

Lean Knowledge Management at Vantaa City Library

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Abstract:

Becoming “Lean” means eliminating waste with the goal of creating value. Lean thinking has long been a successful management philosophy in business world but it has spread also to the public sector. However there are only few public libraries that call themselves lean organizations. Vantaa city library is one of them.

The goal of Lean is always to gain better customer satisfaction, improve quality and minimize flow but there can be no Lean without a clear strategy. The strategy of Vantaa City Library is the advancement of multi- literacy skills. We call this our “end product”. The continuous improvement of the processes is a foundation for a new library where all the activities are examined from the waste elimination and customer oriented perspective.

One of the most successful innovations of Vantaa City Library developed together with one Finnish ICT-company is a mobile application called “Pocket Library”. Via this mobile app customer can for example borrow a library loan from a friend without going to the library. The data received from the pocket library is being used to improve services. Other Lean activities are floating collection, centralized acquisition and open libraries just to mention a few. The most promising activities at Vantaa City Library have been inclusion, automatization and unloading back processes. Digitalization means both renewing activities and improving online services. When the routine work is automatized we can put our resources to more meaningful work and help the people to become literate citizens of the modern society.

Keywords: Lean, Lean management, waste elimination

Vantaan City Library

Vantaa is part of Helsinki Metropolitan area and the fourth biggest city in Finland with 210 000 inhabitants and growing rapidly. The growth is based on birth, migration from other parts of Finland as well as immigration from abroad, mainly Estonia, Russia, Iraq and Afghanistan. Vantaa City Library has ten branches and two mobile units. Library has

annually 2 million visitors and gives out almost 3 million loans with a staff of 130 people. It is also a part of the Helmet-libraries (Helmet= Helsinki metropolitan area).The operating costs of our libraries are among the lowest in country, but the productivity is above national average. In the year 2016 the costs of the library per capita were the 6th lowest in the country. However we have been able to constantly improve services for the benefit of the customers.

The economic crisis and the challenges of the public sector affect the city of Vantaa and the tight financial situation drive the departments to find ways of cutting the costs and become more cost effective. Vantaa has adopted a strategy of innovation and it encourages the departments to try new ways of doing things in the limits of the annual budget. This is a fruitful foundation for innovations and new working methods.

The challenges of the economy push departments to continuous improvement and libraries have to be proactive and reinvent themselves in order to survive. As we know the future of the public library is not so much about lending physical books and providing analog materials but it's about helping customers to filter large amounts of information, lending e-materials and providing working spaces and other comfortable environments for customers. Digitalization will change the library profession for good and library assistant as a profession (as we know it) will most likely disappear.

The values of Vantaa City Library are the same as the values of the City of Vantaa; innovativeness, sustainable development and social inclusion. The strategy of Vantaa City Library is advancing the multi-literacy skills of the people of the community. Enhancing the literacy skills of the people is the goal which all the activities of the library aim at. We can only do this with customer-oriented approach. The collection and the device are only means to that end. The goal is to improve quality, customer complacency and optimizing the flow of work. Continuous improvement of the inner processes is the foundation for a new library where all the activities are looked into critically and organized by eliminating waste. The idea is to do right things at the right time and eliminate everything else for example by automatization. With knowledge management and continuous evaluation of the efficiency of the services we will be able to direct the costs correctly and eliminate activities that do not add any value. The goal is to utilize the change process by conscious change of working culture and improvement of the dialog between the management and the staff.

Library is a platform for ideas and innovations, a place for participation and enabler for diverse activities. And although there's no precise indicator for our success but we have found the number of visitors very useful. It indicates the willingness to participate or to use materials in a broader sense than just borrowing a book. We aim for the growth of the amount of visitors with continuous experiments. We measure the results and disseminate the best practices. Activities and services which do not further our goal or add any value are being modified or ended. Our strategy in doing all this is Lean thinking.

Lean thinking

Lean knowledge management can be defined as: getting the right information in the right form to the right people at the right time. Lean is a business methodology and a management philosophy that started in Japan and Toyota. Becoming "Lean" means eliminating waste with the goal of creating value. Lean thinking started in private sector but has spread to the public sector. However there are only few public libraries that call themselves Lean organizations. Vantaa city library is one of them.

Lean thinking was born out of studying the rise of Toyota Motor Company from a bankrupt Japanese automaker in the early 1950s to today's dominant global player. Lean is a business methodology and a management philosophy that aims to eliminate waste. The basic idea of lean thinking is to look at all the processes carefully and to eliminate everything that doesn't add any value but takes a lot of resources. What happens when you can do the same work in less time? When talking about waste people may think that Lean and value-added analysis is just a way to lay people off. It can be a market-driven thing if the business doesn't exist anymore and laying people off is the only way to survive. But it's completely separate issue than to talk about improving the business and needing other people to make it better so there can be continuous improvement which is one of the key features of Lean thinking. (George 2012, 405)

In his book "Lean Library Management" John Huber emphasizes the importance of service and competition. He argues that libraries compete with Amazon.com, Netflix and the rest. For libraries it is important to understand that they are in a complex business and should be managed as such. (Huber 2011, 7)

The self-government of municipalities in Finland is strong. Municipalities are responsible for organizing basic services, which also include library and information services. It means that libraries are funded by tax money. Many would argue that because libraries provide "free" services we can't call a library a business. However we have to ask how much a customer is willing to pay for our services. Let me take an example: In 2016 the operational costs of Vantaa City Library per citizen were 36.82€. However if we count only the actual users (citizens who have a library card), the cost was 123€. The biggest media company in Finland provides e-books for 118.80€ per year. This means that libraries must recognize that they have competition and that's why they have to manage themselves as if they were competing for each and every customer. Libraries must recognize the culture of change and actively think about new ways to constant improvement. (Huber, 2011)

Lean at Vantaa City Library

The goal of Lean is always to gain better customer satisfaction, improve quality and minimize flow but there can be no Lean without a clear strategy. The strategy of Vantaa City Library is the advancement of multi literacy skills. We call this our "end product". We think that there has been a need in the library field for this kind of clear concept that explains our strategy in a simple and easily understandable way. Everything we do we do bearing this goal in mind. The collection and device are only means to that end. The continuous improvement of the processes is a foundation for a new library where all the activities are examined from the waste elimination and customer oriented perspective. The idea is to do right things at the right time with the desirable quality and eliminate things that do not further the goal.

Delivery service chains

John Huber likes to use the term "delivery chain service" when talking about supply chain management. (Huber, 2011, 33) Customer service chain is always as good as the weakest link. Therefore one must understand the whole delivery chain to improve customer service. (Huber, 2011, 34) Traditionally libraries have been organized within departments or functions. However we should be able to ignore the department walls and take a closer look

at the actual processes and ask if they are customer orientated. The survival of any business, including library, lies in its ability to effectively service their customers in the shortest time at the lowest cost possible. (Huber, 2011, 39) According to Huber Lean does not recognize costs categorized by departments or branches, job descriptions or hierarchies. Lean recognizes only one thing: delivery service chains. Libraries have a good idea about their annual budgets but do they have the idea of the cost of the delivery service chain so how much it costs to deliver one book to one customer? (Huber, 2011, 123) In a manufacturing environment inventory turns is a powerful performance measure which represent how fast inventory flows through operation. Inventory turns have a direct relationship with service lead times, costs and quality and it can tell an operation how well they are doing as a whole. Huber suggests that there is a similar concept that can be applied to libraries, namely service turns. He asks what is an ideal service turns. In a perfect world every item a library owns would always be in demand and be ready to be delivered to a waiting customer. (Huber, 2011, 130) We all know however that we are not living in a perfect world but examining our service delivery chains we can identify the steps and delays involved in our processes and start to make improvements. Libraries measure many things which are a reflection only of library's actual service performance. Service turns is one measurement that tells you how much waste you have in your library and how much better you can perform. (Huber, 2011, 132).

When applying Lean to Service environment one challenge is to be able to recognize what is waste. You have to be careful how you challenge the people to think about their own work and the processes critically. One of the reasons why people often resist change is that they don't understand how it affects their work. The lack of process awareness is common barrier for trying to improve service processes. Part of the Lean thinking is the "7 forms of waste" which help the organizations to recognize the waste. These are over processing, transportation, motion, inventory, waiting time, defect and overproduction. (George 2012, 498 -503)

Seven forms of waste at Vantaa City

At Vantaa City Library we have identified the seven forms of waste that help us eliminate waste in practice. This framework has been very helpful for us in explaining Lean thinking to personnel, to other colleagues and to customers. It is also important to notice that we have adapted Lean thinking to fit our specific environment and our organizational needs. While doing this we have noticed that most of the libraries struggle with the same challenges and rearrange work to make it more cost effective.

The first form of waste is over processing. The basic theme of over processing is to more work than is necessary to satisfy the customer. For example if you don't know what your customer want you may end up putting more value to the service or product than the customer is willing to pay for. At libraries we have to find ways to meet the current needs of the customers and simultaneously improve processes. When planning new services and finding out the best practices the inclusion of the users is the best method. We eliminate waste also by avoiding extra work in cataloguing and in cash services. We acquire cataloguing by purchased service and try to get rid of various payments. We have an online payment service for customers and gradually we will guide them to pay online instead of paying small amounts of cash at libraries.

The second form of waste is transportation that is to say unnecessary movement of materials, products or information. In the year 2015 we started a floating collection which means that all the materials stay at the library where they are being returned instead of travelling from one library to another. Vantaa City Library was the first of the Metropolitan libraries to start this experiment and now we have a floating collection with Espoo City Library also from the Metropolitan area. The floating collection has reduced the need for transportation from about 30-50%. Vantaa City Library has also in collaboration with an ICT-company called Enisoft developed a new mobile application called “Pocket Library” which allows customers to renew their loans, borrow from a friend, make reservations, get recommendations and list their favorites. The amount of e-books and other e-library services is growing rapidly and customers can use all of them free of charge.

The third form of waste is motion which means needless movement of people. At Vantaa City Library customers can collect their reservations by self-service. To reserve items is free of charge so it's only to go to the library and pick up reservations from the shelf. Customers can use library services online and pay the fees online. The floating collection reduces the logistical work of the staff so they can concentrate on serving customers.

The next form of waste is inventory. We have had centralized acquisition at Vantaa City Library for a long time but recently we started centralized selection of library materials instead of every branch selecting their own materials for that particular library. Because of the floating collection the materials are available to customers instead of being en route most of the time. The circulation of Vantaa City Library is among the highest in the country.

Waiting time is the fifth form of waste. It means any delay between when one process activity ends and the next activity begins. Web services, pick up lockers, check out machines and open libraries minimize the waiting time as well as one of the newest innovations called “Pocket Library” where you can renew your loans, borrow them to your friend via phone and get recommendations. From the beginning of 2014 Vantaa City Library has been using the open library technology in two of the branches. When we started there were no previous installations in Finland where anyone who owns a library card can have access to library outside the official opening hours. The unmanned open library- time has steadily gained popularity. After two full years of operation the open library has proved its effect as there's approximately 50% more users compared to time before open library. The increase of visitors hasn't affected the running costs of the library because larger opening hours don't require more staff than before. The installation of the open library system was a rather modest one time installation. Now users can visit the library when it suits them best, borrow materials, collect their reservations and use computers.

The sixth form of waste is defect that is to say any aspect of the service that doesn't conform to customer needs. We develop systems that measure the service experience of customers. The objective is to make a library visit an epiphany. By inclusion of the customers in the development process we get information on what kind of library the users really want.

The last form of waste is overproduction. During the last three years we have renovated 4 libraries, at the moment we are renovating two and planning two new libraries. We look at the library spaces in terms of the functionality. Open offices, comfortable places to hang out and relevant material are what we aim at. Transformability of the space is a determinant, not the size of the library. In renewing or planning new spaces we use service design methodologies and invite customers to the planning process.

Pocket Library

One of the most successful innovations at Vantaa City Library has been the Pocket Library developed in collaboration with a Finnish ICT company called Enisoft. Pocket Library is a mobile application for customers of Helmet library. Pocket Library allows a customer to renew his/ her loans, make reservations, search material and get reading recommendations with just a few screen touches. Via Pocket Library you can also list your favorites, check libraries' opening hours and contact information, borrow an item directly from a friend and borrow items with NFC-function (Near Field Communication). One of the branches of Vantaa City Library is experimenting with new technologies and tests are being carried out also with Pocket Library and Near Field Communication technology. Pocket Library allows customers to borrow items from the intelligent self-service shelf just by touching the items with a phone if a customer has NFC in his /her phone. Pocket Library has the bar code of the library card so it can be used as library card if the checkout machine accepts the bar code.

Pocket Library is being developed by analyzing the data received from the app and user feedback. By March 2017 Pocket Library app had been downloaded 20 000 times. Every time someone presses the key of the downloaded app data is being built up. At the moment there are about 40 million data units. In one month there are about 1500 new users, 100 000 sessions, over 20 000 loan renewals, over 20 000 searches and 9000 reservations via Pocket Library. Numbers are increasing about 10% every month which is a clear indication of the usability of the app. According to feedback users want the app to be quick, presentable and reliable tool for renewing and reserving items. Pocket Library was chosen as the best leisure time application in Europe's leading startup event Slush in Helsinki 2106.

Lean thinking is thinking together

In order to change working culture those most affected by the change must be active participants in developing the change. Management must recognize that without the full support of those people no change will ever be successful. (Huber, 2011, 22) It is clear that people are afraid of the change if they don't understand how it affects their work. The leadership must set the direction and remove obstacles that might prevent the progress but let the team drive the process. Let me show an example: When we at Vantaa City Library started planning our first Open Library (called Point library) there was a lot of hesitation in the air. What will happen to the staff if library is fully automatized and can function without personnel? It was not only the staff but also customers who were worried although the idea of open library is just to improve customer service by widening opening hours. By then we knew that there were many open libraries in Denmark so together with the staff of Point library we decided to visit Copenhagen in order to see how open libraries function in real life. After the visit the staff was ready and eager to start the process. They had seen with their own eyes that nothing bad had happened, quite the opposite, the use of the library had increased and the staff had still a lot of work to do, even more than before. This happened also at Point Library which is now an open library and one of the busiest libraries in Vantaa.

To understand the need for change every employee in organization must have a full understanding of the processes. Lean methodologies and tools have been designed to help organizations to overcome the resistance. But management is in the key role in fostering the change until you reach the critical mass of change in your organization. (Huber, 2011, 169) You must repeat the change processes until enough many people have been involved in them.

Then you have reached the critical mass. Benchmarking and encouraging trips to other organizations are also efficient eye openers.

Trust and respect are some of the key features in Lean thinking. The management has to trust the employees and allow them also to make mistakes, because as we know, we learn from mistakes. It is also important to celebrate the accomplishments and thus show the library organization how important change is for the future.

Conclusion

At Vantaa City Library we experiment new services and activities constantly but not all of them are successful. One of the basic ideas in Lean thinking is: "Let's try and see what happens". However there has to be a strategy behind the operations of the organization because without a clear strategy there can be no Lean. At Vantaa City Library the strategy is advancing multi-literacy skills. We disseminate the best practices and modify or end activities that do not further our goal or add any value to customers. We believe that we are on the right track to becoming a Lean organization. However there is still a lot to do to keep our Lean transformation going. For example flexible job descriptions, which are an essential part of a Lean organization, are a challenge for us because we are a part of a bigger city organization. However we do what we can to make sure that we have the right people doing the right things. We believe that as a Lean library we are able to provide high customer service even when times are tough.

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