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ABSTRACT

Until 1965 there was little or no planning in the universities and technical institutes of university standing in the Federal Republic of Germany, and virtually no electronic data processing, so university statistics were inadequate. Since that time, West German universities have been increasingly pressured to provide statistics to substantiate their financial claims. Four trends emerged: (1) planning staffs and data processing were established in a number of universities; (2) a number of states have included university planning in their legislation and established long-range planning schemes; (3) a statutory framework has been established for university planning at the federal and state levels; and (4) cooperative planning is provided at the institutional, state, and federal levels. An inventory of planning offices and integration of planning functions, by institution, is included. (Author/MSE)

THE INSTITUTIONALIZATION OF PLANNING AND DATA PROCESSING IN UNIVERSITY ADMINISTRATION

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Up to 1965 there was little or no planning in universities and "Technische Hochschulen" (technical institutes of university standing) in the German Federal Republic. Moreover, despite considerable university growth there was practically no EDP to provide a comprehensive description of the quantitative situation in individual universities. In particular, adequate university statistics were lacking.

Up to this period the recommendations of the Wissenschaftsrat (German Research Council) were regarded as sufficient authority to justify budget appropriations. After 1965 and under pressure from public opinion the universities were increasingly obliged to submit their own statistics when applying for grants and substantiate their financial claims in greater detail. A number of universities therefore began to set up planning and EDP machinery on their own account.

After 1968 four trends emerged in the Federal Republic:

1. Planning staff and EDP teams were set up in a number of universities, mostly financed by the HIS - GmbH which is a sister company of the Volkswagen Foundation. The latter continues, as in the past, to play the same part in Germany as the Ford Foundation in the USA which for example financed a research project on university administration at the University of California in Berkeley which obtained appreciable results.

   In 1969 a planning group within the general administration was set up at our university, i.e. the University of the Saar in Saarbrücken, receiving financial support from the HIS - GmbH. At the same time it started work on the utilization of data processing for administrative and planning purposes. The valuable and gratifying co-operation between HIS and the University of the Saar is still proceeding to our mutual benefit.

2. A number of the West German states principally concerned with university problems have embodied university planning in their legislation on higher education and have organised the first long-term planning schemes for universities.

3. As the result of amendments to the Basic Law of the Federal Republic and the voting of a number of Federal Acts a statutory framework has been provided for university planning at Federal and state level and it has been possible to ensure the participation of the Federal Government in the financing of a university building programme. In this connection special mention must be made of the Federal legislation on the expansion of higher education and the Federal legislation on university statistics.

4. A factor which is common to all concepts is that they provide for the co-operation of the Federal Government, the states and the universities in a three-tier planning process:
   - University Development Plan, at university level;
   - Master plan for higher education, at state level;
   - Master plan for higher education, at federal level.

In view of the rush of secondary school leavers to secure places at universities the crucial point in any planning is the enrollment capacity of the individual universities in their various courses[2] or in other words the capacity of the whole university system as opposed to social demand.

It is an indisputable fact that individual universities will have an essential part to play in this three-tier planning process and must therefore set up their own planning facilities.[3]

Let us now see how planning staffs and the EDP departments can be effectively linked to individual universities.

The concept of integrated administration must first be briefly explained:

> In the integrated administration the Rektor or the President of the university is not only the highest authority in the university but at the same time the director of the autonomous academic administration. Normally subordinate to the Rektor or President is the Chancellor, who is the head of the general administration, responsible for preparing and executing the decisions taken by the academic decision-making bodies at central university level.

On the background of this concept of integrated administration we visualize three different ways of linking up planning and EDP staffs:

1. A loose structural link in the form of an office for consultation or research;
2. Integration with the Rektor's or President's office;
3. Incorporation in the general administration.

In the first case, the research institute would be responsible for planning or data processing under contract to the university, much as a consultant firm in industry.

In the second case, the planning and EDP specialists would be members of a central unit which is directly responsible to the President or Vice-President

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1. See P. Lichtenberg, J. Burckhardt, D. Elchlepp, Gemeinschaftsaufgabe Hochschulbau (University building as a joint task), Bad Honnef, Karl Heinrich Bock, 1971 (Federal legislation on universities, vol. I).

2. See G. Menges and G. Elstermann, "Capacity models in university management", Manpower and Management Science, D. J. Bartholomew and A. R. Smith (Eds), London, English Universities Press, 1971, pp. 207-221.

3. See H. J. Schuster: "Voraussetzungen der Hochschulplanung", Wissenschaftsrecht - Wissenschaftsverwaltung - Wissenschaftsförderung, supp. 3, 1969, pp. 46-52.

and operates independently of the general administration, e. g. as at the Free University of Berlin.[1]

In the third case, the planning and data processing units or departments would be part of the general administration.

However, before it is possible to venture any opinion as to which of the three types of link-up is likely to be the most effective, it is necessary to have some idea of what is understood by effective administration if effectiveness is to be adopted as a criterion of evaluation.

Let us begin with a few points regarding the functions of a university administration.

The main function of the administration is to guarantee the smooth operation of the university's primary responsibilities, i. e. training, research and public services, i. e. services to the state and to the community at large.

In view of the changes which have occurred in the University's relations with the community and the qualitative and quantitative developments in very many sectors, the administration's functions include the capacity to forecast coming quantitative and structural changes in good time and to take the requisite administrative action to adjust to these changes.

Effective administration enables primary tasks to be carried out with the minimum of inconvenience and structural changes to be put into effect without friction. Administration is ineffective when considerable disturbance and friction arise as a result of administrative action. The optimum type of organisation is therefore one which causes the minimum inconvenience in the transaction of current business and structural change.

This concept of effectiveness may appear simplistic, but in the absence of any operational approach to measuring the benefits of administrative action it may well be preferable to a cost-benefit approach.

Against the background of this effectiveness concept we now propose to list what we feel to be the essential advantages and disadvantages of the three forms of organisation we have mentioned:

1. Planning and data processing in a research institute

The advantage of the above system is that projects can be processed undisturbed, with no restrictions imposed through ad hoc jobs.

The disadvantage is that planning is done without any contact with realities, that no direct influence can be brought to bear on decision-making processes and that it is more difficult to secure direct information from the university and particularly unofficial information.

2. Planning and data processing in the President's office

The advantage is that planning undoubtedly has more in common with university policy-making than it has with routine administration. It may therefore readily be conceived as a task for the staff of the President's office. This is not true of data processing which is used to a considerable extent in routine administration: in an initial phase of about five years the data processing department represents an institutionalized innovation in the routine process but thereafter it largely becomes a matter of routine itself.[2]

The disadvantage is that planning takes place in very close contact with routine processes. The location of a planning centre in the President's office may consequently lead to the duplication of certain general administration tasks and this, when it occurs, is neither economic nor efficient, not to speak of its psychological disadvantages.

3. Planning and data processing as part of general administration

The advantage of this integration is primarily that it is the process which most closely conforms to the principle of integrated administration. It thus avoids all the disadvantages we have quoted in connection with the other types of co-ordination.

The disadvantage which is occasionally brought up against this form of organisation is that it disregards the possibility of conflicts between the general administration and the university's policy-making authorities. We do not feel that this argument is convincing. It does not specifically apply to planning nor does it allow for the fact that university policy-making is not part of the general administration but is done in committees which are specifically set up for this purpose.

In view of our premises and the arguments we have put forward we advocate the third solution, i. e. that planning and data processing should be integrated with general administration.

It is also the most widespread solution. An analysis[3] of the special issue of HIS-Kurzinformationen of 8th January. 1973 showed that in 41 out of 42 universities (not including teacher-training colleges) in the Federal Republic there are 62 institutions for university planning and organisation.

Of this number:

- 35 institutions, i. e. 56. 5% are attached to the office of the Chancellor or Kurator or to general administration;
- 9 institutions, i. e. 14. 5% are attached to the office of the President/Rektor;
- 12 institutions, i. e. 9. 3% are attached to committees, etc. ;
- 6 institutions, i. e. 9. 7% are unspecified.

An individual breakdown may be obtained from the accompanying table.

It should, however, not be imagined that the traditional university administration is in a position to take over this new task without quantitative changes. Admittedly, it is difficult to calculate the optimum

1. This type of link-up is favoured, e. g., by B. Becker, "Probleme und Entwicklungen in den Hochschulverwaltungen unter besonderer Berücksichtigung der Entwicklungsplanung", Wirtschaftliche Infrastruktur, Köln, W. Kohlhammer, 1974, pp. 99-116.

2. For the relation between innovation and routine please see N. Luhmann, Politische Planung (Political Planning), Opladen Westdeutscher Verlag, 1971, pp. 113-142.

3. We are grateful to Dr. B. Bessai for the analysis and table.

ORGANISATIONAL INTEGRATION OF INSTITUTIONS FOR UNIVERSITY PLANNING AND ORGANISATION

(e. g. planning group, planning branch, planning division, data processing)

IN UNIVERSITIES

(without building offices)

No.	UNIVERSITIES	NUMBER OF GROUPS	ATTACHED TO			
			CHANCELLOR, GENERAL ADMINISTRATION, CURATOR	PRESIDENT, RECTOR	COMMITTEES OTHERS	NOT SPECIFIED
1	TU Aachen	2	2	-	-	-
2	U Augsburg	1	-	-	-	1
3	FU Berlin	3	1	2	-	-
4	TU Berlin	1	-	-	-	1
5	U Bielefeld	2	1	-	1	-
6	U Bochum	1	1	-	-	-
7	U Bonn	1	1	-	-	-
8	TU Brunswiek	1	1	-	-	-
9	U Bremen	1	-	-	1	-
10	TU Clausthal	1	-	1	-	-
11	TU Darmstadt	3	1	2	-	-
12	U Dortmund	1	1	-	-	-
13	U Düsseldorf	1	1	-	-	-
14	U Erlangen-Nuremberg	1	1	-	-	-
15	U Frankfort	1	1	-	-	-
16	U Freiburg	1	1	-	-	-
17	U Giessen	1	-	1	-	-
18	U Göttingen	1	1	-	-	-
19	U Hamburg	1	-	1	-	-
20	U Hanover	1	-	-	-	1
21	Veterinary University Hanover	1	-	-	-	1
22	Medical University Hanover	1	-	-	-	1
23	U Heidelberg	4	1	-	3	-
24	U Hohenheim	-	-	-	-	-
25	U Karlsruhe	3	1	-	2	-
26	U Kiel	1	-	-	1	-
27	U Cologne	1	1	-	-	-
28	U Constanee	2	1	-	1	-
29	U Mainz	1	-	1	-	-
30	U Mannheim	2	1	-	1	-
31	U Marburg a. L.	1	-	1	-	-
32	U Munich	2	1	-	1	-
33	TU Munich	1	1	-	-	-
34	U Munster	3	3	-	-	-
35	U Regensburg	1	1	-	-	-
36	U Saarbrücken	2	2	-	-	-
37	U Stuttgart	3	3	-	-	-
38	U Tübingen	3	3	-	-	-
39	U Ulm	1	1	-	-	-
40	U Würzburg	1	1	-	-	-
41	U Cassel	1	-	-	1	-
42	U Treves - Kaiserslautern	1	-	-	-	1
I	TOTAL	62	35	9	12	6
II	Ratios	100	56.5	14.5	19.3	9.7

TU = Technical University,
U = University,
FU = Free University,
CU = Comprehensive University.
SOURCE: HIS-Kurzinformation, Special issue of 8th January, 1973.

equipment and staffing of a planning and data processing team owing to the fact that, as we have already mentioned, there is no criterion of assessment at the present time. Nevertheless, we should like to try to make a few suggestions as to the minimum equipment and staffing of these teams.

1. Personnel

The planning department is responsible for the following specialist tasks:

> Quantitative resource planning; preparations for the University Development Plan; calculation of training capacity; assistance to the administration in connection with curriculum reform innovations and in connection with the development of a comprehensive university; implementation of specific projects, e.g. the organisation of a central office for student counselling; responsibility for the central committees, where planning problems are involved; general collection and updating of basic statistical and methodological data.

In view of these specific tasks a medium-sized university - between 10,000 and 15,000 students - should reasonably require a minimum personnel of three specialists with university degrees for the planning department. Under the principle of project group organisation these specialists might take over planning duties in consultation with specialists from other planning-oriented branches of general administration.

The data processing department has the following specific tasks:

> Development and updating of programmes on the following fields:
>
> - calculation of wages and salaries,
> - student and examination statistics,
> - university budget, funds and general accountancy,
> - university premises,
> - university equipment,
> - other administrative services, e.g. calculation of telephone bills and maintenance of a computerized register of addresses.

The object of these tasks is to set up and maintain a local data bank for university management.

As far as minimum personnel input is concerned reference may be made to an estimate which was recently compiled for the Committee on University Statistics set up by the Federal Bureau of Statistics[1]. The estimate is designed to ascertain the minimum personnel required to comply with the Federal legislation on university statistics of 1971 and ensure the rationalization of university administration with the assistance of data processing. Both these activities must be considered as an inseparable whole.

In the light of a number of other assumptions which time and space do not permit us to reproduce here the result of this estimate is that two specialists with university degrees and 15 programmers, specialized clerical staff and data typists would be required for the data processing department when the initial phase of establishment and expansion has been concluded.

2. An accurate estimate of equipment is even more difficult at the present time than an estimate of personnel

It is unanimously considered that it will be impossible to deal with the work load without the aid of a medium-sized computer. Initial estimates have shown that at least 600 CPU-hours will be required annually.

This estimate of equipment and personnel for the planning and data processing departments in universities is based on the fact that the universities will not all have to develop methods for the technique and organisation of planning and data processing themselves but that it will be possible for example to resort to general methods and operation systems and make use of standard programs to a certain extent. The availability of central installations to provide these services is consequently assumed. For example the HIS-GmbH and (in the building sector) the Zentralarchiv für Hochschulbau at Stuttgart have taken over these functions in the Federal Republic.

In conclusion we should like to mention the particularly significant training aspect involved in the institutionalization of planning and electronic data processing in universities.

In the Federal Republic the activity profile of the planner is a very recent and still rather vague concept. In so far as the labour market already provides personnel who are at all suitable, their qualifications very rarely enable them to be employed immediately and with full personal responsibility in planning and data processing functions. The gaps in their knowledge and experience have to be made good with the help of a specially developed training and further training method. It is obvious that individual universities cannot and ought not to take over these training tasks alone. Here too there is a need for central units to deal with the tasks of training and further training for university management in co-operation with the individual universities.

The HIS-GmbH has organised initial training courses in the Federal Republic but no definite conclusions have as yet been reached as to their results.

From a long-term standpoint there is need for discussion as to how training programmes of this type can be organised on an international basis and how co-operation at international level can be made effective in the training stage itself.

1. See "Vorläufige Aufwandsermittlung" (Preliminary determination of labour input), unpublished OECD, Committee on University Statistics, Sub-committee on personnel costs.