Self-service — the revolution's here!

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Abstract:
Increasingly public libraries are recognising the need to move from the supermarket-checkout model of operations to upskilling their scarce staff to provide information and outreach services to their communities. Hiring more staff is not generally an option in these times, and it is imperative that libraries encourage their customers to move increasingly to a self-service paradigm, particularly for circulation.

Introduction

Increasingly public libraries are recognising the need to move from the supermarket-checkout model of operations to upskilling their scarce staff to provide information and outreach services to their communities. Hiring more staff is not generally an option in these times, and it is imperative that libraries encourage their customers to move to a self-service paradigm particularly for circulation.

Brisbane City Council Library Services' strategies seek to add value to the services it offers and to support the Council's vision of a Smart City and an Inclusive City. We believe there are more efficient ways of doing this than having our most valuable resource, our staff, checking books in and out and performing other administrative back-end work. The image of public libraries and the skills of our staff are a legacy of this type of work. We are working to re-focus on providing resources for more Internet and other on-line training, outreach and events, and customer-contact programs. These programs will also assist in reducing the digital divide and develop libraries as community hubs.

We have been investigating initiatives for moving our customers towards self-service (and relieving our staff of this workload) by means that they appreciate.

Initiatives we have implemented include the following:

- customer self-checkout
- RFID
- OPAC that allows customers to renew or reserve items
- digitisation of materials, and
- Internet self-booking systems.

Those we are trialling include:

- self-collect holds
- inbound telemessaging
- on-line training tutorials, and
- customer profiling and personalisation of services.

We are contemplating the following further enhancements:

- self-payment of charges
- smart cards
- customer self-checkin, and
- book-sorting machines.

In the past three years, Brisbane City Council Library Services has demonstrated and applied an innovative and proactive approach to library management and services. This approach has positioned it as one of the leading Australian public library providers. We have totally outsourced technical services, introduced profile and web ordering, implemented a floating collection, and adopted retail merchandising techniques to make our libraries more attractive. We have spent a lot of time and effort on our on-line services and products, including digital media archives. We notify our customers by email and telemessaging, which has proven cost-effective for the Library Service, and provides much faster and better customer service. We

seek continuous improvement through process management. For a number of our processes — including reference, systems, lending and collections — we have mapped the current process, identified any gaps or duplication of effort, and documented the new process. Trends in the library industry highlight the continuing move to technology in delivering information services.

These trends are as follow:

- increasing expectations of sophisticated services from customers
- ongoing expectations from public-sector funders that the money they provide is valued as being spent well, and
- the expectation that public libraries will play a greater role as a hub for the community and in literacy development.

Current analysis

more than nine million loans per annum, a population of 865,000, and a collection of more than one million items. The service is provided to the residents of Brisbane through a network

Last year, as part of our ongoing management, we did a detailed investigation of our staffing and the activities staff perform, in order to determine how best to distribute staffing equitably

possible to group their activities under the following three broad categories:

- work with customers
- work with stock and infrastructure, and
- work managing the business.

The diaries indicated that 48% of current library staff time is used to deliver 'work with

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The current allocation of library staff sees less than 30% available for providing more-customer focussed value-added services such as Internet training. A culture map shows our

themselves to be, checkout people rather than information professionals. We are working with our staff to change this perception by encouraging greater emphasis on outreach

equivalent of ICDL (International Computer Drivers Licence) and receive advanced Internet training. We are also encouraging active readers-advisory service, with staff moving from

quickly realise how much more rewarding this kind of work can be.

The following graph shows the library staff necessary based on the effort required to deliver

Current library staff time (hours per month)
'Work with customer' activities

11,189.0

641.0

384.0

180.0
159.0
255.0

3,176.0
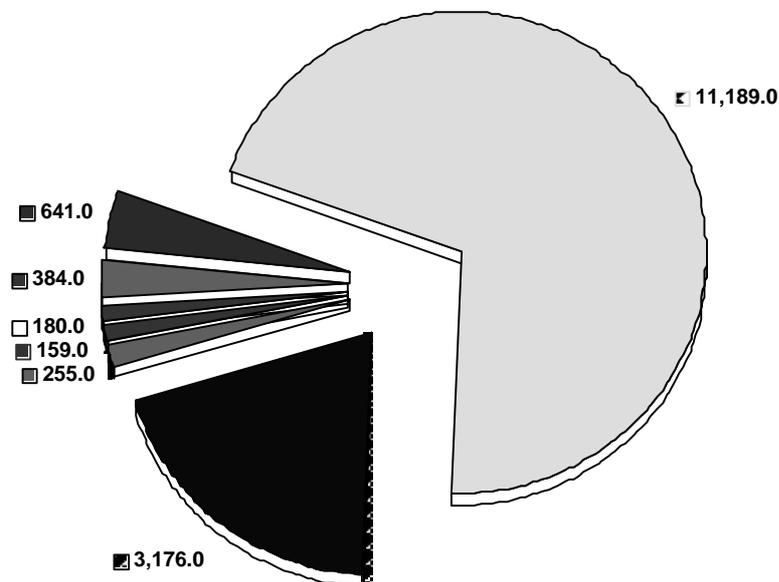
☐ **11,189 loan processing: check-in and out**

■ **3,176 reference and readers advisory**

■ **255 Internet and other on-line**

■ **159 storytelling**

■ **180 outreach and events**

■ **384 display and merchandising**

■ **641 informal (non-desk) customer assistance**

The loan process currently requires 70% of the 'Work with customers' staff time, leaving 30% of time for customer-contact programs, which are valued significantly higher by the community. Our libraries generally have a positive record in implementing new initiatives with change-management activities the key to overcoming resistance.

We acknowledge that the role of public libraries is changing, and there is an urgency to reinvent our business as the digital age fundamentally changes the way people use and access information. We need to shift from being lower-valued circulation-centric to providing value-added customer services, and spending more time on value-added programs. We can use technology as an enabler to achieve this vision by introducing technology that frees library staff from the more routine tasks so they can concentrate on value-added services for customers. The required customer-focussed culture, which sees staff in a much more proactive role in providing readers advisory and reference services, as well as other outreach services, means competency-based reward systems for staff, high-performance teams empowered to make customer-service decisions, stories of customer-service excellence, and technology to support lively learning.

Self-checkout

Recent newspaper reports indicate that in future customer self-service and, in particular, self-checkout, is likely to be found in many aspects of our daily lives. K-Mart and other supermarket-type retailers are about to trial customer self-checkout. It is anticipated that customer acceptance will increase once retailers implement self-service processes.

Currently the checkin process for all Library Services is manual, while eight libraries have self-checkout facilities. There are old RAECO machines at six libraries and new 3M machines at two. As reported in a recent AC Nielsen survey these self-checkout machines have been met with mixed reactions from customers. This was because they have been unreliable and as they get older and are not being serviced or supported, this situation is becoming worse.

Staff who are positive about the self-checkout process have nonetheless felt frustrated by the failure of the technology. The low usage of the RAECO self-checkout machines is attributed to their poor positioning in libraries, a low level of staff acceptance, and a high level of equipment downtime. However, in spite of these problems, the RAECO machines have worked to a given level and relieve library staff of some routine work — achieving between 7 and 14% of circulation in libraries. As this technology no longer supported, we need move to the next level of self-checkout technology in order to maintain and improve on the productivity gains already achieved.

In other countries self-checkout using barcode technology has achieved significantly better results than we have been able to achieve in Australia. Libraries in Denmark and Sweden report 70–80% of all loans being made using self-checkout and self-checkin processes.

Despite our experience with self-checkout machines, we were eager to trial RFID, which promised significant improvement over barcode technology. RFID is contacts and has proven itself in other markets.

Radio Frequency Identification (RFID)

RFID is one of the most widely accepted technologies for increasing efficiency and improving productivity. These gains are achieved by the following means:

- allowing customers to check books in and out for themselves
- automatically generating circulation data
- more accurately and regularly completing inventories using the Digital Assistant without line-of-sight requirements
- better protecting books and other library materials from theft, and
- focussing librarians on value-added customer service.

Users of this technology have reported productivity improvements of 40–80% in their loans-handling process. Other libraries and universities around the world are using or intend to use RFID technology. The technology has been tested and used successfully in libraries for some time.

Some of the sites using RFID technology include the following:

- California State University Library
- Farmington Community Library (Detroit)
- National Library of Cremona (Italy)
- National Library of Gorizia (Italy)
- National Library Board of Singapore
- Santa Clara City Library
- University of Calabria
- University of Milan, and
- University of Nevada.

RFID technology is being employed to improve rates of customer self-checkout, to enable customer self-checkin, and to improve stock management.

Wynnum Library — the trial

In partnership with 3M, Brisbane City Council Library Services began trialling RFID technology in June 2001. The trial is being conducted at Wynnum Library; a medium-sized branch with a stock of 40,000, circulation of around 425,000 per annum, and ten FTE (full-time equivalent) staff. The reason we are trialling this technology is ultimately to increase customer-service activities. Overseas libraries using RFID report loan-process improvements ranging from 40% to 80%.

Wynnum Library was chosen as the pilot site for the following reasons:

- its physical isolation from other libraries does not interfere with the operation of the floating collection, and
- its demographics — the population is predominantly elderly with a low level of computer literacy. If the technology is accepted at Wynnum it is anticipated that it will be readily adopted elsewhere.

The trial involved tagging all material in the Wynnum Library with RFID tags. A conversion station imprints information from the Library Management System (LMS) on to the tags. The system requires the barcode to be embedded in a chip, which refers back to the LMS for any further information required. Digital workstations read and desensitise or re-sensitise the security tags at the same time. As no contact is required, more than one item may be processed at the same time.

The main outcomes sought from the pilot are to determine:

- the amount of improvement in productivity possible
- the staff effort required
- the level of customer satisfaction/acceptance possible, and
- better understanding of the technology itself.

Self-checkin equipment with book-sorting functionality is yet to be installed for the trial. Statistics from the pilot to date show self-checkout usage at 50% and rising. This provides a good indication of high levels of customer acceptance of the technology.

Library staff using this technology provide the following comments.

- The use of RFID Technology reduces handling of materials at the checkout and checkin desk. This makes the system more flexible for people with physical disabilities.
- Staff have commented on a reduction of soreness and fatigue related to repetitive strain injury.
- The technology speeds up service delivery as staff do not spend time locating barcodes. One staff member checking out books at a non-RFID library noted their annoyance at having to locate a barcode after having spent a few weeks using the RFID technology.
- Once all libraries are RFID-enabled, not having to place the barcode in a specific location will make end processing more flexible. This may avoid the common customer complaint of the book synopsis being obscured by the barcode.
- The 3M RFID scanners combine scanning with desensitising, speeding up checkin and checkout processes.
- RFID's proximity reading allows more eye contact with customers.
- Along with RFID technology, the Digital Library Assistant has the potential to increase the effectiveness of searching for materials library-wide.
- The RFID scanners along with RFID are easier for inexperienced staff to use.
- The system has been reliable and integrated well with the existing Library Management System.
- The self-checkout machines have enabled staff to spend more high-quality time with customers, discussing their needs and assisting them. Staff also have more time to conduct both formal and informal training on the Internet and about the library catalogue and its enhanced features.
- The self-checkout machine provides customers with more choices and service flexibility.

The benefits of RFID technology for Library Services and customers include the following:

- the ability to provide a more-sophisticated reference and information service
- staff are more accessible and/or more available to customers
- improved personal development for librarians, and
- reduced workplace health concerns from repetitive strain.

Conclusions from the trial

including the following:

equipment — some carpentry work was required at Wynnum Library to accommodate

- the in-library facilities available for program delivery — extra space is needed to run
- the capacity of data communications networks — a reliable and steady response time
- customer acceptance — they need to be shown that this is how that checkouts are

- staff acceptance — staff need to sell the new way of doing checkouts and staff must be assigned to assist customers in with the new processes.

We have identified the following risks that may affect the successful implementation of RFID:

- level of acceptance by customers
- level of acceptance from staff
- adopting new technology before the market matures(e.g. Beta video format), and
- library and IT infrastructure.

Renewals and reservations

Brisbane City Council Library Services' OPACs allow customers to renew or reserve items

20% of all renewals are now done via the web. This is a valuable service for our time-poor customers. It allows them to place reservations at home through our web-enabled OPAC

collection.

We have introduced a seamless method of notifying borrowers of overdue items and

is to introduce inbound telemessaging, which allows borrowers to renew materials by telephone. We estimate significant savings in staff time if we can reach our target of 50% of

aim of impressing our customers in the 15–30 age group.

More-sophisticated self-help services

self-help to our customers. Training tutorials showing how to use new technology and software will be offered from our Learning Lounge at Garden City Library. We believe that
LearningFast Online product we have purchased offers our customers a level of

Through our new web interface we now offer customer profiling and personalisation of services.   , being offered through Sirsi's iBistro, notifies customers of materials in which they may be interested, and builds customised profiles for them.

only available through staff mediation. We have digitised 5,000 images from Council's extensive collection of historical photographs and made them available through eLibCat.

Self-checkin

Self-checkin has not been the first priority of library-system developers; even though it would

and Sweden successfully use the same machines for self-checkin and self-checkout for between 80% and 90% of their circulation. Our understanding is that the self-checkout

'Why not?'. The system is quite simple — customers check their items in, place them on a fiction or nonfiction shelf, or in an exceptions box, collect their receipts and move on.

check the item in and drop it into a nominated returns box. This system has been introduced in Singapore. Only space and money govern the number of boxes, and thus the sophistication

university libraries in the USA.

Coming up…

While the ability for customers to come into a library, check their library cards in a machine, and pay any fees or charges by credit card is still on the horizon for us, such a system operates at community libraries in Singapore. We are discussing this possibility with our vendor and hope that it will soon be available.

Smart cards are full of yet-to-be-delivered promise. No doubt, when their use becomes widespread we will find plenty of opportunities to exploit their cleverness.

Conclusion

Dropping new technologies into libraries and hoping that they will work is not an option, as those of us who have had mediocre success with customer self-checkout in the past are well aware.

Additional work necessary before introducing new technology includes the following:

- customer behavioural studies — to establish reactions and to give direction to implementation strategies for programs and technology
- project studies — to identify library-specific factors that may influence the success of such projects (e.g. facilities, layout, skill base, capacity of data communications network, and vendor specifications), and
- project plans — to provide a common focus for all project participants, document the stages of implementation, and provide them with a clear understanding of their involvement.

Business planning must identify payback periods and model different scenarios to show where this technology may take us. If this done, we believe that self service can be introduced to public libraries in a positive manner that does not alienate staff or customers, and can actually be used to enhance the services we offer and the contribution we make to our communities.

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