Due to a general lack of resources, there is no hope of bringing the staff numbers up to better meet the increased demands. In Turku, a city of 160.000 inhabitants in southwestern Finland, the situation is no different.

This paper discusses the expected and realised value for social services from outsourcing the grocery shopping service to an online grocery retailer. The discussion is based on employee and customer surveys and interviews with the city open care management. We have also used

minutes from social services' meetings over four years and local media coverage as background material. In addition to these materials, outsourcing theory and literature on outsourcing in the public sector are reviewed.

2. Online grocery shopping: predictions and reality

In the late 1990s, estimates on the future potential of online grocery shopping ranged from the bold numbers projected by Wydra and Martin (1997), putting online shopping at up to 20 % of total grocery shopping by 2003, to Forrester Research's more cautious prediction of 2 % by that time (Corral, 1999). Today we can see that many ambitious ventures failed, for example Webvan, Streamline and Shoplink, and some were taken over by traditional retailers, such as Peapod by Ahold (Wydra and Martin, 1997). On the other hand, other players have managed to make their Internet sales channels profitable, such as UK-based Tesco and Albertson's in the USA. In 2005, Tesco.com reports 150.000 orders per week, a total of 750.000 customers and a profit of £36 million (Tesco, 2005). A Scandinavian player, Aarstiderne (<http://www.aarstiderne.com>) operates since 1999, delivering ecological produce to their online customers. The customer base in Denmark and Sweden is currently 35.000 customers.

Nettmarket.com is a Finnish online grocery store, operating in a partnership with a purely physical wholesale business, picking groceries directly from the wholesaler's outlet, thus avoiding costs on warehousing, product losses, burglary and the employment of cash counter personnel (Anckar et

al., 2002). The benefits of the model are many, but as the customer base continued to grow slowly, Nettimarket.com was struggling to make ends meet. When the city of Turku announced its desire to outsource the city's grocery shopping services for the elderly and disabled to a supplier with experience in online grocery retailing, it was clear that Nettimarket.com would compete for this deal.

3. Providing groceries for the elderly and disabled in Turku

One of the open care services' tasks is helping customers with their grocery shopping. The average number of open care customers in Turku is annually approximately 4000, of which the majority is old people. Up until 1999, the home help workers took care of grocery shopping for all those customers who cannot do it themselves. In this model the home help worker goes to the customer's home, writes a shopping list with the customer, receives money from the customer and then goes to the closest shop to buy the groceries, brings the groceries to the customer's home, unpacks them, reports on how the money was used and returns change. The social service's own calculations of the employees' working time showed that one shopping trip for one customer took on average about 45 minutes (Sosiaalilautakunta, 1999), meaning that an employee spent a significant portion of his or her working hours outside the customer's home. A Finnish study of open care services showed that grocery shopping took on average one third of the time reserved to a client (Lind and Pietala, 1997). According to calculations made by two of the four districts in Turku, buying groceries took 874 working hours a week in the old system, which translates to the work contribution of 22 employees (Heinonen et al., 2002). Consequently, the traditional way of shopping groceries for the customers means that the employees' time is partly being misspent on a physically straining task that does not require competence and experience in elderly care. There have also been changes in society that increase the problems for home help shopping. Koski et al. (1998) and Lind & Pietala (1997) report on the network of shops in Finland becoming less dense, which causes inequality among the population and difficulties for taking care of home help customers.

At the beginning of 1999, the open care managers observed that the imbalance between the demand for services and the resources of the social services was becoming unmanageable. Some services might have to be outsourced to a private service provider as had already been done in several municipalities in Finland. Grocery

shopping, laundry, transportation and cleaning were listed as potential targets for outsourcing. All of these were services that to a significant degree take place outside of the customer's home. In the discussions that followed grocery shopping came up as a strong candidate for outsourcing, and there was already some experience of similar arrangements in three other cities in Finland. The social services was especially interested in making a contract with a company that utilises information technology (i.e. the Internet and e-mail) to collect the orders. This was seen as the best way to streamline the shopping service (Sosiaalilautakunta, 1999). Nettimarket Oy was chosen from a pool of nine entrepreneurs in a competitive bidding to deliver the service for a test period of one year (1999-2000) in two of the four service districts, the western and the northern. The southern and the eastern district implemented the new practice in December 2001, at which point the total number of home help grocery service customers was approximately 800. Nettimarket Oy was again chosen as the supplier. According to the board meeting minutes of the social services of Turku, the reasons for choosing Nettimarket was a sum of many factors. Nettimarket was one of the two competitors that had experience and an already working model for undertaking such an extensive service. Finally, the price for the delivery and the quality, stability and service security of the system tilted the scales in favour of Nettimarket (Sosiaalilautakunta, 1999).

In discussions with Nettimarket's manager Aki Teranto the managers planned the best way to organise the service. The city was interested in acquiring Nokia Communicators to be used for ordering the groceries, whereas Mr. Teranto proposed the use of PCs. The city decided on purchasing communicators, on the grounds that a communicator can be taken to the customer's home which maximises time savings, and it can also be used as a telephone, which all recess quarters did not have at the time. In practice, the communicators were never mobile, since only one device per recess quarter could be bought, and it had to be shared by approximately 20 employees. According to the agreement between Nettimarket and the city of Turku, the city pays Nettimarket 7 euros per delivery, of which the customer pays a small part (1.60 euros). The home help worker makes in the customer's home a list of the groceries, goes to the workers' recess quarters where he or she types them into a communicator, and sends the order electronically to Nettimarket. The number of grocery shopping deliveries to the open care customers during the first year of operation (1999-2000) was predicted to be approximately 1300 a week. According to the

social service's own estimation cost savings would be approximately 0.9 million euros a year. The costs for the outsourced service were estimated to be 0.4 million euros, out of which the customer would pay 0.25 million euros (1.6 euros per delivery).

The customers are expected to take part in the new system en masse. In other words, all open care customers in need of help in grocery shopping have to get their groceries from the online store. An exception is made if the customer comes along to the store. In these cases the exercise and activity is regarded as rehabilitation and important for maintaining these customers' physical and mental health (Heinonen, 2003; Heino, 1999).

4. Achieving efficiency by outsourcing the grocery service

Outsourcing is essentially the transfer of ownership of a business process to a supplier (Anon., 2003). A key characteristic is the transfer of control over the process, i.e. the buyer does not tell the supplier how to do the work. The buyer's focus is on conveying the results it wants to pay for, accomplishing those results is up to the supplier. Chaffey et al. (2003) lists a number of reasons for outsourcing, of which the following apply to the case at hand: freeing resources for other purposes; the function is difficult to manage or out of control; improving the organisation's focus and the fact that resources are not available internally. Possible problems related to outsourcing can include concerns over the qualifications of the outside personnel, the loss of control over the function, the negative impact on employee morale and that the expected cost reductions are not reached (Chaffey et al., 2003).

The Finnish Competition Authority (Kilpailuvirasto, 2001) states that the Finnish municipalities that are outsourcing some of their social and health services are mainly aiming at evening out peak times in the usage of services, for instance in the Turku shopping service there is a peak amount of grocery orders before major holidays, which means that the city has to be able to mobilise more employees than usually. Another goal is reducing labour and capital expenditure (Kilpailuvirasto, 2001). The managerial challenge of reaching outsourcing success is to correctly identify the organisation's core competencies and to strategically outsource other, non-core activities which the organisation has no special capabilities to deal with and for which there is no special strategic need (Greco, 1997; Quinn and Hilmer, 1995). According to the Finnish Competition Authority, municipalities in Finland have

outsourced core activities as well as fringe services. In the Turku city case, though, the management team was quite determined on retaining core activities under city control. The core competence of the organisation was defined as the operations done in the customer's home, whereas all other operations could in principle be outsourced (Hassinen-Laine, 2003). Regarding the grocery shopping service for the customers, the whole service is not outsourced, since the city home help workers are still in charge of order taking and relaying them on to the supplier. This is directly related to the desire to keep the functions with client interaction in the control of the city open care services, and to the need to monitor the client's health. The customers' eating habits and changes in them give important clues to their general well being.

The outsourcing of public sector services in Finland has as a rule been limited to situations in which the public sector service provider complements its own insufficient production capacity with services bought from the markets or the service has not been part of its service production. It is very rare in Finland that the whole service production is outsourced (Sasi and Aho, 2001). For our purposes outsourcing could be divided in three degrees or categories. Let us call it (i) the first degree of outsourcing when an organisation complements its own insufficient production while maintaining a significant degree of control over the production process and is even partly involved in it. Let us call it (ii) the second degree of outsourcing when control over some part of the service production is given over to an outsider and the public sector organisation merely oversees the results but does not interfere with the production process itself. The second degree of outsourcing entails both that the open care organisation has made the service into a clearly defined product that can be sold on the market and that they have also created some benchmarking system by which to supervise the quality of the outsourced service. Let us call it outsourcing of (iii) the third degree when the whole production is turned over to a third party (e.g. the railways in Great Britain). The shopping service in Turku belongs to the first category, and it is presently shifting towards the second category (see Figure 1). Generally speaking, Turku is, along with other Finnish municipalities, gradually changing from a service producer to a service organiser (see Liukko and Luukkonen, 2002; Valkama et al., 2002). What makes Turku's case of outsourcing even more interesting is that there is a tendency towards a partnership with the private entrepreneur, which does not quite tally with the outsourcing arrangements. Partnership is a viable alternative but it requires more time and it

is not clear how it could be reconciled with the entrepreneur's freedom of arranging the production processes.

The main benefits that are usually sought after when outsourcing are related to 1) streamlining processes and flows of goods and information within supply chains, and to 2) reducing costs related to e.g. monitoring of performance and hiring, management and training of personnel (Lacity and Hirschheim, 1993; Rabinovich et al., 1999). Kanniainen (2002) states one benefit of outsourcing in the municipal health and social services to be the fact that 3) comparing the price-quality ratio becomes possible and comparisons between external and internal suppliers can be done. Compared with outsourcing theory, expectations from outsourcing the Turku city grocery service are somewhat different. The city mainly sought after a) lightening the physical burden on their personnel and thus improving employee health; b) being able to focus on their core competence, i.e. basic care within the

bounds of the customer's home, and c) saving time and being able to provide their services to a wider circle of elderly and disabled. Savings in the expenditure of money on substitute workers were seen as possible, but were not the main benefits expected or motivating the outsourcing decision. An overview of the involved parties and the interactions between them are presented in Figure 1. Arrows indicate the interactions between the parties, including the flow of information, the formal control used by the social service department and the management, and the decision to outsource the grocery shopping service. Besides the formal control we could notice an informal control function employed by the home help workers in order to maintain the quality of the service delivered by the service provider. As the home help workers were part of the service process they became the spokesmen for both the customers and the city of Turku, thus maintaining an effective informal control of the process.

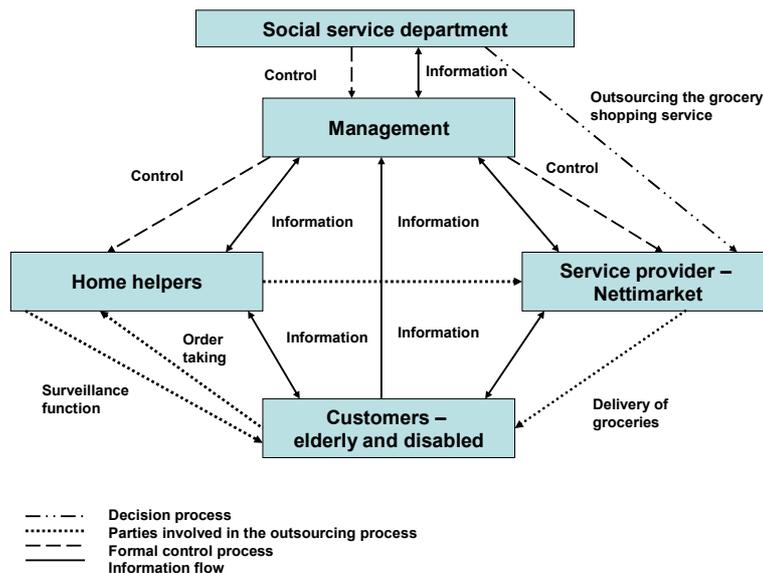


Figure 1: Overview of involved parties and interactions

The management and the home help workers had their own, different sets of expectations, shaped by their experience of the downsides of the system before outsourcing, which will be discussed in the following sections.

5. Method

Our approach is twofold. On the one hand, we have conducted surveys on both the employee and customer populations of the city's grocery shopping service, and subjected these to statistical analysis. This material has then been

combined with ethnographical material, for instance in the form of interviews and letters to the editor of the local newspaper. Two researchers conducted interviews with the department heads of the four open care districts. Each interview lasted between one and two hours. The interviews were recorded and transcribed.

The statistics show that by outsourcing grocery shopping to an electronic commerce player has improved the efficiency of open care but this efficiency translates into different experiences to each stakeholder. Based on the ethnographical materials gathered over the years – i.e. starting

soon after Nettimarket.com was founded in 1998 – the traditional efficiency criteria of outsourcing are partly reinterpreted in order to do justice to all stakeholders. The objective of combining the two methods is to construct a more comprehensive picture of the development of public sector services at the open care of Turku.

6. Management expectations from outsourcing the grocery shopping service and experiences

The four open care service districts are each headed by an open care manager who coordinates the services in his or her district and takes care of strategic planning together with the other open care managers and the social services department head. The management estimated that the outsourced online grocery shopping service would give the employees more time to focus on their core activity, which is basic care. In other words, saving time was the principal reason for the outsourcing decision. In this way the customers could also count on getting good quality care in the future, as the resources were not increasing in step with the workload. The managers also hoped to be able to take on a larger number of customers, since at that time they could only take care of those customers with the most urgent needs, and many persons in need had to be excluded from the services (Rauhala, 2003; Salmiosalo, 2003; Heinonen, 2003). Some of the main expectations the city placed on outsourcing the grocery shopping process were related to employee health. The mean age of the open care staff is in some sub-districts even above 50, which is higher than the already high city employee average age of 43. The risk of injuries and accidents while hauling large amounts of groceries was quite real. Also, employees were reporting strain and pains in the neck and back area and early retirement was common. The managers also wanted to minimise the employees' need to handle the customers' money, which inevitably sometimes leads to misunderstandings and distrust (Hassinen-Laine, 2003).

Another important consideration was equality. In the old system of delivering groceries, the customers living in different parts of the city could not receive service of comparable quality. Home help customers living in the heart of the city had a large selection of stores within reach, and in the old system their shopping service may have consisted of an escort in a taxi to the finest stores in the city. On the other hand, customers living in the remote, rural parts of the city only had access to significantly more modest stores and smaller product assortments, since all customers were

taken to the stores nearest to their homes. In the name of equality, the city wanted to provide the same level of service for everyone, regardless of neighbourhood. The old system was not unfair for the customers alone, but for the employees, too, because the working conditions and work strenuousness were very different in different districts (Rauhala, 2003; Salmiosalo, 2003). There were also some expectations of cost savings. When preparing the decision of conducting the first outsourcing trial in 1999, two of the open care managers expected cost savings due to fewer sick leave days and lower need of hiring substitute workers since one physically heavy part of the job would be taken care of by outsiders. The managers also supposed savings would be gained from lower expenses on car acquisitions, petrol, repairs and mileage allowances (Sosiaalilautakunta, 1999).

Finally, the managers were interested in utilising information technology for arranging the service. In their view, this was the best and smoothest way to organise the ordering, and also the only way they would be able to maintain service at an acceptable level. One of the open-care managers stated that as the proportion of elderly and disabled people steadily increases, there is a need to use efficient platforms and tools enabling the provision of a better service (Anckar et al., 2001). Expectations placed on the specific value of ICT in this context were quite vague, but in general it was expected to be a fast and efficient way of ordering that would enable accurate and fast deliveries. In some other Finnish cities the grocery shopping service had already been outsourced, according to a model where open care workers relay the orders to a retailer, who picks and packs the goods, which are then picked up by a separate transport company who delivers them to the customer. In Turku the managers were interested in outsourcing to an entrepreneur who handles the whole chain (Sosiaalilautakunta, 1999). According to the home help directors of Turku, shortly after the first test period of online grocery service had begun in 1999, both the customers and the employees reacted at first by reminiscing about all the good things that were related to the old system. The customers missed their corner shop and its inexpensive prices and familiar assortment. The home help workers told the directors that they missed the trips to the corner shop because they could disengage themselves from their regular work for a brief moment while doing those tasks. One of the management's main tasks during implementation and the first year of the service was to defend the service to concerned customers and family members, and to convince the employees of the reasons and objectives behind the new system.

Some efforts were made to explain also in local media the social services' reasons for resorting to outsourcing, in response to newspaper writings suggesting that here the city was cutting costs and saving time but it was unclear what the customers would get in return (Salmiosalo, 2003; Anon., 1999; Enkvist, 2002; Anon., 2002; Anon., 2002). This situation was quite stressful on the managers and raised uncertainty among them whether the general population of customers were unhappy or only a vocal minority of them. The situation calmed down with time and at the end of 2002 the managers reported that new customers with no experience of the old system seem very pleased with the online grocery service. It seems to the managers, as if also those customers who do have experience of the old system have overcome their change resistance.

There are clear indications of the fact that the management expectations of improved employee health were realised. In our interviews the managers shared results from an internal questionnaire indicating that physical strain had diminished due to the online grocery service. This was further backed up by evidence of reduced expenditure on substitute workers. The managers also reported that many home help workers have informed their superiors that they now have more time for the basic care. It has also become possible to take on new customers and increase the portion of work done in the evenings and weekends, for which there is great need among the customers. The employees also reported less pain in their neck, shoulders, back and arms. Another perceived benefit is that the structure of their working day is clearer than before (Heinonen et al., 2002).

7. Employee expectations and experiences

There are approximately 600 open care employees in the city of Turku (employee numbers change on a monthly basis, fluctuating between 590 and 610), divided rather equally into the four service districts. A 24-question questionnaire was distributed to all of them through the district managers. 195 of the employees responded, which is approximately 32 % of the entire population. In addition to demographic questions, the employees were asked to give their opinion on different aspects of the online grocery service on a 5-point Likert scale: 5 = Completely agree, 4 = Partly agree, 3 = Do not agree nor disagree, 2 = Partly disagree, 1 = Completely disagree. We included the possibility 0 = Cannot say / no opinion as we assumed that there might be employees with no experiences from the period before the

outsourcing. All calculations for the different statements have been done after excluding those recipients who answered that they "cannot say / have no opinion". For a summary of the results from the employee survey, see Table 1.

Table 1 compares the combined results from the two districts that entered the online grocery service first, in 1999 (northern and western), and the two districts that joined the service two years or more from that, in 2001-2002 (eastern and southern). The means for the two groups were tested for differences between them through conducting an independent samples t-test. Levene's test was run to test for equality of variances. Where significant differences in variance were found, a more conservative, adjusted t-test was applied. The mean age of employees who responded to the questionnaire is 44 years, the youngest being 19 and the oldest 62. 34.7 % of the employees belong to the oldest age group, 51-64-year olds, and 42.6 % to the second oldest group, 36-50-year-olds. There are no significant differences in age distribution between the different districts. The age distribution corresponds well to the actual age structure of the population. Among the 195 respondents there are only two men. The respondents are evenly divided between the four districts; 49 respondents work in the southern and western districts each, 41 in the northern and 54 in the eastern district. The respondents have worked in their positions from 0 to 30 years, mean value being 12 years 6 months. Respondents were polled on the expected and perceived effects of outsourcing on their work (see Table 1 for summary statistics on perceived effects). One third of the respondents hoped that the online grocery service would improve the availability of other services but as many as 41 % feared that the new practice would deteriorate the grocery shopping service. Many employees have seen the deterioration of the open care service through the years and suffer from working at a hectic pace and knowing they do not have enough time for every customer. The employees feel inadequate, and they also are the ones who hear customer complaints directly and frequently. In 1997, the open care workers had been asked what they wished to develop in their work in the future. The clearly most frequent answer was "to have more time for the old people" (Suhonen and Hakala, 1998).

Most home help employees (87 %) that responded to the questionnaire had expected that their physical workload would diminish when an outside service provider would do the grocery shopping. On the other hand, 28% expected that the online grocery service would make their work

more mentally straining. When asked about the actual perceived effect of the service on their work, a third of the respondents declared that the mental strain of their work had in fact diminished. In the two districts that had longer experience of the service, around half of the respondents were of that opinion, however, whereas less than one fifth were of that opinion in the other two districts. Opinions on the physical strain of the work are divided according to the following pattern: 93,6 % and 90,4 %, of the respondents from the first-comer districts agreed with the claim that the physical strain had diminished, whereas the respective percentage in the latecomer districts was 71,1 %, that is, on average 84,6 % agreed. It

is evident that on the whole the western and the northern districts have a more favourable opinion on the online grocery service than do the latecomers, the eastern and southern districts. Comments by the employees from the eastern and southern districts indicate that their opinions have been influenced by the short time that the service has been in use, since many employees have not yet gotten used to or learned to use the system. Dealing with an unfamiliar way of ordering, added to the fact that many of the employees are not technologically knowledgeable from before, means added mental strain until they feel more comfortable with the process (see Sell et al., 2003 for more details).

Table 1: Employee opinions - summary statistics (N=195)

| <i>Effect on work character</i> | Agree** | Disagree*** | Mean (all respondents) | SD | Mean, new districts | Mean, old districts |
|--|---------|-------------|------------------------|------|---------------------|---------------------|
| Has lessened physical work load | 84.6 % | 8.0 % | 4.24 | 1.08 | 4.01 | 4.54 |
| I have more time per customer | 43.0 % | 37.6 % | 3.01 | 1.39 | 2.57 | 3.62 |
| Has lessened mental work load | 31.5 % | 52.5 % | 2.64 | 1.39 | 2.22 | 3.17 |
| Other services have improved | 23.2 % | 48.8 % | 2.51 | 1.14 | 2.18 | 2.94 |
| <i>Ordering from online grocery store</i> | | | | | | |
| Ordering is easy | 74.5 % | 16.8 % | 3.87 | 1.21 | 3.60 | 4.20 |
| Ordering is fast | 61.1 % | 23.8 % | 3.57 | 1.26 | 3.20 | 4.01 |
| Finding products in the website is easy | 22.6 % | 46.6 % | 2.56 | 1.23 | 2.22 | 3.04 |
| <i>Products</i> | | | | | | |
| Enough different brands | 57.0 % | 21.5 % | 3.45 | 1.14 | 3.48 | 3.46 |
| Product range is wide enough | 52.2 % | 28.3 % | 3.32 | 1.19 | 3.27 | 3.41 |
| Delivered goods are fresh and high-quality | 47.3 % | 30.1 % | 3.18 | 1.08 | 3.21 | 3.17 |
| Groceries are reasonably priced | 14.7 % | 74.5 % | 1.95 | 1.13 | 1.86 | 2.08 |
| <i>Delivery</i> | | | | | | |
| Delivery service is friendly | 65.2 % | 13.0 % | 3.78 | 1.06 | 3.62 | 3.96 |
| Delivery service is business-like | 62.7 % | 18.9 % | 3.63 | 1.05 | 3.48 | 3.83 |
| Deliveries correspond to order well | 52.2 % | 29.0 % | 3.24 | 1.05 | 3.22 | 3.25 |
| Deliveries come on time | 54.8 % | 33.0 % | 3.23 | 1.21 | 3.03 | 3.47 |
| Delivery service is reasonably priced | 30.8 % | 56.0 % | 2.44 | 1.35 | 2.27 | 2.65 |
| <i>Service</i> | | | | | | |
| Payment options are sufficient | 82.2 % | 6.7 % | 4.23 | 1.00 | 4.12 | 4.34 |
| Mistakes are corrected satisfactorily | 80.6 % | 9.4 % | 4.08 | 1.07 | 3.94 | 4.24 |
| Invoices are correct | 58.5 % | 27.3 % | 3.43 | 1.14 | 3.39 | 3.46 |
| <i>General</i> | | | | | | |
| On the whole the shopping service works well | 54.1 % | 25.1 % | 3.35 | 1.10 | 3.13 | 3.64 |
| Shopping is taken care of better than before | 18.9 % | 51.5 % | 2.50 | 1.14 | 2.15 | 3.01 |

**) Percentage of employees who responded agree (5) or partly agree (4)

***) Percentage of employees who responded disagree (1) or partly disagree (2)

Bold value: Difference of means between old and new districts is significant (p<0.05)

One of the employees' main wishes before the outsourcing was having more time per customer, and 43 % of the employees agreed that outsourcing had had this effect. As resources were freed, the city could take on new customers in addition to the old ones, which explains that the total time spent per customer did not rise in all cases, as the employees had more customers to take care of. Employees were also asked whether they feel that the grocery shopping service has improved after the outsourcing. Only 18.9 % could agree with this statement (29.6 % of the opinion that the service has stayed the same). The old system of doing the grocery shopping was at best highly individual and customer-focused. One of the open care managers (Rauhala, 2003) states

that for instance for those customers who lived in the vicinity of good stores, the old system was almost luxurious, but it should be kept in mind that this level of service could not be provided to all, for instance to those living in rural areas of the city with long distances to the closest store, often with a modest product range. A small number of respondents explicitly wished for the old system back, i.e. doing the shopping themselves. Some respondents also hoped that the online store and the traditional model could be somehow combined ("A person who eats little does not need to order groceries twice a week; for instance, first one milk, two sour milks – could it not be fetched from the corner shop?"). The fact that the customers were not provided with a product catalogue listing

Nettmarket's offerings, made ordering more difficult. The technology used when ordering sometimes caused problems. Approximately half of the respondents either always or usually send their orders to Nettmarket by e-mail via a Nokia Communicator. Almost one fourth either always or usually orders by a computer via the Nettmarket web pages (<http://www.nettmarket.com>). Some respondents said that the small screen and the small keyboard made using the Communicator difficult. It seems that Nokia Communicators were perhaps not the best possible device for social services' purposes. Due to a shortage of Communicators they were severely under-utilised, serving as stationary terminals instead of mobile devices. Despite the drawbacks, a majority of those who used them found them easy to use and handy. Also, on the other hand, some respondents said that ordering through the web site (with PC) was difficult because of the product search functions, which were found to be deficient and cumbersome. Both Nettmarket's delivery service and product prices were thought to be expensive. The employees from the western and northern districts, where the online grocery service has been in use already from the year 1999, were more prone to think that the delivery service fee is reasonable than the respondents working in districts that had joined the service later. Both groups found the grocery prices too high. The first-comer districts had a more favourable opinion of the decency and friendliness of the delivery service. The open care employees expressed most satisfaction with the payment methods, correcting of mistakes and the ease of ordering. The employees also wished for many improvements regarding the available product range, some real, but some that showed a lack of knowledge of Nettmarket's selection. For instance, many employees hoped for the possibility to order fresh fish, which in fact was possible.

8. Customer experiences

A questionnaire was distributed to all of the grocery shopping service customers, and 198 of the 600 responded (33 %). Of the customers responding to the grocery shopping service questionnaire, the predominant majority, 81.3 %, is female. The age range of respondents is between 44 and 99 years, but most of the respondents, 77.3 %, fall within the age range 71-90 years. Only two respondents (1.0 %) are under 50 years old. The respondents are not computer or Internet users themselves; only two individuals report using them weekly and two others have tried using them. The grocery shopping service is the respondents' main source of groceries, but 29.7 % of the respondents also supplement with

groceries from other sources, bought by themselves or their relatives and friends. The grocery shopping service is sufficient as a source of groceries for 40.5 % of respondents. The respondents get groceries delivered through the grocery shopping service once a week (61.3 %) or two to three times a week (31.4 %). A summary of the customers' experiences can be found in Table 2.

Most of the customers (79 %) were of the opinion that through outsourcing the grocery shopping had either improved or stayed the same, but 22 % felt the service had deteriorated. An almost identical distribution of answers was received for the question; whether the other services that the customers receive from open care had improved, i.e. if outsourcing the grocery shopping had enabled open care employees to take better care of their customers. 80 % answered that the other services had improved or neither improved nor deteriorated and only 20 % thought they had taken a turn for the worse. Pricing issues were the main source of dissatisfaction for the clients. 49.7 % of the respondents were of the opinion that the products are not reasonably priced, and 36 % felt that the delivery service itself was not reasonably priced. Otherwise the customers were quite satisfied with the different aspects of the outsourced grocery shopping service. The customers were especially pleased with the service quality; over 92 % of the customers felt that the delivery service was friendly and decent. For many customers, the delivery of groceries was a welcome diversion to their day. The online grocer saw the importance of this social contact to the customers and was highly successful in maintaining a high standard of customer service. Friendly and business-like customer service was a staple of the delivery service and highly valued by the customers. The width of the product range was found sufficient by a majority of the respondents, but 20 % of the respondents hoped for more width and also for certain brands to be included in the product range. When comparing the customer opinions with the employee opinions, it is noticeable that the customers are overall more satisfied with the different aspects of the service. It is likely, that the employees' position as "guardians" of their customers' interests influenced their opinions in a more negative direction. They were the ones overseeing and facilitating a large number of customer transactions and if there were problems, they were involved in sorting them out. The employees' opinions regarding the friendliness of the customer service were especially far from the customers' opinions; almost all (94.1 %) of the customers thought the customer service was friendly, whereas only two thirds of the employees

were of the same opinion. The customers were also much more satisfied with the timeliness of the deliveries. This might eventually be explained by a

higher sense of urgency felt by the employees, who were following a tight schedule to manage all the customer visits of their working day.

Table 2 – Customer opinions, summary statistics (N=198)

| Products | Agree* | Disagree* | Mean | SD |
|---|--------|-----------|------|------|
| Enough different brands | 59.1% | 18.7% | 3.62 | 1.25 |
| Product range is wide enough | 68.5% | 19.4% | 3.73 | 1.27 |
| Delivered goods are fresh and high-quality | 72.6% | 20.3% | 3.86 | 1.19 |
| Groceries are reasonably priced | 33.7% | 49.7% | 2.68 | 1.37 |
| Delivery | | | | |
| Delivery service is friendly | 94.1% | 2.4% | 4.58 | 0.73 |
| Delivery service is business-like | 92.3% | 3.0% | 4.48 | 0.77 |
| Deliveries correspond well to order | 72.7% | 18.7% | 3.84 | 1.19 |
| Deliveries come on time | 80.0% | 12.6% | 4.05 | 1.11 |
| Delivery service is reasonably priced | 46.5% | 25.9% | 3.11 | 1.41 |
| Service | | | | |
| Payment options are sufficient | 89.3% | 4.2% | 4.56 | 0.86 |
| Mistakes are corrected satisfactorily | 81.7% | 8.0% | 4.27 | 1.05 |
| Invoices are correct | 79.3% | 13.4% | 4.18 | 1.17 |
| General | | | | |
| On the whole, the shopping service works well | 76.1% | 11.0% | 4.04 | 1.17 |

*) Percentage of customers who responded agree (5) or partly agree (4)

**) Percentage of customers who responded disagree (1) or partly disagree (2)

9. Three stakeholder perspectives on efficiency

Table 3 below lays out the efficiency improvements brought about by outsourcing. The efficiency criteria derive from mainstream outsourcing theory, but in some cases they are reinterpreted in order to do justice to the three

stakeholder perspectives: the managers, the home helpers and the open care customers. By stakeholders is here meant identifiable and influential groups of actors who (i) contribute to the valued resources; (ii) put these resources at risk or experience costs if the system fails; (iii) and have power in or over the organisation (Frooman, 1999; Kochan and Rubinstein, 2000; Mitchell et al., 1997).

Table 3 - Efficiency matrix of grocery shopping service – do traditional criteria of outsourcing efficiency apply to the different stakeholders and was efficiency achieved?

| | Stakeholders | | |
|--------------------------------|---|--|---|
| | Managers | Home helpers | Elderly and disabled customers |
| Time | Yes -More customers in same time | Reformulate -More time efficient -Time freed to concentrate on tasks suitable for their experience and competence -Less stress | Reformulate (time efficiency definition inverted for this group) -Punctuality -Flexibility, suits their daily routines -More variety -More predictable, reliable -As a group, more time; on the individual level no change or more time |
| Costs | Yes -Less sick days, stand-in workers -Reduced expenditure on mileage allowances | Yes/Reformulate -Less "wear and tear" (on the "machines" of this system) → long-term savings in personal expenditure (health-related costs, prolonged prospect to work) -Quality of life is improved | No -Myth of cheaper shopping online not true (self-service → service) -Small average order size, fixed transport fee |
| Stream-lining processes | Yes | Yes | No , no relevant changes -Not more efficient, procedure a little different -Two visitors better than one from many customers' view point -Procedure no more difficult |
| Quality | Yes Price/quality ratio | Yes -They can concentrate on their core competence | Yes - Good grocery quality - Good service quality - Width and breadth of assortment |

The first column of the table maps out the realised outcome of outsourcing from the managers' viewpoint. The managers' efficiency criteria conform rather closely to the conventional outsourcing efficiency criteria. Timesavings were attained because the online grocery service gives the open care service unit more time for caring in absolute terms. However, the time saved was reallocated to a larger customer group, that is, the unit took in more customers. The costs were cut thanks to less sick days, stand-in workers and reduced expenditure on mileage allowances for home-helpers. The quality criterion was realised in terms of improved price/quality ratio; better quality with less money. The second column maps out how the efficiency criteria are realised from the home-helpers' viewpoint. Savings of time were gained from the home-helpers' perspective, too, but time needs to be reinterpreted in this context in order to appreciate the motives and goals of this particular stakeholder. Collectively, the home-helpers saved time. Individually, they did not get more time because they got more customers. However, they can now allocate their time differently, concentrating on caring, which is their core competence. The shift to the online grocery system means cost savings for the home-helpers as their prospect of lifetime working time increased thanks to lessened physical and mental strain. The home-helpers have now one work process less, which translates into streamlining of processes. Likewise, being able to focus on their core competence translates into improved quality.

The third and last column shows the efficiency criteria from the customers' point of view. Timesavings as an outsourcing efficiency criterion can be applied to the customers but needs to be reformulated, or rather, inverted. We reinterpret time for this group of stakeholders as follows. The elderly and disabled got more time spent on them (i.e. more service) as a group but not individually. Because the online grocery service takes care of the groceries and the home helpers now concentrate more on caring, efficiency for the customers can on the one hand be reinterpreted as increased punctuality, flexibility and reliability and on the other hand as increased quality time. Moreover, the elderly and disabled customers generally experienced the grocery delivery workers as a new stimulating contact: the customers were pleased the most with the delivery service (see Table 2). All in all, one could say that the customers' got more quality time. From the customers' viewpoint, the costs of the online grocery service were not lower than the costs of the old service, so the cost savings did not take place. On the contrary, relatively high product prices, the small average order size and the fixed transport fee drove the total price per a

shopping bag higher than in conventional stores. What comes to the criterion of streamlined processes, the customers experienced no significant difference between the old and the new grocery systems. Lastly, the quality of online grocery products got better as the products were handpicked from the wholesaler's outlet, translating into improved quality.

10. Benefits and shortcomings of outsourcing

The home help customers are far from typical online grocery customers. According to research literature, typical online grocery customers are families with children, women under 45, and people with a high social status and high income. These customer groups are little concerned with price when choosing where to buy their groceries. In addition to this, in an online grocery store the average purchase is three times larger and the frequency of purchases is also significantly lower online than in a conventional store (see Jarvela and Tinnila, 2000). As the home help customers as a rule live alone and buy only small amounts of groceries at a time, they miss out on some significant advantages offered by online grocery shopping. One of the goals of outsourcing was that all customers would be treated equally, which goal was achieved. There is a group of customers who already had access to very good shops with broad product ranges. For them, the new system meant a deterioration of the shopping service (22 % of the customer respondents felt that the shopping service had deteriorated). A clear majority of the customer's felt that the shopping service had become better or stayed the same (79 %). At least part of these are the customers who previously had access to smaller stores with a modest product range.

Cost savings in the Finnish public sector are hard to verify mainly because the public sector usually has not made such cost calculations, which would enable comparison. In the case of Turku cost savings were not a priority, managing basic care was, but there are clear indications of cost savings all the same. Already in 2000, the managers presented the city social board with information suggesting that savings had been made through less need of money for substitute workers and compensations for the employees' use of own cars. However, the saved resources were not cashed in but went straight to the solidification of the core activities of open care and to the widening of the customer basis. Better quality, as an expected outcome of outsourcing, usually shows in the form of more customer-friendly service and increased flexibility (see e.g. Sasi and Aho, 2001). The empirical findings

indicate that the customers were satisfied and in some areas very satisfied with the online grocery service. On the other hand, flexibility cannot be said to have increased significantly. Especially the open care workers had at times difficulties when trying to mediate the customers' wishes and complaints to Nettimarket. Partly these difficulties can be interpreted as an outcome of unclear roles (partnership or bought service), lack of benchmarking and confusion about what is the service as a product to be sold to an outsider. The two last-mentioned requirements for open competition are stated in the Finnish law of acquisitions, although in practice they are not always possible to make come true (Oksanen, 2002). However, partly the inflexibilities owe to the contingencies of human relations.

One of the most important goals was to diminish the physical workload of the employees, to prevent and minimise sick days, premature retirement and work-related injuries. This goal was achieved. Some workers felt, however, that the emotional and mental workload had become greater. This is largely due to the difficulty of adapting to change and a certain amount of resistance to technology. Many of the workers did not have earlier experience in dealing with technology, and felt anxiety before the task of learning and using a mobile device unfamiliar to them. This was likely to increase stress. The districts that had been in the system longer had clearly lower scores on the mental workload scale, indicating that the adoption of technology takes time but happens.

11. Conclusion

For the last decade or so the social services of Turku has been trying to meet growing service

demands with stagnant resources. In order to keep its core activities functional, social services resorted to outsourcing its grocery shopping service to an online grocery retailer. This was a bold move as online grocery shopping has not been as successful as was generally predicted in the early days of e-commerce. In addition to this, the open care customers are far from typical online grocery customers. As unlikely as it may have seemed in the beginning, the online grocery service has been in many ways a success. Together the private entrepreneur and the social services of Turku have discovered a hidden online market. When outsourcing, organisations are usually striving for time and cost savings, streamlining processes and an enhanced focus on their core competencies. For Turku, all of these benefits were achieved. Another important expected and realised benefit from outsourcing the grocery shopping service is employee well being. For the customers outsourcing meant receiving more equal customer service. Currently Turku is in the process of deepening its involvement in outsourcing, switching from the role of a service provider to that of a service organiser. After all that has been said above one should not think that all is well in the open care of Turku. The fact remains that in absolute terms the financial resources and manpower have stayed virtually the same at the same time as the number of customers and the workload have increased. However, outsourcing has helped in directing the resources where they are most needed: the hard core of open care.

An earlier version of this paper was presented at the Thirty-Seventh Annual Hawaii International Conference on System Sciences, January 2004.

References

- ANCKAR, B., WALDEN, P. & JELASSI, T. (2001) "Nettimarket.com: A Virtual Grocery Retailer". International Conference on Electronic Commerce. Bled, Slovenia.
- ANCKAR, B., WALDEN, P. & JELASSI, T. (2002) "Creating customer value in online grocery shopping". International Journal of Retail & Distribution Management, 30, 211-220.
- ANON. (1999) Letter to the Editor: "Entinen systeemi oli parempi". (The old system was better). Turun Sanomat. Turku, Finland.
- ANON. (2002) Letter to the Editor: "Netista syntyvat saastot". (The savings brought on by the web). Turun Sanomat. Turku, Finland.
- ANON. (2002) Letter to the Editor: "Nettikaupan lisakulut vanhuksen maksettavaksi". (The additional expenses of online shopping to be paid by the elderly). Turun Sanomat. Turku, Finland.
- ANON. (2003) Outsourcing Center FAQ. Everest Group.
- CHAFFEY, D., BOCIJ, P., GREASLEY, A. & HICKIE, S. (2003) Business Information Systems. Technology, Development and Management for the e-business (2nd ed.). Prentice Hall.
- CORRAL, C. B. (1999) "Web grocers betting on time-starved consumers". Herald Tribune.
- ENKVIST, L. (2002) "Nettikauppaan siirtyminen kiukuttaa kotipalvelun asiakkaita Turussa" (Moving to online shops annoys the users of home care). Turun Sanomat. Turku, Finland.
- FROOMAN, J. (1999) "Stakeholder influence strategies". Academic Management Review, 24, 191-205.
- GRECO, J. (1997) "Outsourcing: The new partnership". Journal of Business Strategy, 48-54.
- HASSINEN-LAINE, T. (2003) Interview on 5 March, 2003. Turku, Finland.

- HEINO, J. (1999) "Turku ostaa yksityisfirmalta vanhusten kauppapalveluja". (Turku buys services for the elderly from private companies). Turun Sanomat. Turku, Finland.
- HEINONEN, H. (2003) Interview on 7 March, 2003. Turku, Finland.
- HEINONEN, H., HASSINEN-LAINE, T., RAUHALA, A. & SALMIOSALO, E. (2002) "Nettikauppa vapauttaa aikaa varsinaiseen kotihoitoon". (Online shopping frees up time for actual home care.). Turun Sanomat. Turku, Finland.
- HELLSTROM, Y. & HALLBERG, I. R. (2001) "Perspectives of elderly people receiving home help on health, care and quality of life". *Health and Social Care in the Community*, 9, 61-71.
- JARVELA, P. & TINNILÄ, M. (Eds.) (2000) *Elektronisesta kaupasta eLiiketoimintaan (From e-commerce to e-business). Digitaalisen median raportti 1/2000*, Helsinki, Finland.
- KANNIAINEN, V. (2002) *Puhtia hyvinvointiyhteiskunnan purjeisiin (Wind in the sails for the welfare society)*, EVA.
- KILPAILUVIRASTO (2001) *Markkinat ja kilpailu kuntien tuotantotoiminnassa. (Markets and competition in the municipalities' production process)*, Helsinki, Finnish Competition Authority.
- KOCHAN, T. A. & RUBINSTEIN, S. A. (2000) "Toward a Stakeholder Theory of the Firm: The Saturn Partnership". *Organization Science*, 11, 367-386.
- KOSKI, K., RITAKALLIO, V.-M., HUHDANMAKI, A. & VUORENHELA, T. (1998) *Myymäläverkon muutosten sosiaaliset ja sosiaalitoimeen kohdistuvat vaikutukset. Tapaustutkimus Itä-Turusta. (Changes in the retail store network and the impact on the social sector. Case study of Eastern Turku)*, Helsinki, Finland, Oy Edita Ab.
- LACITY, M. C. & HIRSCHHEIM, R. (1993) *Information Systems Outsourcing. Myths, Metaphors and Realities*, Chichester, England, John Wiley & Sons Ltd.
- LIND, T. & PIETALA, J. (1997) *Kotipalveluja käyttävien vanhusten kauppamatkat Lahdessa. (Shopping trips by elderly people using home help in Lahti)*. Helsinki, Finland, Oy Edita Ab.
- LIUKKO, M. & LUUKKONEN, A.-M. (Eds.) (2002) *Kuntien uusi rooli terveystalvelujen järjestäjinä ja hankkijoina*, Helsinki, Finland, Suomen kuntaliitto.
- MITCHELL, R. K., AGLE, B. R. & WOOD, D. J. (1997) "Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts". *Academic Management Review*, 22, 853-886.
- OKSANEN, A. (2002) "Muuttavatko markkinat kuntien toimintatapoja? Palvelujen toteuttaminen uusien haasteiden edessa" (Will the market change the way the municipalities operate? Offering services in front of new challenges.). IN RYYNANEN, A. (Ed.) *Kuntien oikeus itsehallintoon (The municipalities' right to autonomy)*. Tampere, Finland, University of Tampere, Department of Local Government Studies.
- QUINN, J. B. & HILMER, F. G. (1995) "Strategic outsourcing: Make versus buy". *The McKinsey Quarterly*, 48 - 70.
- RABINOVICH, E., WINDLE, R., DRESNER, M. & CORSI, T. (1999) "Outsourcing of integrated logistics functions: An examination of industry practices". *International Journal of Physical Distribution & Logistics Management*, 29, 353-373.
- RAUHALA, A. (2003) Interview on 4 April, 2003. Turku, Finland.
- SALMIOSALO, E. (2003) Interview on 11 March, 2003. Turku, Finland.
- SASI, K. & AHO, T. (2001) *Laatua ja tehokkuutta palvelujen kilpailulla. Kilpailupolitiikan ohjelmatoryhman raportti julkisten palvelujen markkinaehtoistamisen mahdollisuuksista ja merkityksestä. (Quality and efficiency of services through competition. Report on the possibilities and significance of the adaptation to market requirements of public services by the workgroup on competition policies.)*, Helsinki, Finland, Edita Oyj.
- SELL, A., PATOKORPI, E., ANCKAR, B. & WALDEN, P. (2003) *Attitudes towards online grocery shopping service among elderly and disabled. Research reports, Institute for Advanced Management Systems Research. Åbo Akademi University.*
- SOSIAALILAUTAKUNTA (1999) *Social service board meeting minutes*, 2nd June, 1999. City of Turku.
- SUHONEN, H. & HAKALA, P. (1998) *Laatua Turun kaupungin kotipalvelussa: vanhusten ja henkilöstön kokemuksia. (Quality of home care in the city of Turku. Experiences of the elderly and the staff)*, Turku, Finland, City of Turku.
- TESCO (2005) *Tesco Annual Review and Summary Financial Statement 2005*.
- VALKAMA, P., SIITONEN, P. & MARTIKAINEN, J.-P. (2002) "Ulkoistaminen on haaste sekä kunnan palveluille että hallinnon tutkimukselle" (Outsourcing is a challenge for both the municipalities' services and for the research on municipal administration). IN RYYNANEN, A. (Ed.) *Kuntien oikeus itsehallintoon. (Municipalities' right to autonomy)*. Tampere, Finland, University of Tampere, Department of Local Government Studies.
- WYDRA, D. & MARTIN, S. (1997) "Online vs. In Line: Research Implications of Online Grocery Shopping", retrieved July 9, 2005 from <http://www.marconline.com/knowledgecenter/wtpapers/wtp2.html>.