

## Audio-Spatial Co-design of Library Spaces Implications from Case: Vantaa

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### Abstract:

*This paper discusses the systematic audio-spatial co-design processes implemented in four units of the Vantaa City Library in Finland. Using service design and co-design methods, staff and customers created together new library space designs which fit the needs of both current and potential future library patrons. Through the use of these techniques, customer experiences were significantly improved while the operational costs of each unit were reduced. The paper discusses these design processes through case examples and then makes suggestions for implementing such low cost, high impact changes also elsewhere.*

**Keywords:** Audio-spatiality, Co-design, Library Spaces, Public libraries, Service design.

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### Introduction

In this paper, we discuss the systematic approach taken by Vantaa City Library in Finland to rejuvenate its service. The selected method was a snowball-like co-design process, in which staff, customers and non-customers were included in each design. Our particular focus is on the way in which three factors had to come together so that the changes were fruitful: User insight was gathered from both patrons and non-users, and then integrated into the charting of service paths and the subsequent design of new types of service while preserving key functions preferred by existing customers. Architectural changes such as semi-transparent materials were implemented in order to create a sense of service visibility and inviting complexity, i.e., a system that made the library spaces feel more private for the customers, yet increased contact with staff, and combined with a re-thinking of the soundscapes of each space.

Simultaneously with the architectural and service form changes, staff were included in all stages of the design processes, in order to both make the changes feel “their own”, and to change the functional attitude of the libraries from content-oriented into a service-dominant logic. Service provisions are performances in both the sense of performed activities and as “theatrical” things that have a front and a back stage, so that customers only see a selected part of what takes place (Polaine, Loevlie & Reason, 2013). This dual alignment was absolutely necessary. As service increasingly comes to rely on not only efficiency, but also the revelation of key processes to its customers, so that they know just how good a service they are receiving, the strategic alignment is crucial to libraries’ future success (Harviainen, 2015).

This paper shows how the change processes were approached, the principles with which they were implemented, and some preliminary results that took place. With it, we answer the question *“how can libraries more efficiently make their spaces positive parts of their service processes in the future.”*

## **Background**

Vantaa is a city located in the South of Finland, next to the capital city of Helsinki. It has about 200.000 inhabitants. The City Library consists of ten library units and two book mobiles, with a total regular staff of 121 persons. In 2014, it received 1.866.000 physical patron visits, 1,5 million web visits, and about 2 million book loans, plus e.g., music and movies loaning. It shares a library system, Helmet.fi, with three other municipalities in the greater Helsinki metropolitan area.

Vantaa is currently significantly less wealthy per capita than the other three municipalities. Instead of this being a problem, however, many organizations in Vantaa, the City Library prominently among them, have embraced the financial challenges as incentives for necessary change and an adaptation to the service ecologies in which they work. In times of necessity, change becomes possible, because everyone knows that things cannot continue the way they have been. When combined with co-design principles, that mind-state is able to foster strong collective commitment. The processes reported in this paper reflect precisely that.

The library units discussed in this paper - the oldest of them, Hakunila, was built in 1976, the youngest, Point, in 2003 - represent a range of types as well as sizes. What they have in common is the fact that they have until 2013 operated largely under a collection or content-dominant logic, supplemented with events and some digital servitization. The co-design and open library (self-service) processes were thus conducted in them not only to make the library spaces more to the liking of current and potential future customer segments, but also to transform them into a service-dominant logic (see e.g., Lusch, Vargo & Tanniru, 2010), where the loaned items are seen as a part of the wider service that the library provides: the co-creation of reading and listening experiences, providing access to new literacies, and so forth. This is a necessary shift, we believe, as it enables the libraries to not only respond to their contexts, but also to influence how those contexts change. To show the key steps taken in making the shift a systematic process rather than a series of incremental improvements, we now turn to the actual cases in a chronological order.

## **Initial steps - Case Hakunila**

As has been discussed in earlier IFLA publications (Ervasti & Puustinen, 2013; Ervasti, Saastamoinen & Nissinen, 2013), the redesign process of the Vantaa City Library was initiated through the tuning of one library unit, Hakunila, using a co-design approach. Instead of just small samples or customer surveys, the library manager, staff and an interior designer decided to give the customers the tools to recreate the space as they desired in a sustainable manner. Due to a tight schedule, the project had to be initiated fast, which in turn encouraged the manager and staff to use service design methods by themselves, instead of hiring an existing consultant.

The limited amount of available funds inspired a focus on two customer demographics, as it was not possible to involve all customers in the co-design. Background data was gathered with a questionnaire survey that netted about 500 responses from the two groups in total. The results of these, which included event wishes, design ideas and acquisitions policy suggestions, were then used as the basis of a set of co-design workshops. A handful of points were selected as particularly important for re-designing (Ervasti & Puustinen, 2013): the shelving logic and findability, which is a widely known problem that has been discussed throughout the history of library science (e.g., Hjørland, 2013); seating; and young customers' specific needs.

Shelving traditionally follows a cataloguing-based systemic logic, but recent decades have increasingly seen it broken down to provide more customer-oriented purposes and improved service. Typical examples include fiction type groupings and increases in the number of promotional stands. This is a logical progression, given how focused our attention as a species is to visual cues for what we think is possible (Gibson, 1979). The Hakunila co-design took this approach further. Using the workshops not just to create new innovations for the library space, but also to probe participants' deeper needs for what library service should be (as per Mattelmäki, 2006), the staff enabled themselves to create new forms of service, particularly spatial decisions, by themselves in a rapid deployment manner.

In addition to the shelving logic, limited seating was an obvious problem that turned up in the surveys and the workshops (Ervasti & Puustinen, 2013). Other challenges were the lack of a cafeteria (for which there was no space) and the lack of a clearly defined status for the library in the Hakunila area. We believe that addressing the latter through service design means proved to be the key to the whole change process, and the impetus to follow Hakunila's way of service improvement also elsewhere: in deciding to make the library the *cultural centerpoint* of the surrounding area, based on adult customers' wishes, the staff unlocked the necessary mindset required for radical innovation and significant social impact.

By utilizing the service design technique of item labeling – putting e.g., post-it notes of varying colors on important process or problem points (Moritz, 2005) – which had in Finland already been successfully deployed in a library context in Turku, the Hakunila staff gained over 200 markers about their service process. As these notes are anonymous, people have a tendency to feel much more free and honest in using them (Ervasti & Puustinen, 2013). The identified points were then once more combined with both the survey and workshop findings, as well as interview data collected after the labeling. Finally, still more co-design was done, in the form of a new workshop, where the young customers drew or wrote the things they wanted to have inside the library space. These were then given to the interior designer, who integrated many of the ideas into her own designs.

As direct results of all the feedback, the number of service desks was reduced to one, a silent space planned, shelf content re-coded and re-organized, and the whole place filled with much more color. Two large screens were installed, in prominent places, for especially video game playing. New seating was added, in the form of e.g., bean bags and rocking chairs. Most of the co-designed changes were, however, accomplished not by purchasing new things, but rather re-tuning existing elements and using recycled materials. A year after the completion of its first stage of changes, the library has indeed become a focal point for the surrounding area, catering different parts of its spaces to different needs, combining both the noisy and the quiet, the somber and the playful, as per each customer segment's desires.

### **Expansion to active audio-spatiality - Case Tikkurila**

Sparked by Hakunila's early successes, a similar process was initiated in Tikkurila. Plans to renovate the main library's music department had been in the works for several years, but it was this finding of a low-cost co-design approach that gave the project the final push into motion. By the decision of the district library director a new department head was recruited. His task was the re-thinking of the

department's service proposition and the implementation of the necessary changes. He was specifically requested to apply service design ideas to the change. By the director's decision, media materials (e.g., movies, video games) intended for primarily adult customers were moved to that same department, turning it into a multi-purpose area. This had a dual purpose: on the one hand, it integrated similar service forms together, and on the other, it provided a good reason to later advertise the new department, when the process would eventually become complete, by making sure that together, all the changes would be prominent enough for promotion.

This integration was then combined with two other processes. On one hand, an interior design architect was hired to consult on how the space could be reformed to better suit current and future customer needs. At the same time, a volunteer cultural production student appeared, interested in making her thesis on the changes. Her ideas were then integrated with the already formed plan of utilizing service design methods. With her help, the library gained survey and interview data on not only its existing music department customer needs, but also on those of non-customers, e.g., local youths who no longer had any active use for music or movies in forms other than direct streaming (Harviainen & Viskari-Pernttu, 2014). To avoid the traditional trap of falling into heuristically convenient samples and predicting the future of the entire department on a small youth segment's needs as "key future concepts", the decision was made to integrate both sides' wishes. In retrospect, this proved to be a key factor of the success at Tikkurila.

The actual change process was done at a very rapid pace, with a no-going-back policy dictated by the Chief of Library Service. Service design typically uses rapid prototyping and iterative learning through failure to refine its propositions (Polaine, Loevlie & Reason, 2013), but in this case, it was not possible. Instead, service paths and touchpoints were identified by utilizing the key principle of involving managers, frontline staff and customers in the actual design, since no single party can have a full picture of what is actually needed (Jones & Samalionis, 2008). Several critical incidents in the service (as per Moritz, 2005, p. 188) were noted, and used as focal points around which the new, wider set of service propositions was constructed. As noted by Blomqvist (2014), service in many ways takes place more between the defined obvious touchpoints (e.g., the precise shelf location of an item; the use of an automatic loans terminal). This is where the architectural designer's integration came in: early tests and staff-made analyses quickly proved that her plan to use organic-looking patterns, particularly semi-transparent fabrics, in order to create pseudo-private niches within the department, was a perfect fit with the idea of designing the time between touchpoints.

The "inviting complexity", which gave longer-staying customers a sense of the department being "their own space", yet through semi-transparency actually increased contact points with the proactively working staff, made people feel more welcome to spend time in the area. This translated to both increased loans and increased customer satisfaction. Combined with new options installed in the niches (e.g., digitization equipment; a recording studio), the department started also attracting new customer segments, including youths who just came to spend time there, and for whom the architect had selected sound-dampening furniture, which enabled them to discuss things freely, yet sufficiently muted the noise to keep the space quiet enough others. We later found out that just as observed by Ervasti and Puustinen (2013), some of the youth also prized silence (and especially non-disturbance, in the wider sense) in libraries, and the dampening furniture was in truth even more popular with adults.

The final piece of the equation fell in, as Pikka began experiments with playing music in the department, using the building's innate limitations as an advantage. The staff systematically tested sound volumes and audio types, eventually settling on marking the space with plaques as "non-silent" and creating a formula that, again combined with the architectural decisions and the customers' and non-customers' wishes for service types, visibly increased the appeal of the department, in the form of the amounts of time people spent there.

None of the changes made in the Tikkurila music and media department was, quite frankly, something really new. Each of them has been done numerous times. The co-design, however, facilitated through

the service design expertise of key staff members and the cultural producer, enabled a synergetic result that made the department much more than a sum of its parts, one that touched the senses of the customers through also positive tactile and auditory means. It quadrupled the number of positive customer feedback, which is a clear sign of obvious impact. Most remarkably, however, the whole process was accomplished with a budget of only 7,000 Euros, which includes the architect's fee and even the new furniture. The reason for this was on the one hand the use of existing materials whenever possible, on the other the willingness of the staff to learn service design methods by themselves, rather than using outsourced consultants and to share that knowledge with other staff members.

### **Open spaces - Case Point**

The Point library, which is located in a multi-purpose building that also hosts e.g., an international school, was selected for another type of pilot test. Its service forms, both spatial and collection-based, are already at a stage where they fit in with the service-dominant logic of the Vantaa City Library. Due to this and the fact of its location and architecture, it was optimal to extend its service time through automation. In Pointti, Vantaa first deployed its ongoing "open library" self-service plan, in which patrons are able to access the library space, its collections, and shelves where all reserved material is placed also outside of the normal open hours.

The new automated systems increased library access time by four hours per workday, and by 22 hours total during the weekend, adding a full extra day for customer visits. Patron visits also rose accordingly, meaning that the added opening time indeed corresponded with the desires and needs of the local population. The new approach furthermore freed the staff to focus on other tasks, as many active patrons changed their visiting times so that they could take advantage of the new hours, e.g., picking up reservations in the early morning before going to work. Therefore, in addition to the increased customer satisfaction, the option also reduced long-term running costs, because staff presence could be optimized for only less expensive days, and information service questions' flow directed to those days. Customers appeared to accept this option quite well, as the overall deployment schedule was co-designed using customer data.

It is easy to see the potential risks of keeping the library space open without direct supervision. Miraculously, those have not happened at all in Pointti. Instead, it seems that for the most part, opening the library in this manner makes customers respect it more as "their space" and thus treat it also better. For those that do not think so, electronic surveillance and the fact of having to sign in with one's own card in front of a camera prove deterrent enough.

Like with other self-service options, such as loaning terminals, this one too is welcomed by the customers, as long as it is presented in the right way. Service visibility is needed to show that the extra hours do not reduce service quality elsewhere, but add to it (Harviainen, 2015). On the other hand, the open library system in turn adds to service visibility, as it exposes customers to certain extra parts of how libraries function, and thus creates increased appreciation of the staff's professionalism and skills. These findings turned out to be very valuable later, in the next co-design project, to which we now turn.

### **Combining the approaches - Case Pähkinärinne**

The most recent experiment is Pähkinärinne, a small library unit that has recently been renovated. The necessary restructuring and improvements, in this case, proved to be the first driving force for the co-design, but the co-design itself went much further. This particular unit resides in an area that is undergoing larger changes, which significantly altered the way things had to be handled. At the point when the process was formally started, a school nearby had been closed down, and the library was to be united with a youth center. Tensions were therefore high for both the local population and the library staff. This general mind-state made it impossible to use the system of training key library

personnel in service design methods, so an outsourced professional was employed. Her task was to not only get people to co-design, but also to act as a neutral party in a situation where the locals did not trust city planners and the staff feared they would have to become youth workers, not just librarians.

In a slow process guided together by the service designer, Vantaa City Library experts (including the former manager of the Hakunila unit and another co-design specialist working for the library), youth service director, and certain key figures in city government, a rapport was eventually established. At that point, many former hindrances turned into advantages, as certain critical voices had already debated how they would have wanted things to be, and thus had ideas they could present.

Several co-design workshops later, a plan emerged: the library space would indeed be integrated with a youth-oriented space, but the functions of the library would largely stay separate from youth work. Through a combination of scheduling, the open library systems tested in Pointti, and re-thinking of the small library space as a multi-purpose area, the library was turned into a place that would house different forms of service at different times, yet allow for the other functions to exist in parallel at the same time. For example, when the library would have no staff present, but youths and youth workers, it could still be accessed following the open library principle, so that local people could come and get their books, CDs and movies. This would obviously also remind the youths of the collection's presence, hopefully inspiring them to use the library's core service forms in addition to the youth services oriented things in the area. Likewise, expected sound levels were adjusted based on what would be taking place inside the library space, meaning that there would be times devoted to near-silence, and others when it would be obvious that there were many "sounds of life" present.

As in Hakunila and Tikkurila, the spatial design was accomplished through co-design between the outsourced expert, invited customer volunteer designers, and interested staff (in this case from several branches of city government stakeholders). Interestingly, certain things arose from the process, which none of the city stakeholders would have come up with without the customer input. The most visible of these was a mobile, partitioning wall that enables, when needed, the division of the functions to different sides of the wall, yet as in Tikkurila, keeps them in some contact through transparency. Because it is a very expensive investment, none of the other stakeholders would have dared to suggest such an option, but it has already proven its worth – and symbolizes the fact that the local people, many but not all of whom were also library customers, really had a significant say in the co-design process.

This was, however, not enough, so the library's own co-design specialist started arranging workshops in the library, which was opened while the changes were still incomplete. Her work together with the patrons, ranging from name contests to lavatory design and the tuning of the entire children's section, proved to be the crucial link for making the place really feel the customers' own. So while the outsourced designer may have provided the initial neutrality, it was the internal co-design processes conducted after the place was opened that made the space feel positive and customer-owned again.

In Pähkinärinne, service design turned a potentially very problematic situation into an advantage. When mutually beneficial communication had been re-established, it was the deployment of the methods and innovations already tested in the other units that made the co-design function. And it was the now and future customers who came up with many of the key changes that were needed in order to make the integration plan work.

## **Results**

After the changes, an average of +14% spiking in patron visits took place city-wide. This later settled to an 8.7% increase between 2013 and 2014, which is a trend that appears to be continuing also in 2015. This is remarkable, given that before the reorganization and co-design, numbers had been steadily sinking. Likewise, loans have increased by 2.5%, which again is a clear reversal of an earlier,

descending trend. At the same time as these numbers rose, staff costs in the rejuvenated libraries were lowered by 10-20%, with the same service quality being preserved. Informally gathered comments from customers even reported a much higher level of satisfaction (see Vantaa City Library, 2014, for details). In Tikkurila, for example, positive feedback quadrupled after the service design process. Youths and young adults furthermore found the co-designed spaces much more to their liking, and showed by their presence that the potential customer segment which they represent is not yet lost, no matter what may be said in the public about libraries' relevance to youths of the digital native generation. This directly corresponds with Lynch' (1960) descriptions of the effect of physical spaces: we experience them as mental landscapes rather than physical interfaces, yet the mental image is always affected by the psychogeography arising from the architectural elements and decisions. By designing with the customers for the customers, Vantaa created spaces that feel and sound to the customers like they are made by them.

Measuring the results in the long term is, however, problematic, as the next stages of the process have already been taken, and the service ecology of e.g., music libraries in the Finnish capital area has been affected by several other executive decisions (changes in loan periods, a 40% drop in CD acquisitions in Vantaa, a 6 months nearly total break in some acquisitions in one of the other cities in the metropolitan library network). Libraries ecologies exemplify what forecasting and futures planning call "turbulent" environments that are extremely hard to prepare for (Ramirez, Selsky & van der Heijden, 2010). Therefore, we can only ascertain that the audio-spatial decisions had a lasting effect. Customer visits are still growing, people are staying longer and still report high satisfaction with at least the spaces, even if they no longer get the materials they want quite as fast.

Drawing from the initial findings of Hakunila, we experimented with the idea of staff-lead service design (Tikkurila) and increased self-uses of the space (Point). Both of these proved to be very valid approaches. The Pähkinärinne case, however, shows that they are not universal: in some cases it is indeed best to outsource a professional co-design facilitator - and then organize localization workshops run by the staff so that a good sense of togetherness is created within the community. What all cases do have in common is that they make it obvious that service design and co-design methods are highly suitable for radical library service improvement. It is thus only a question of understanding which of the numerous tools to utilize where. We therefore recommend that the basics of co-design should be introduced to libraries workplace learning programs.

## **Conclusions**

To those familiar with the history of libraries, these are strategies and tactics that may sound familiar. Indeed, the integration of service and material types, and the subsequent separation, and again later integration, has been an ongoing trend in the field for a very long time. Here, however, the approach was actually different: instead of creating the spaces, workflows, service processes and operational logics by expert or executive decision, everything in these libraries was altered through systematic co-design.

Based on the results, we believe that this is exactly the cornerstone for making future library service - their spaces very much included - actually cater to the needs of all stakeholders. Vantaa City Library may be going to the other direction than many others: instead of customer segmentation, it works towards systematic, visible integration – the systematic integration of processes and the revelation of them to customers, the use of systematic co-design at every step of the way, and most importantly of all, a systematic integration of spaces, staff intent for great service, and customers' need to get to define the value for the service that they use. This is the core of library space co-design, the fact that we answer not just customer wants, but also customer needs, touching them on more than just the intellectual level. And that we answer the needs in the way that benefits our customers the most, while letting them also know that we are really doing so.

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