

TIB – An Organisation with a Cost-Effective, Strategy-Oriented Approach

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As German National Library of Science and Technology the TIB specialises in all areas of technology and their related sciences (in particular chemistry, information technology, mathematics and physics) and is one of the largest and most important libraries in Germany.

Founded in 1959, the TIB has been able to become – with by now more than 460.000 successfully performed orders – the world's largest special library and one of the most reliable suppliers of documents within its fields of specialisation. The TIB supplies customers at home and abroad in big extent with technical and scientific literature. To be able to keep this up and to expand the document delivery worldwide, it is necessary for the TIB to ensure that its prices remain competitive in the marketplace, that means it is important to adopt an efficient, cost-effective approach, i.e. through performing cost and process analyses and through constant optimising of the business and the working processes. Strategic planning has now been pushed firmly into the foreground and the process of applying for public subsidies has become markedly more sophisticated: instead of the previous method of simply extrapolating the costs from the previous year, detailed, costed project plans are now produced, thereby enabling targets to be clearly agreed.

In the first section of this paper you can find a detailed description of the essential first steps (introduction of a commercial booking system and overhaul of the TIB's organisational structure). After this you can see how the TIB's planning process is performed now, before the author gives a preview of further development.

keywords: system of cost and service accounting, reorganisation, team building, strategy, targets, Balanced Scorecard, planning process

1. Groundwork

Essential first steps to change the TIB into an organisation with a cost-effective, strategy-oriented approach include the introduction of a system of cost and service accounting based on a commercial booking system as well as the overhaul of the TIB's organisational structure, to enable the optimisation of the working processes and to make up a cost-effective oriented management team as an executive committee.

1.1 Introduction of a Commercial Booking System

Since 2003/01/01 the TIB has been using the commercial booking system SAP R/3. The project to introduce SAP R/3 took from June 2002 till March 2003 and

the staff concerned from the sectors affected (Accounts Department, Controlling, Collection Development and Document Delivery Service) participated in seven project groups which completed the essential first steps to enable the introduction of SAP R/3. Apart from numerous training courses for the staff all SAP-modules used by the TIB had to be adjusted to the special uses of the library. In particular, extensive interfaces to the acquisition system (PICA) and to the document order- and customers management system (DOD) had to be built in.

1.2 Development of a System of cost and service accounting

To be able to take all costs and services into account for our products in 2001 there already was a meaningful and coherent system of cost and service accounting developed. The cost and service accounting enables the TIB not only to reproduce where their costs occur and which services are done at regular intervals but also to serve, especially, to calculate the prices more precisely, to prove the need for financial resources of the federation (see also 2.1) and to supply the library's management team (see 1.3.1) with information needed as assistance in reaching a decision for the planning of new projects and to enable them to act cost-effectively.

1.2.1 Cost Centre Accounting

The TIB's cost centres reflect its organisational structure and are put together in profit centres. The heads of the organisational units are responsible for the costs arising at the corresponding cost centre.

Besides the organisational structure, the following aspects have been considered to build cost centres [1]:

- homogeneous goods and services / single reference basis
- ability to assign responsibilities
- clear cost allocation / account distribution
- budgeting capabilities

1.2.2 Cost Categories Accounting

In the plan for cost categories are the total costs that arise in the TIB divided into cost groups according to the kind of the goods and services required.

Necessary criteria for building cost categories have been [1]:

- relevance for the TIB
- relevance with regard to value consumption
- relevance according to actual use (continuous budgeting, rather than just one-off budget estimates)

The TIB was able to fall back on the University of Hanover's cost categories scheme, so it was only necessary to make some library-specific adaptations (e.g. a "library royalties" cost category, an "external acquisitions" cost category for costs arising for the TIB if there is a need to order literature the TIB does not specialise in to deliver to particular customers with individual contracts that guarantee to satisfy all document-delivery requirements irrespective of the subject matter).

1.2.3 Cost Units Accounting

The TIB's products have been defined as the cost units. To define the products there have been the following questions be considered [1]:

- Is there an external customer?
- How high is the expenditure to build the product?
- Is the product sufficient for the TIB's control?
- Is the product able to be planned?

All the costs of the TIB will be taken into account for the products. For this different types of activities and consumption logic have been defined.

1.2.3.1 Products and Product Groups

The following table shows the products (cost units) of the TIB summarized into product groups.

product groups	products
Collection Development	<ul style="list-style-type: none"> • conventional publishers literature • „grey“ literature • electronic documents
Information Service	<ul style="list-style-type: none"> • TIBORDER-searches • meta-search • virtual subject libraries • seminars • www-homepage
Document Delivery	<ul style="list-style-type: none"> • TIBORDER • FullService • Subito • active loan service
Research and Development	<ul style="list-style-type: none"> • all external financed projects
General Services	<ul style="list-style-type: none"> • HOBSY (joint library system of Hanover's libraries) • copy delivery service for the university of Hanover • collection development for the university library Hanover

Fig. 1: products and product groups of the TIB

1.2.3.2 Types of Activities

In the following you can find examples of possible types of activities for the product groups "Collection Development" and "Document Delivery".

Types of activities „Collection Development“:

- selecting stock
- East Asian and Eastern European literature
- cataloguing (with or without the adoption of catalogue data from external sources)
- subject indexing (with or without the adoption of catalogue data from external sources)
- making stock available
- conversion of own / external resources

Types of activities „Document Delivery“:

- conventional / electronic order processing
- retrieval and replacing
- searches / orders for literature that is not available in the TIB
- scanning / copying
- microfiche processing
- product dispatch / invoice issuing
- own / third-party billing
- help desk
- special services
- marking / coding
- researching sources

1.2.3.3 Consumption Logic

For the above-mentioned types of services reference quantities exist; in a library as a rule „hours of work done“. The internal settlement of services occurs with a cost rate, which is calculated as explained in the following [1]:

cost rate = number of types of services (e.g. hours to search and pick the literature out of the shelves and put it back for TIBORDER express order) x settlement rate with

settlement rate = total sum of costs of the cost centre / general performance

The overhead costs are spread directly to the cost units / products through apportionment. An example of a reference quantity are the direct costs of the cost unit.

1.2.3.4 Registration of Time

In some areas of the TIB it's enough to estimate, but particularly in the Document Delivery Service with its different, specialised activities there is a need for registration of time. Therefore there is an agreement with the staff council to register time in this department. This was already being carried out in the magazine- and reproduction-area. The smallest registration unit was, at the wishes of the staff members, 15 minutes, as a rule in the TIB no unit should be chosen shorter than 30 minutes, so as not to raise the expenditure for registration of time too much.

1.3 Change of the Organisational Structure

Not only did the conditions to be able to do an exact cost accounting have to be created but also there was a need to change the organisational structure of the TIB. To change the TIB into an organisation with a strategy-oriented approach, a management team for the library was set up. To strengthen the staff's product responsibility and to be able to agree product-related targets with the staff, there was a need to build product-oriented teams.

1.3.1 Management Team of the TIB

Library management (Executive Director, Deputy, and Commercial Manager) and department heads now make up a management team. So it is guaranteed that all areas of the TIB work together on devising and implementing the TIB's strategy and targets. This management team meets regularly once a week.

1.3.2 Product-oriented Teams

Product-oriented teams have to be formed throughout the organisation. Large-scale projects have already been carried out in the Document Delivery Service and Collection Development groups with the support of external consultants.

1.3.2.1 Start of the Project

First there were introductory workshops to inform the staff involved about the planned measures and targets of the restructuring process, followed by a process analysis, to fix size and area of responsibility of the future teams.

1.3.2.2 Assignment to the Teams

The assignment to the teams occurred on a voluntary basis. Beforehand there were measures agreed with the staff council to tackle over-occupancy or under-occupancy of individual teams. The team-members had the chance to choose the head of the team and her/his deputy by themselves. Most of the teams judged this new procedure positively and team leaders were found without any problems. In some teams it was necessary for the department head to name somebody as head of the team. Every team chooses its own team spokesperson to enable one person to stand in for the team's interest e.g. against the head of the team.

To work successfully as a team physical proximity is an advantage. At the moment in the TIB extensive moves within the library are taking place to achieve this.

1.3.2.3 Team Training

All staff working in teams attended teamwork training sessions. Also now that these two reorganisation projects are finished, there is extensive training necessary to deepen teamwork-knowledge as well as training in communication, how to deal with conflicts and presentation of meetings.

1.3.2.4 Project Structure

All projects are integrated in a project structure with a steering committee, project group and team meeting. Each team is supported by its own internal (trained) process companion.

Connected with the process to build product-oriented teams is a continuous improvement process, which enables the teams to optimise their work-processes and adapt them regularly to new conditions. Thus, once a process of reorganisation has been completed, team leader and team spokesperson groups are established in the individual areas. These groups then meet up on a monthly basis.

2. Planning Process

The TIB's actual planning of costs and services is done two years in advance. Guidelines from the outside have to be taken into account.

2.1 Guidelines from the Outside

The planning process has been designed to take into account the guidelines issued by the ministry responsible (MWK – the Ministry for Science and Culture of Lower Saxony) and the scientific organisation responsible (WGL – the Leibniz Association).

The TIB is financed together by Federal Government (Bund, 30%) and States (Länder, 70%), so that all planned programmes, targets and budgets are to be agreed upon with the Bund-Länder Commission for Educational Planning and Research Promotion.

Annual targets are to be agreed with the MWK for the product groups described above, and at the same time the planned programmes within the product groups for the WGL-programme-budget are defined.

These negotiations are based not only on programmes / projects but also on performance indicators, by which the TIB is to be measured.

Examples of general performance indicators for the TIB:

- lectures, specialist publications
- days of advanced training attended by each member of staff p.a.
- one-on-one staff feedback sessions held / scheduled p.a.
- trainees, apprentices and students on work experience p.a.

Examples of annual performance indicators for Collection Development:

- acquisitions / member of staff (journals, monographs, series, electronic journals etc.)
- acquisitions / subject area (journals, monographs, series, electronic journals etc.)
- speed of acquisition
- speed of processing of books and journal issues
- book-binding operations / member of staff
- customer satisfaction with the quality of the TIB's collection

Examples of annual performance indicators for Document Delivery:

- orders submitted for each product
- revenue from document delivery / member of staff
- rate of filled orders
- time required to fill orders
- market penetration
- help desk queries resolved in a positive manner
- customer satisfaction with the TIB's services, especially with the help desk
- customer satisfaction with the TIB's staff and levels of service

2.2 Strategy, Plan for Library Development, Product Groups, Programme Budget

In 2003 for the first time mission, vision and model of the TIB were put together with the strategy fields in the TIB's strategy.

Since 2002 there has been an annual plan for library development produced with internal and external projects for each department for the following years.

In the above-mentioned product groups (see 1.2.3.1), you can find the projects of the plan for library development and additional programmes based on the TIB's

strategy. For these, detailed costing has to be done, to be able to demand the budget needed from the Federal Government/States and for external projects.

2.3 Balanced Scorecard

To support the project and programme planning and to ensure that, besides the guidelines of Government and other financial sponsors as well customer's wishes, internal processes and staff are taken into equal consideration during the planning process, the Balanced Scorecard (BSC) method will be introduced as a control system.

By using the Balanced Scorecard, and consulting the teams themselves, individual targets will be developed for each team on the basis of the targets broken down for the product groups (and thus for the WGL-programme-budget).

To find the individual targets for each product group / programmes, first the following questionings have to be answered – based on the TIB's strategy:

- Finances (sponsors)
 - o How do we satisfy our sponsors?
 - o Which financial resources do we need in future?
- Customers
 - o How do we satisfy our customers?
 - o What new products do we need or how do we need to change / improve our products?
- Internal Processes
 - o How can we optimise our processes?
 - o Where do we need to employ new staff members, where to move staff from one team or department to another, where is outsourcing useful and cost-effective?
- Staff
 - o What kind of seminars does the staff have to attend to cope with new needs (such as digital library, new customer requests etc.)?
 - o How can the staff participate in planning processes to intensify their motivation?

3. Outlook

The teambuilding processes and restructuring carried out in the Collection Development and Document Delivery Service groups need to be evaluated. Even though these projects are finished now, the team building process is not yet finished.

Team-members, team-speaker and the head of teams need to be trained in teamwork, new demands of being head of a team, communication, how to deal with conflict, presentation of meetings etc.

In 2004 the project to restructure the Accounts Department will be started with the support of external consultants, followed by the General Administration and the IT Department.

The use of the Balanced Scorecard as a control system will be spread over the TIB. The target is, to build / plan for each product-oriented team its own Balanced Scorecard.

External projects of the product group “Research and Development” will be transferred into day - to - day operations.

References:

[1] „Konzeption einer Kosten- und Leistungsrechnung und Prozessoptimierung ausgewählter Bereiche in der UB/TIB“; Kienbaum Management Consultants; 31.07.2001; internal paper, not published; for further information contact: Petra.Dueren@tib.uni-hannover.de.