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a Danish library performance measurement study
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Performance Measurement in ILL

*NVBF's workshop
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Front page

A Danish library performance measurement
study

Peter Søndergaard

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Time measurement in ILL

A Danish library performance measurement study

Peter Søndergaard
Roskilde University Library

RUB

Time measurement in ILL - a Danish library performance measurement study is the latest updated edition of a presentation which was originally held at a seminar at the Library of the Aarhus School of Business in 1999 with the title "Quality in ILL", arranged by the Danish Research Library Association's section for ILL..

The presentation consists of two major parts; first a comment on the results from the Danish "Performance measurement project" which, since 1998 has carried out a time measurement project in ILL and other library activities. The second part presents the results of an analysis of delivery time for libraries which in 1998-2001 were ILL-suppliers to Roskilde University Library.

Tidsmåling i fjernlån er en opdateret version af en præsentation som oprindeligt blev holdt ved et seminar på Handelshøjskolens Bibliotek i Århus i 1999 om "Kvalitet i fjernlån", arrangeret af Danmarks Forskningsbiblioteksforenings Interesseskreds for Fjernlån.

Præsentationen består af 2 dele; først en gennemgang af resultaterne fra det danske "Performance measurement projekt" som siden 1998 har gennemført tidsmålinger af fjernlån. Anden del fremlægger resultaterne af en analyse af leveringstider fra de biblioteker som siden 1998 har leveret fjernlån til Roskilde Universitetsbibliotek.

The presentation is part of the serial "Skriftserie fra Roskilde Universitetsbibliotek", number xx, Roskilde 2003:
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Reasons for making performance measurement - in ILL

- *Improve productivity of resources*
- *Improve quality of services and products*
- *Improve working conditions*
- *Making comparisons possible and setting goals, such as*
 - *highest possible productivity,*
 - *high quality/high user satisfaction,*
 - *good working conditions,*
 - *best in practice*

Performance measurement is a scientific management technique developed in the US industrial sector but has in recent years been adopted by the service sector and public administration. The reason for doing performance measurement studies is - as always in the tradition of scientific management since the 1920's - to improve your company's results. PM studies are interested in efficiency. Results can be measured in economic categories, in the possibility for future development, in goodwill investments, in qualitative working conditions, etc. Performance measurement studies can give an overall image of the company situation and they can help the management in setting realistic goals.

Performance measurement er en række videnskabelige management teknikker der især har vundet indpas i den amerikanske industri-sektor men som i de senere år også har været anvendt af institutioner indenfor den offentlige administration, herunder biblioteker. PM anses undertiden som det nyeste påhit blandt mere eller mindre seriøse og modeprægede ledelsesreligioner, men det er en overfladisk karakteristik eftersom de bagvedliggende ræsonnementer har store lighedspunkter med den klassiske tankegang i scientific management fra 1920'erne (taylorismen). PM studier er primært interesseret i virksomhedens effektivitet, så vidt muligt sammenlignet med andre lignende virksomheder. PM målinger kan give et generelt billede af virksomhedens aktuelle situation og kan sætte ledelser i stand til at udstikke realistiske mål.

DK research libraries performance measurement study 1998-

Participating research libraries:

(AUB, Aalborg University Library -99)

DPB, National Library of Education - DK

HBK, Copenhagen Business School Library

(HBÅ, Aarhus School of Business Library -99)

SDUB, Syddansk University Library

RUB, Roskilde University Library

The Danish library *performance measurement* project dates back to 1998 when 6 bigger research libraries decided to make some time and quality measurements of library working processes, for instance, time measurement in ILL, number of errors in catalogue-records, processing time for books, reservation time, number of duplicate booktitles, correct placement of books on open shelves, etc. 2 of the libraries left the projekt after 1999.

Det danske *performance measurement* projekt startede i 1998 hvor nogle få større forskningsbiblioteker besluttede at indlede en række tids- og kvalitetsmålinger af arbejdsprocesser i bibliotekerne, f.eks. tidsmåling i fjernlån, antal fejl i katalogposter, gennemløbstid for bøger, reservationstid, opfyldelses- og afhentningsgrad for reserverede bøger, hyldeorden, dubleringer, osv. 2 af bibliotekerne forlod projektet efter 1999.

Performance measurement as time measurement

The *purpose* of time measurement is to describe why you measure. The *method* of time measurement is to describe what you measure. The *methodology* of time measurement is to describe who measures, when you measure, and how you measure.

Performance measurement som tidsmåling

Tidsmålingernes *formål* er at beskrive hvorfor man måler. Tidsmålingernes *metode* er at definere hvad man måler. Tidsmålingernes *metodologi* er at beskrive hvem der måler, hvornår der måles og hvordan der måles.

Purpose can be: 1) to disclose realities, 2) evaluate desired goals, 3) to compare realities among institutions (benchmarking/best practice).

Formål kan være: 1) at afdække realiteter; 2) at leve op til en ønskelig målsituation, 3) at sammenligne sig med andre, jvf best practice. **Methodological questions**

Who collects empirical data? Each library collects their own data and enters the results in common schemes coordinated by project office.

When do you collect data? Collection takes place in so-called "collecting weeks", one week in each quarter, and the same week for all participating libraries.

How do you collect data? The chosen measures are really not complicated to realise. But there are some methodological problems connected to the different library systems and their ability to collect and handle statistical information. Also the inexperience of library-staff in doing statistical research caused in the beginning some problems.

Metodologiske forhold

Hvem måler? Bibliotekerne måler sig selv og anfører måleresultaterne i fælles skemaer, indsamlet af projektets sekretariat. Hvornår måler man? Der måles i såkaldte "tælleuger", ens for alle biblioteker og placeret kvartalsvist. Hvordan måler man? De valgte målinger er relativt ukomplicerede og giver i de fleste tilfælde sig selv. Der er dog metodologiske problemer som kan påvirke sammenligneligheden af data. Dette skyldes en række forskellige forhold til dataindsamlingen, som vil blive behandlet i de næste kapitler.

Time measurement in ILL

- what can be measured?

■ *Inhouse request handling time*



definition

The period of time that elapses from a request is received from patron until the ILL-order is dispatched

The *inhouse timeuse for request handling* is the request treatment time at the first step, the set off, the birth of an ILL-request. The inhouse timeuse makes the request to an ILL-order (or a return message to the patron). The ILL-staff receives the request from the patron, checks that the patron cannot get access to the material from the local collections, localizes libraries/suppliers where access is possible, selects the best/most favourable lender and dispatches the ILL-order.

At Roskilde University Library it is estimated that between 2/3 and 3/4 of the patrons ILL-requests can be localized in the national union catalogue (DANBIB) and that each ordering takes 10 min. This means that the actual time for creating a non-complicated ILL-order counts very few % of the total inhouse handling time (if 1 day;2-3%). The rest is queue-time.

Den *interne behandlingstid* er den indledende fase i en dokumentfremskaffelse, hvor låneren og den biblioteksansatte har konstateret at man ikke fra de lokale samlinger kan imødekomme lånerens ønske men at man skal fremskaffe dokumentet fra et andet bibliotek eller anden leverandør. Når dokumentet er lokaliseret udløses en fjernlånsbestilling, også kaldet en IU-I bestilling, interurban-indlånsbestilling.

Det skønnes at for mellem 2/3 og 3/4 af fjernlånerønskerne tager dokumentlokalisering og bestilling cirka 10 min pr dokument (DANBIB-bestillinger). Er den *interne behandlingstid* for et fjernlån gennemsnitligt 1 dag, betyder det at lokalisering og bestilling for den type fjernlån udgør 2-3% af den samlede interne behandlingstid. Resten er "kø-tid" og behandling af mere komplicerede fjernlån.

Time measurement in ILL

- *what can be measured?*

■ *Time of delivery*

definition

*Period of time elapsed from
dispatch of ILL-order until
document is received by
borrowing library*

The second element is *delivery time*, i.e. the interval of time which the lending library or supplier spends to 1) receive the ILL-order, 2) pick up the document or make a reservation if it is already lend out, 3) lend out the document to the requesting library, or make a copy, 4) dispatchment/transmission, 5) reception at the requesting library, 6) information of patron.

Together the inhouse request treatment time and the delivery time constitute the turnaround time.

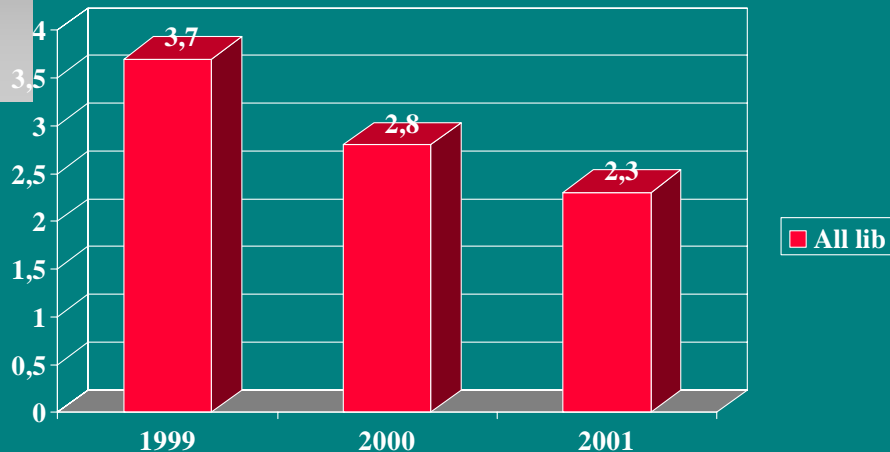
Den anden komponent er *leveringstid*, dvs det tidsrum som det leverende bibliotek bruger for at: 1) modtage bestillingen fra bestillingsbiblioteket, 2) fremfinde dokumentet, eller såfremt det er udlånt, reservere det hvis det ønskes, 3) udlåne det til bestillingsbiblioteket (ved returnabler) eller kopiere det, 4) pakkeforsende, kuvertere-forsende, transmittere/ forsende, 5) modtage i bestillingsbibliotek, 6) printe besked, opstille på afhentningshylde eller kuvertere kopi til låner.

De to tidsrum intern bestillingstid og leveringstid kan tilsammen kaldes for gennemløbstid eller opfyldelsestid; på engelsk turn aroundtime. Hele operationen er sammensat af en række arbejdsprocesser som ligner processerne i de accessionerende afdelinger. Fjernlånet optræder som det parallelle bibliotek, det supporterende bibliotek.

Time measurement in ILL

- Inhouse request handling time

Average number of days spent from receiving request from patron to dispatch of an ILL-order - All research libraries together



The result of measuring the *inhouse request handling time* in 1999, 2000, 2001 shows that the amount of time used for handling is declining. The final result of *inhouse request handling time* was for all libraries in average 2,3 days.

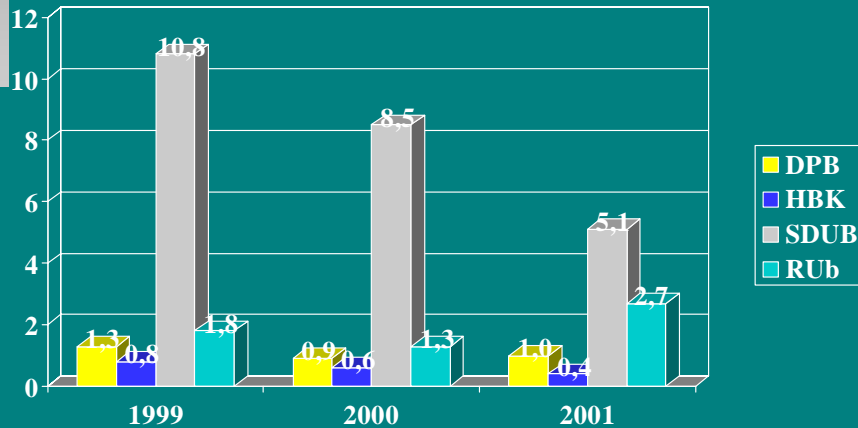
Årsresultatet for de 4 bibliotekers *interne behandlingstid* af fjernlånsønsker bekræfter at der er en positiv udvikling med faldende tidsforbrug.

afgørende forskel mellem et "normalt" niveau på 1-2 dages behandlingstid og OUBs behandlingstid på 11 dage. I forlængelse af performance measurement terminologien og benchmarking kan man her tale om "worst practice". For lånerne på de fem andre forskningsbiblioteker betyder det at de ofte vil have fået leveret de ønskede dokumenter allerede før lånerne ved OUB har fået deres ønsker ekspederet som bestillinger til andre biblioteker. Dette er en markant serviceforskel.

Time measurement in ILL

- Inhouse request handling time

Average number of days spent from receiving request from patron to dispatch of an ILL-order - each individual research library



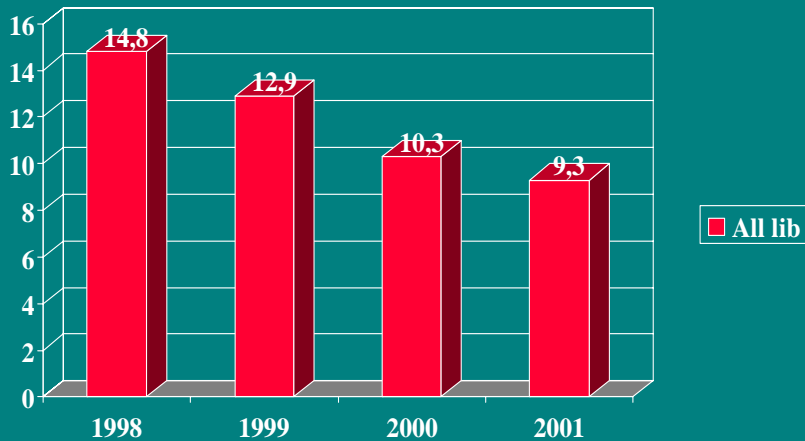
Among the 4 libraries there is a "normal" level of 1-2 days treatment time. Only one library differs remarkably from this conclusion. SDUB, the biggest of the 6 libraries, needs in average in 2001 5 days to create an ILL-order.

3 af bibliotekernes opnår resultater som ikke varierer betydeligt dem imellem. For det fjerde bibliotek, SDUB, er der tale om en betydelig afvigelse i forhold til de øvrige forbrug af *intern behandlingstid*.

Time measurement in ILL

Delivery time - documents from all suppliers

Average number of days from dispatch of an ill-order to receipt of requested document - All research libraries together



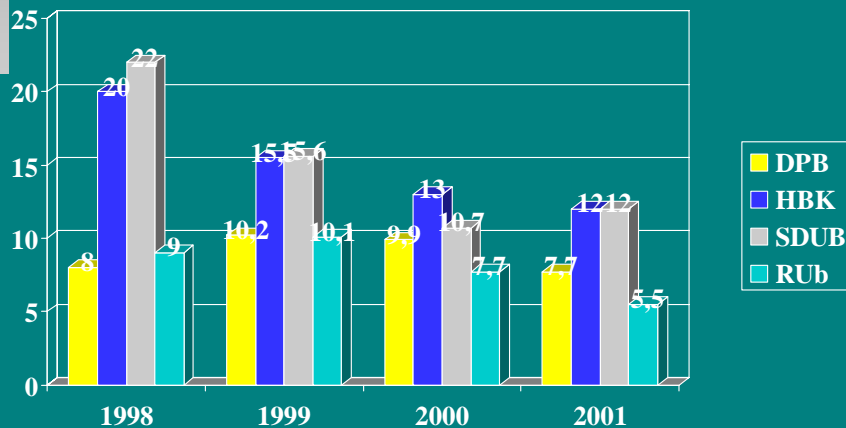
Delivery times for ILL-orders send to all supplying libraries are in general declining through a period of 4 years.

Under et viser bibliotekernes samlede resultat for deres indlån fra indenlandske og udenlandske leverandører og af kopier og bøger under et at leveringstiderne år for år er faldende.

Time measurement in ILL

- Delivery time - documents from all suppliers

Average number of days from dispatch of an ILL-order to receipt of requested document - each individual research library



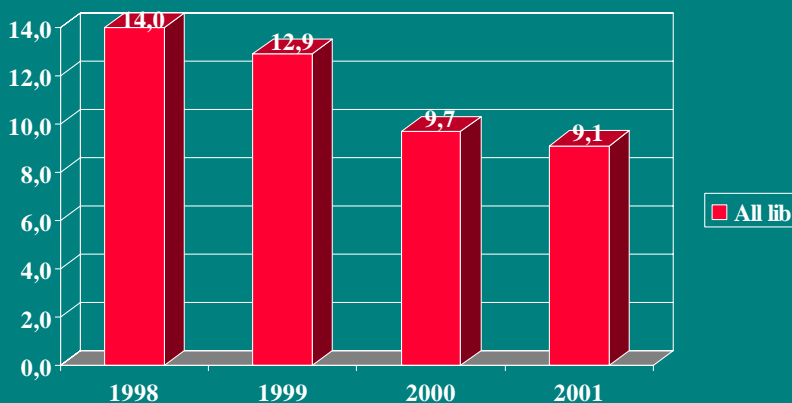
Though in general declining the delivery time for each individual library shows to be very different. In 1998 the difference between the library with the best score and the library with the worst is 14 days. In 2001 the difference is a little more than 6 days, i. e. calendar days. Logically the explanation for the differences may be: 1) some libraries use less resources in ILL-handling, 2) some libraries are less efficient, 3) some libraries handle ILL-requests which are more difficult, 4) some libraries don't know how to select or are less careful in selecting the quickest lending libraries. It is reasonable to believe that the delivery time with a well planned strategy can be reduced even further than the 2001 results show.

Bibliotekernes årsresultater for leveringstider for samtlige fjernlån er interessante fordi de er noget forskellige. Alle opgørelser er i kalenderdage, ikke i arbejdsdage. Bibliotekernes leveringstider nærmer sig hinanden, men der er alligevel tale om forskelle på 100% mellem de korteste og de højeste leveringstider. Logisk set kan dette skyldes at biblioteker med høje leveringstider: 1) benytter færre ILL-ressourcer end biblioteker med kortere leveringstider, 2) at man arbejder mindre effektivt, 3) at fjernlån gennemgående er vanskeligere at fremskaffe eller opfylde (f.eks. efterspurgt materiale med reservationskø), 4) at man ikke omgiver sig med effektive leverandører. Det falder uden for denne præsentation at pege på en eller flere af disse forhold som afgørende for forskellene. Der er grund til at tro at de gennemsnitlig leveringstider kan formindskes yderligere.

Time measurement in ILL

Delivery time - documents from DK-suppliers

Average number of days from dispatch of an ILL-order to receipt of requested document - All research libraries together



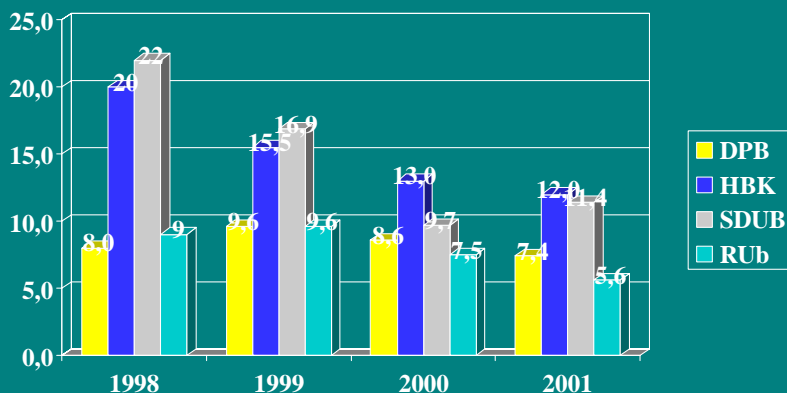
The average values for domestic delivery times has declined from 14 to 9 days in four years.

Faldet i bibliotekernes samlede score på leveringstid er markant, men er muligvis på vej til at flade ud.

Time measurement in ILL

Delivery time - documents from DK-suppliers

Average number of days from dispatch of an ILL-order to receipt of requested document - Each individual research library



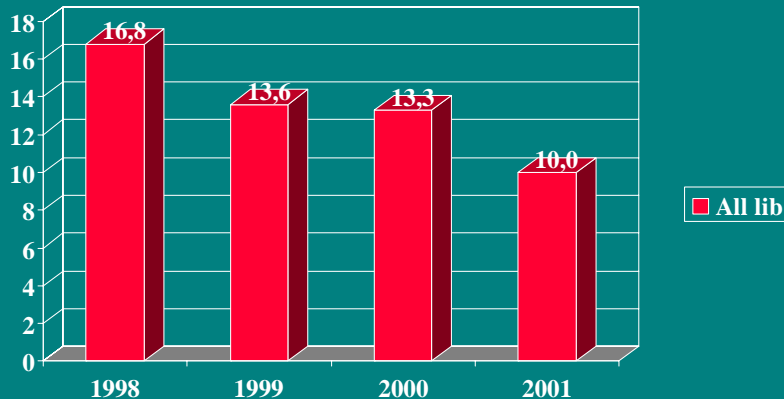
While the average values for domestic delivery times in 1998 were between 9 and 22 days the delivery times in 2001 were between 6 and 12 days - a remarkable fall but also still a remarkable difference.

Leveringstiderne falder generelt for bibliotekerne samlet set 1998-2001 og forskellen i leveringstider mellem bibliotekerne falder.

Time measurement in ILL

- Delivery time - documents from outside DK

Average number of days from dispatch of an ILL-order to receipt of requested document - All research libraries together



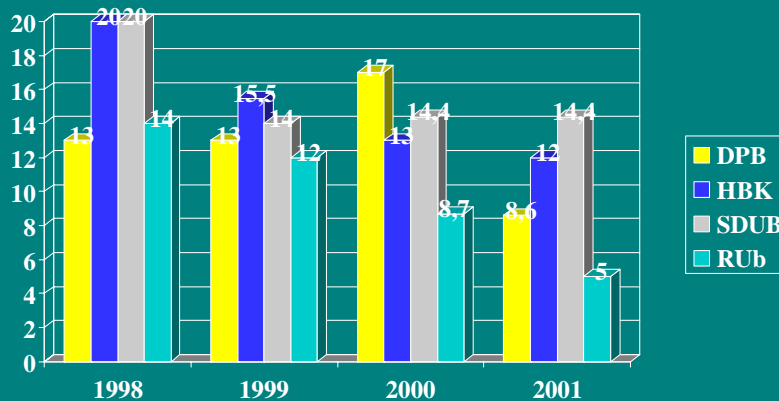
The decline of delivery times for foreign ILL-orders (17 to 10 days) are quite similar to the decline of delivery times for domestic suppliers (14 to 9 days). The small difference can be surprising for some but modern document ways of dispatchment may internationalyse supplying and narrowing national differences.

Samme tendens til fald i leveringstider ses også mht udenlandske bibliotekers leveringstider. Forskellen mellem udenlandske og nationale leverandørers leveringstider mindskes.

Time measurement in ILL

- Delivery time - documents from outside DK

Average number of days from dispatch of an ILL-order to receipt of requested document - Each individual research library



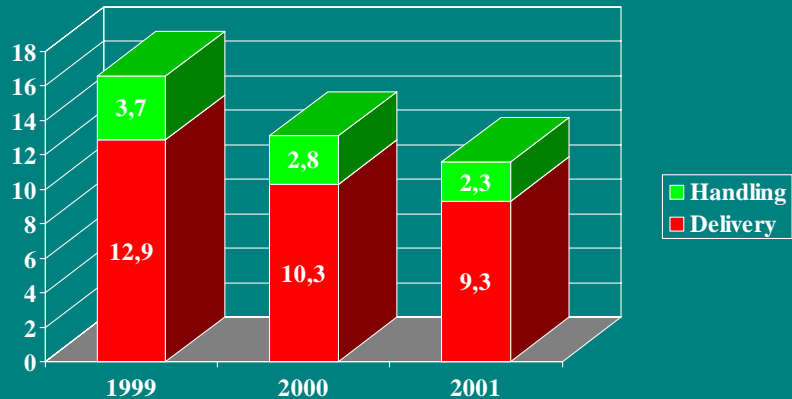
While the average values for foreign delivery times in 1998 were between 13 and 20 days the delivery times in 2001 were between 5 and 14 days - a remarkable fall but also still a remarkable difference.

Leveringstiderne falder generelt for bibliotekerne samlet set 1998-2001 mht til fjernlån fra udenlandske biblioteker; desuden falder også forskellen i leveringstider mellem bibliotekerne, men der er stadig stor – cirka 3 gange så høj for det langsommeste biblioteks som for det hurtigste.

Time measurement in ILL

- Turnaround time.dk 1999-2000-2001

Average number of days from receiving a request from patron, to dispatch of an ILL-order and to receipt of requested document from Danish or foreign libraries/suppliers - all research libraries



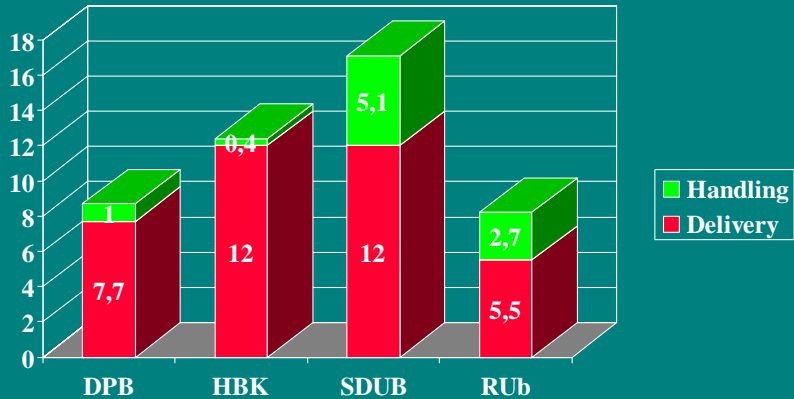
Turnaround time 1999-2001 declines from 16,6 days to 11,6 - cutting of 1/3 of the total time in three years.

Turnaround tid, dvs tiden fra låneren afgiver bestilling til det bestilte ankommer fra udlånsbiblioteket falder i måleperioden med cirka en 1/3 af det samlede tidsforbrug.

Time measurement in ILL

- Turnaround time.dk year 2001

Average number of days from receiving a request from patron, to dispatch of an ILL-order and to receipt of requested document from Danish or foreign libraries/suppliers - all research libraries



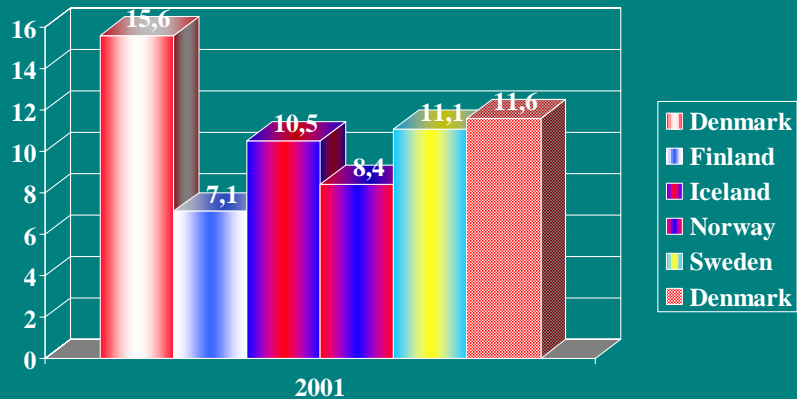
Turnaround time 2001 for each individual measuring library. The slowest library uses the double amount of time to fulfil patrons ill-requests compared with quicker libraries.

Turnaround tiden for det langsomme bibliotek er cirka dobbelt så stor som for de to hurtigste 2001.

Time measurement in ILL

- Turnaround time.nordic and time.dk 2001

Average number of days from receiving a request from patron, to dispatch of an ILL-order and to receipt of requested document from domestic or foreign libraries/suppliers - all research libraries



The Nordic ILL-survey 2001 revealed remarkable difference in turnaround time between some of the scandinavian countries; the biggest difference was between Denmark (15,6 days) and Finland (7,1 days). However the difference would have been smaller if Denmark instead was represented of consortia statistics (11,6 days)

Det nordiske ill-survey i 2001 viser store forskelle mellem de nationale resultater, størst mellem det danske og det finske resultat. Det danske resultat i den nordiske undersøgelse adskiller sig markant fra performance-konsortiets resultat samme år.

Time measurement in ILL

How can pm-results be used in daily ill-work?

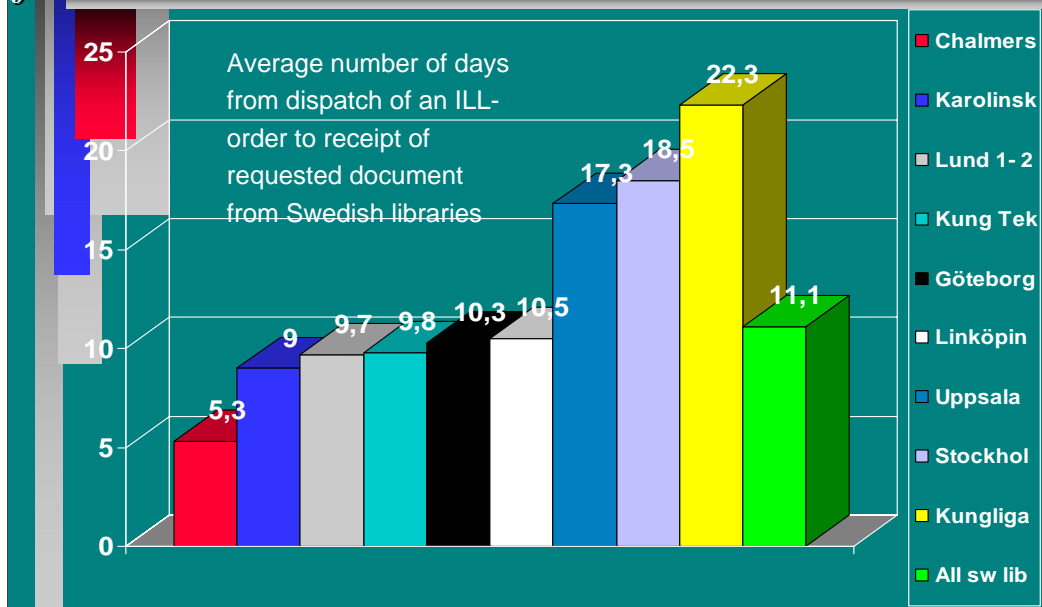
- *You can use measured delivery times to choose between possible suppliers*
- *You can use measured delivery time to predict arrival of material*

First of all performance measurement studies are important because they furnish you with data which show 1) your own library-performance, and 2) the supplying libraries performance.

Performance measurement undersøgelser er vigtige fordi de forsyner dig med data om dit eget biblioteks score og med score for de leverende biblioteker. Det sidste giver kvalificeret grundlag for at vælge de hurtigste og det første giver mulighed for at forudsige leveringstidspunkter i f.eks. servicedeclarationer.

Time measurement in ILL

Delivery time for documents received at RUB from some Swedish libraries 1994-99 - all mat

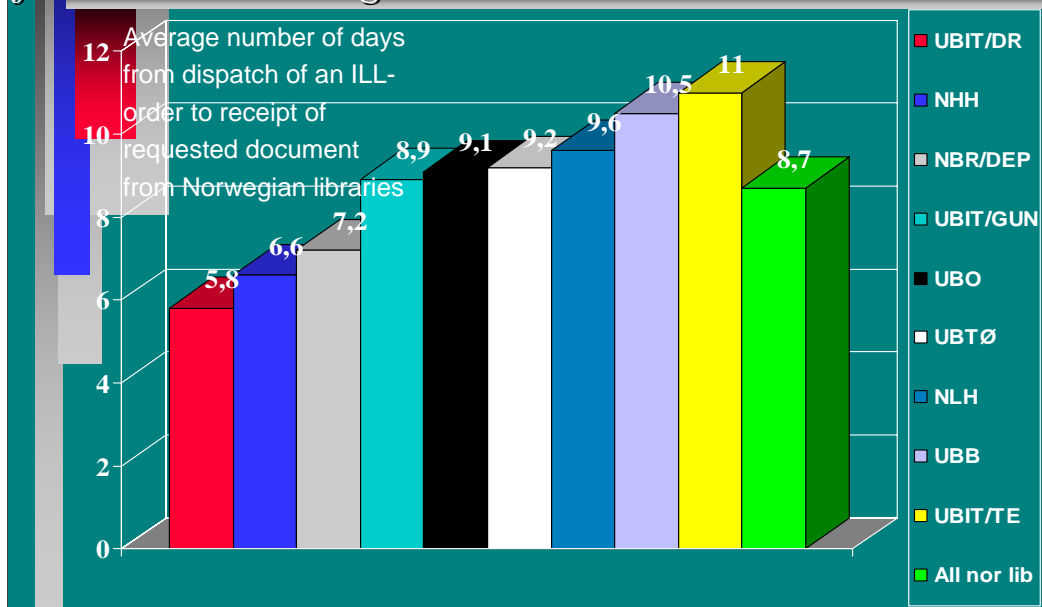


The figure demonstrates an example of pm-data: delivery time between Roskilde University Library and different Swedish research libraries

Diagrammet viser et eksempel på hvordan man kan præsentere performance resultater. Den målte variabel er leveringstid mellem Roskilde Universitetsbibliotek og de vigtigste svenske forskningsbiblioteker. Chalmers leverer fire gange hurtigere end Kungliga Biblioteket.

Time measurement in ILL

*Delivery time for documents received at RUB
from some norwegian libraries 1998/99-02 - all mat*



The figure demonstrates an example of pm-data: delivery time between Roskilde University Library and different Norwegian research libraries

Diagrammet viser et eksempel på hvordan man kan præsentere performance resultater. Den målte variabel er leveringstid mellem Roskilde Universitetsbibliotek og nogle vigtige norske forskningsbiblioteker. Udsvingene i leveringstider er afgørende mindre i Norge end i Sverige.

Time measurement in ILL

What can be concluded for chosen suppliers?

- *Choose consortia and partnerships, formal or informal, but.....*
- *Choose small suppliers*
- *Choose specialized suppliers*
- *Try to use public libraries*
- *No matter what you do.... some suppliers simply aren't predictable*

Some good advice.....

Time measurement in ILL

What can be concluded to improve your ill-pm?

- *Raise your users ill-expectations - put yourself under pressure*
- *Use your library and ill-system to draw conclusions and choose your suppliers in a careful and analytic way*
- *Give your own library a high performance ranking as supplier*
- *Internal organizational awareness, updating and communicating problems*

Some good advice...

Time measurement in ILL

The never ending story

to be continued

RUb