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# **Investigating the Management Information Needs of Heads of Academic Departments in Universities in the United Kingdom: A Critical Success Factors Approach**

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## **ABSTRACT**

The efficacy and validity of a Critical Success Factors (CSFs) approach to the investigation of the management information needs of Heads of academic departments in 16 English universities is discussed. It is found that this approach can be an effective means of identifying and correlating organisational goals, the factors vital to the achievement of those goals, and related information needs across a stratified sample of universities with differing staff/student populations, research ratings and academic disciplines. Goals, CSFs and management information needs are found to vary according to institutional culture, age, teaching and research activities and academic discipline. Although some Heads of department were initially reluctant to rank organisational goals and some had difficulty understanding the concept of CSFs most were in the end able to identify and rank goals and CSFs and articulate a wide range of management information needs. Current provision of such information by university academic support services was found to be often inadequate, inaccurate, difficult to access and confusing or misleading.

## **INTRODUCTION AND BACKGROUND**

Insistence by government and funding bodies on greater management efficiency and accountability and research and teaching quality assessment procedures have obliged universities in the United Kingdom to adopt more rigorous means of managing and monitoring their resources. In many institutions this has led to a much more managerialist approach to internal decision-making and resource allocation. At the same time, devolution of greater responsibility for resource management from the centre to individual academic departments has substantially affected the roles of Heads of Department as academic leaders and

managers, the range of tasks which they are expected to perform, and their relations with other sections of their university (Middlehurst 1989; Mathias, H. 1991; Brook and Davies 1994; Davies 1995; Eley 1995; Tapper and Slater 1995). The report of the Committee of Vice-Chancellors and Principals, generally known as the *Jarratt Report*, argued that "...universities are first and foremost corporate enterprises to which subsidiary units and individual academics are responsible and accountable" (Committee of Vice-Chancellors and Principals, 1985, 22) and suggested that Heads of academic departments might or should be appointed on grounds other than expertise in research:

Ideally the individual should be both a manager and an academic leader. However, the most eminent and able academic, as judged by the standards of research or teaching, is not always the person most fitted to manage a department. We take the view that it is preferable to retain the two functions in one person. In circumstances where this is impracticable, we believe the Head of Department must possess the requisite managerial capabilities and that he should be encouraged to delegate some part of the responsibility for academic leadership to others.  
(Committee of Vice-Chancellors and Principals, 1985, 28)

Institutional obligations to monitor performance and quality, and the variety, complexity and volume of the additional duties imposed on Heads of academic departments, have accentuated the need for more sophisticated, better organised and more easily accessible information about performance, competitor institutions, sources of funding, potential students, and technological, economic and political developments in general. In a study of 30 universities in the United Kingdom, however, Chaston found that the management information systems currently used were effectively preventing the full use of available resources (Chaston 1994); Miller found that potentially important management information could become centralised in the hands of a small group of senior managers with access to a "...superior information base on courses, student characteristics and staff" (Miller 1995, 127). It has also been argued that the difficulties universities encounter when trying to develop efficient and effective management information systems may, to some extent at least, be due to inadequate understanding of what managers in universities *actually require* from such systems, to neglect of information that is externally sourced, qualitative or subjective, and to too much emphasis on technology- rather than information-led solutions (Allen 1995, 12). While Allen is primarily concerned with the development of information *systems* in higher education the research project described here was more specifically concerned with the management information *needs* of senior academic staff, how those needs are being or could be met, and with the effectiveness of a Critical Success Factors (CSFs) approach to the investigation of those needs.

### PILOT STUDY

A pilot study of 20 Heads of academic departments in one university found that these Heads of department had little difficulty in identifying their organisational goals, CSFs and management information needs, and that they had a wide range of management information needs, covering, in particular, the areas of competitor intelligence, research funding opportunities, potential student needs and the performance and marketing of courses (Pellow and Wilson 1993). The CSFs approach was found to be a useful means of identifying and correlating goals and information needs.

### THE STUDY

The results of the pilot study suggested that a broader-based investigation of the topic might be able to provide universities with a better understanding of the issues involved, which might, in turn, be beneficial to the development of institutional information strategies in general. The British Library Research and Development Department agreed to fund a one-year study across a number of universities, the principal objectives of which were basically similar to those of the pilot study but extended to include consideration of the nature and range of management information support services actually provided by central administrators, libraries and ancillary support services, using a CSFs approach (Greene, Loughridge and Wilson 1996). A stratified sample of 16 universities in England, based on size, age, status and subject mix, and ordered according to Sumsion's typology (Sumsion 1994) was developed. The sample thus encompassed one 'large' university, 3 universities established before the expansion of higher education in the 1960s, 3 established as a result of this expansion, and 9 institutions which became 'new' universities in 1992 (Table 1). Information was gathered on the numbers of staff and students, and the ratio of undergraduate to postgraduate students in all departments in each institution; within individual

TABLE 1  
Universities  
Staff and full-time/part-time student numbers

Group A	> 12000
Group B	>9000 <12000
Group C	>6000 <9000
Group D	<6000

(Based on Greene, Loughridge and Wilson, 1996)

universities, departments were also selected according to their rating in the latest Research Assessment Exercise and to reflect the range of disciplines found in the university (Tables 2 and 3).

TABLE 2  
Departments  
Research ratings and percentage of undergraduate students

Group	Research Rating (5 = highest rating)	Percentage of Undergraduate Students
Group 1	1,2 or 3	> 80%
Group 2	4 or 5	>80%
Group 3	1,2 or 3	<80%
Group 4	4 or 5	<80%

(Based on Greene, Loughridge and Wilson, 1996)

TABLE 3  
Distribution of disciplines selected

Disciplines	Number of departments
Science subjects	14
Social Science subjects	12
Arts and Humanities subjects	12
Medical subjects	6

(Based on Greene, Loughridge and Wilson, 1996)

In all, interviews were held with 44 Heads of academic departments, fairly evenly distributed across the former polytechnic sector (24 interviews) and older universities (20 interviews), with 2, or, in some cases, 3, Heads of Department being interviewed in each university. In addition, 19 senior admin-

istrative staff and directors or heads of specialised units, and 16 Librarians (15 Librarians and one Deputy Librarian) were interviewed. As well as questions about organisational goals and CSFs, Heads of academic departments were asked about their roles and functions in their department and institution, developments in institutional management styles, and their views on the value of mission statements and strategic plans. The librarians and administrators were questioned about their perceptions of the management information needs of Heads of academic departments and their current or potential role in the provision of such information. Since this paper is primarily concerned with the applicability and efficacy of the CSFs approach to investigation of the information needs of heads of academic departments the principal findings of the research on organisational goals, the specific management information needs and factors affecting both of these are referred to only briefly.

#### THE CRITICAL SUCCESS FACTORS (CSFS) APPROACH

The CSFs approach, it has been argued, can be an effective means of defining managers' information needs and identifying areas in which satisfactory results will ensure that an organisation performs competitively (Rockart 1979, 85; Rockart 1982). By concentrating on the factors that may be *vital* to a company's achievement of its objectives this approach can be used to identify managers' information needs and contribute effectively to the development of any information system by stressing core issues and refining them in a manner that enables the design of an information system to be subjected to iterative examination for validity and completeness. In Rockart's case-studies this top-down approach to the identification of information needs was shown to be understood and accepted at senior management level. The identification of CSFs may, therefore, help to define the kinds of information that must be collected and manipulated so that an organisation can target its activities on its business needs rather than on what the available technology will allow. There may be the additional advantage that senior managers' collective understanding of their company and its environment may be enhanced, which may be vital if, as Cotterell and Rapley showed in their use of the CSFs method at British Airways, Executive Information Systems (EIS) are to be successfully implemented (Cotterell and Rapley 1991).

While the CSFs approach may have strong points in its favour, it may not necessarily be an appropriate method to use with managers at *all* levels within an organisation. In one study, for example, it was found that the further removed managers were from the senior managerial level the less likely they were to be able to develop corporate-wide CSFs (Boynton and Zmud 1984); in this case it was concluded that "... the only individuals who were able to actually define concrete information measures were the senior managers" (Boynton and Zmud 1984, 24). The CSFs methodology has, nevertheless, shown itself to be an

attractive one for analysing overall organisational information needs and has been used to analyse a wide range of environments such as information centres (Mogal et al. 1988), British Rail (Mainelli & Miller 1988), factory automation in Japanese corporations (Takanaka 1991), computer integrated manufacturing (Ramamurthy & King 1992), and information technology (Pollalis & Hanson-Frieze 1993).

The use of the CSFs approach in higher education has also been reported by Pellow and Wilson, as already mentioned, and by Sabherwal and Kirs, who, in a study of 244 large academic institutions, showed that aligning CSFs to IT capability could improve the overall performance of an institution (Pellow and Wilson 1993; Sabherwal and Kirs 1994). The use of what might seem to be an essentially business-oriented approach in higher education institutions, conventionally regarded as being more concerned with adding value than generating profit for themselves or shareholders, usefully draws attention to the question of what the organisational goals of higher education actually are or should be. However, while organisational goals may be comparatively easy to identify in a business or commercial context those of universities may not be nearly so clear cut. As Eisenhardt and Zbaraki state, the CSFs method requires that "actors enter decision situations with known objectives....The actors gather appropriate information, and develop a set of alternative actions." (Eisenhardt and Zbaraki 1992, 18). In higher education, however, the problem need not necessarily be that academics or academic managers are unaware of organisational goals or unable to articulate them, but rather that, given the traditional plurality of goals in the academic community, the applicability of the CSFs approach to any analysis of information needs may be weakened, though this lack of clarity on goals and related information needs may, as Eisenhardt and Zbaraki suggest, be common to all organisations since:

...goals are unclear and shift over time. People often search for information and alternatives haphazardly and opportunistically. Analysis of alternatives may be limited and decisions often reflect the use of standard operating procedures rather than systematic analysis.  
(Eisenhardt and Zbaraki 1992, 20)

This urge to satisfy rather than optimise may be particularly true of an organisational culture, such as higher education, in which there is a plurality of goals.

Besides the difficulty of focusing accurately on organisational goals, it may also be true that a CSFs approach may not be appropriate for the investigation of managers at all levels within a university. In their account of a case study of a large university, for example, Boynton and Zmud reported that the Head of the university's careers placement service responded well to the CSF method, but that lower level managers in particular found the method difficult to work with:

... lower-level managers and administrative personnel had difficulty in working with the CSF concept. In most instances, lower-level personnel tended to react to day-to-day events within their individual responsibilities, rather than to adopt a more proactive, conceptual orientation to their and the organisation's working environment. This suggests that the managers who do not approach their responsibilities from a planning mode may find the CSF method frustrating.  
(Boynton and Zmud 1994, 24)

This investigation raises pertinent questions about the validity and advisability of using the CSFs method when investigating the management information needs of Heads of academic department in general. In an increasingly corporate university culture, in which senior management teams may identify and treat Heads of Department as middle or line managers, it might be conjectured that, on the whole, the Heads of Department may lack the access to tactical and strategic 'modes' necessary in order to be able to articulate effectively goals wide enough to be understood or appreciated by their parent institutions as a whole. As Mathias comments "...what was seemingly once a position of pre-eminence and leadership in scholarship – an almost monarchic role – has now become more that of a harassed line manager, financial opportunist and public relations executive" (Mathias 1991, 65). In many cases, they may occupy their post for a short or limited period, may see the duties and obligations attached to it principally as a necessary (or, in some cases, unnecessary) evil and as a hindrance to their academic work, but above all, in a period of managerial cultural transition when responsibility may be devolved to departments but power retained by the centre, they may come to and occupy the role as largely amateur managers, lacking the skills which the *Jarratt Report* recommended they should possess (Committee of Vice-Chancellors and Principals, 1985).

## SUMMARY OF RESULTS

### Organisational goals

The caveats referred to above notwithstanding, the 44 Heads of academic departments had little difficulty in identifying their departmental goals (Table 4). Differences did, however, occur in the particular gloss which they chose to put on them. A small minority preferred to express departmental goals in subjective terms such as 'excellence', believing that they should be free-standing and valued, as one of them put it, as "excellence *per se*". Most, however, preferred to view goals in relation to more objective measures of performance, with, perhaps, recent and imminent research performance and teaching quality assessment in mind. Ranking their goals in order of priority was not always welcomed by the interviewees, however. Only 23 thought it was possible to rank the goals they had identified, while the remainder were unhappy with such a procedure because they considered all the goals they had listed to be inter-related. Nevertheless, all the interviewees were eventually able to rank the goals they had identified in order of importance to them and their departments.

TABLE 4

Goals: ranked according to identification by Heads of Departments

	Number of Heads of Department mentioning goal (N = 44)
To improve department's research performance	38
To provide high quality teaching	31
To maximise the potential of staff	21
To generate income	13
To manage department's resources	11
To attract high quality applicants	11
To improve external links	11
To provide high quality continuing education	8
To advance the discipline	8
To widen access	6
To recruit high quality staff	5
To educate the student	3

(Based on Greene, Loughridge and Wilson, 1996)

Not surprisingly, of the 12 departmental goals suggested, high quality research and teaching were the most frequently identified, while maximising staff potential and generating income were also highly placed. It was also widely accepted that more attention had to be devoted to more efficient management of resources, maintenance and development of external links, and improved response to external demands, and that more needed to be done to attract students and position departments appropriately, though recruitment of high quality staff and the education of students occupied surprisingly low places in the ranking.

#### Critical Success Factors

With the range of departmental goals established, Heads of Department were asked to consider the factors which they considered critical to the achievement of those goals (CSFs). Although the pilot study had shown that Heads of academic departments had little difficulty in identifying both organisational goals and CSFs some Heads interviewed in the larger-scale project initially

found it difficult to understand the concept of CSFs and what was being asked of them, and a small number were sceptical about the efficacy of the CSFs approach. All interviewees were, however, eventually able to identify a range of CSFs related to their departmental goals, as summarised in Table 5.

TABLE 5

Critical Success Factors related to departmental goals

Critical Success Factors	Number of Heads of Department identifying a Critical Success Factor											
	A*	B	C	D	E	F	G	H	I	J	K	L
Reputation of department	2	5	3	3	3		4	3	4			
External relationships	5	8	4	4	7	2	4	2	9		3	2
Funding for research		12		1	2			1	1			1
Research base diversification		5			2							
Response to external needs	5	3	5	5	6	4	3		6		3	2
Policy of external bodies							1		2		1	
Attraction of funding		9		2	3		2		1			2
Relations with NHS			4						1			1
Responding to university needs	5	1	1	3	2	1	1	3	1		2	3
Information support	2	1		1								
Support for students	12	1	2	1		3	4		1	1	2	
Student recruitment	4	5	1		3	1	7	1	1		1	
New technology exploitation	5	1			2					1	2	
Resource management	8	17	2	9	5	1	2		2		2	8
Staff development policies	13	15	4	12	3		1		2		1	4
Responding to internal needs	5	8		6	1			2			2	6
Course design	16	1	2		1	3	4		4	2	3	
Protection of research/teaching time	3	16	1	4	1					1	1	
Teaching resources	9		1		1	1				1		
Monitoring/evaluation systems	10	3	1	2		2			2		1	2
Maintenance of clinical practice	3			1	1				1			1
Students (NHS)	1											
Retention of academic staff	3	7										1
Academic recruitment	3	6		1	1			1			1	

(\* Goals were - A: to provide high quality teaching; B: to improve the department's research performance; C: to provide high quality continuing education; D: to maximise the potential of staff; E: to generate income; F: to widen access; G: to attract high quality applicants; H: to recruit high quality staff; I: to improve external links; J: to educate the student; K: to advance the discipline; L: to manage the department's resources.)

(Based on Greene, Loughridge and Wilson, 1996)

Within the range of twelve goals previously identified, as many as twenty-four possible CSFs were identified. It is possible to divide these into 'internal' and 'external factors', the balance between these being dependent on four key influential factors: political and economic environment, institutional setting, relative position of the department within its institution and departmental culture. The first ten CSFs are related to factors "external" to departments such as their relationship with potential research sponsors and official and professional bodies, and are generally oriented towards research and income generation, while the remaining fourteen have more to do with 'internal' goals such as teaching and personnel management. Successful research-led departments in 'older' universities tend to be more externally-focused than historically largely teaching-oriented departments; in the former, heads of department tend to place greater emphasis on the defence of 'traditional virtues' such as academic freedom and autonomy from the external environment. In the 'newer' universities, on the other hand, there is generally closer interface between the university centre and the departments and a generally more managerialist culture; relations between their department and their university seem to be a more critical issue for heads of department in these universities, to some extent because the 'newer' universities are accustomed to a more top-down managerialist approach to academic staff. However, there was considerable agreement amongst heads of department about the importance of external relations, public relations, course design, teaching resources, monitoring and evaluation procedures and student recruitment. There was some divergence between these two groups on the importance of academic recruitment, information support, and protection of the distinction between research and teaching time, with research and funding receiving greater emphasis in the 'older' universities. There were also wide differences on the issues of resource management and staff development policies, with those in the 'newer' universities placing greater stress on these.

Once the Heads of department had identified their CSFs, similar or related CSFs were grouped under a number of headings to produce fifteen key functions which attempted to describe the various relationships between the three interview groupings described above (Tables 1, 2 and 3). This enabled areas of convergence and divergence of views between heads of department in 'older' and 'newer' universities and in different academic disciplines on the relative importance of various CSFs to be identified. There was a considerable degree of unanimity across the groups on the importance of such matters as external relations, public relations, course design, teaching resources and monitoring and evaluation procedures. Divergences were also highlighted; for example, it became evident that relations between departments and their parent institution as a whole were a more important matter for those in 'newer' universities and Heads of Department in 'older' universities tended to lay greater stress on the importance of research and funding. The groups also differed substantially on

the importance of resource management and staff development policies; those in 'newer' universities tended to stress these more than those in 'older' universities.

### Management Information Needs

The range of types of information needed by Heads of Department and where or how they obtained this information is summarised in Table 6 (Internal = from within their own departments; University = from within their own university; External = from outside their own department and university). Differences between the CSFs cited by Heads of Department in 'newer' and 'older' universities were also reflected in their divergent information needs, as summarised in Table 7.

TABLE 6  
Ranked list of information needs and sources

Information Types	Number of Heads of Department ranking information need and source			
	Total	Internal	University	External
Staff management information	41	41	0	0
Competitor intelligence	27	0	0	27
Research funding alternatives	27	0	10	24
Formal/informal performance	24	24	0	0
Employer's needs	23	0	0	23
Current student needs	21	21	0	1
Teaching opportunities	21	5	17	3
Government policy	19	0	5	18
Resource availability	19	5	12	2
Financial management	17	11	14	0
University policy	16	0	16	0
Student recruitment	16	2	5	12
Potential student's needs	15	1	1	15
Marketing information	15	3	8	9
Staff recruitment information	13	0	4	10
Potential research sponsors	10	0	0	10
University research policies	6	0	6	0
Advice/assistance	2	0	2	0
Needs of disabled students	1	0	1	0

(Based on Greene, Loughridge and Wilson, 1996)

**TABLE 7**  
Information needs of academic Heads of Departments:  
newer and older universities interview groups

Information Types	Number of respondents			
	Newer Universities		Older Universities	
	Total	%	Total	%
Staff management information	23	95.8	18	90.0
University policy	11	45.8	5	25.0
Employer's needs	13	54.2	10	50.0
Research funding alternatives	13	54.2	14	70.0
Formal/informal performance	15	62.5	9	45.0
Teaching opportunities	13	54.2	8	40.0
Competitor intelligence	12	50.0	15	75.0
Current student needs	12	50.0	9	45.0
Government policy	12	50.0	7	35.0
Financial management	12	50.0	5	25.0
Resource availability	11	45.8	8	40.0
Marketing information	9	37.5	6	30.0
Student recruitment information	8	33.3	8	40.0
Potential student needs	7	29.2	8	40.0
Potential research sponsors	5	20.8	5	25.0
University research policies	4	16.7	2	10.0
Staff recruitment information	2	8.3	11	55.0
Advice/assistance	1	4.2	1	5.0
Needs of disabled students	1	4.2	0	0.0

(Based on Greene, Loughridge and Wilson, 1996)

Those in 'older' universities expressed a greater need for externally-sourced information on funding opportunities and sponsorship, competitor intelligence and staff recruitment, while those in 'newer' universities stressed the types of

internally-focused information needed to manage their departments more efficiently and effectively, such as their universities' internal policies, financial management information and formal/informal assessment policies. Similarly, when expressed information needs are examined in relation to the research rating and postgraduate/undergraduate ratios of departments, differences are obvious, though they tend not to fall into neat and easily explicable patterns. However, departments with higher research ratings emphasised more strongly than others the need for competitor intelligence and student recruitment information (Table 8).

**TABLE 8**  
Information needs of academic Heads of Department  
Interview groups 1, 2, 3 and 4

Information Types	Interview Groups							
	1		2		3		4	
	No.	%	No.	%	No.	%	No.	%
Staff management information	18	100	10	90.9	8	88.9	5	83.3
Current student needs	11	61.1	3	27.3	6	66.7	1	16.7
Research funding alternatives	11	61.1	9	81.8	5	55.6	2	33.3
Formal/informal performance	11	61.1	5	45.5	7	77.8	1	16.7
Teaching opportunities	9	50.0	4	36.4	5	55.6	3	50.0
Employers' needs	10	55.6	5	45.5	6	66.7	2	33.3
Financial management	8	44.4	6	54.5	2	22.2	1	16.7
Government policy	8	44.4	5	45.5	4	44.4	2	33.3
Competitor intelligence	7	38.9	10	90.9	5	55.6	5	83.3
University policy	7	38.9	6	54.5	3	33.3	0	0.0
Resource availability	7	38.9	6	54.5	5	55.6	1	16.7
Potential student needs	4	22.2	4	36.4	4	44.4	3	50.0
Potential research sponsors	5	27.8	3	27.3	0	0.0	2	33.3
Marketing information	4	22.2	6	54.5	4	44.4	1	16.7
University research policies	3	16.7	2	18.2	1	11.1	0	0.0
Student recruitment	3	16.7	6	54.5	4	44.4	3	50.0
Advice/assistance	2	11.1	0	0.0	0	0.0	0	0.0
Staff recruitment information	2	11.1	4	36.4	4	44.4	3	50.0
Needs of disabled students	1	5.6	0	0.0	0	0.0	0	0.0

(Based on Greene, Loughridge and Wilson, 1996)

As for the departmental and disciplinary groups, sciences, social sciences and arts and humanities departments ranked staff management highest and those in the sciences were particularly concerned about the future of their teaching programmes and related information on student needs and student recruitment information; in the medical departments surveyed a number of the heads of department did not have any teaching duties and were particularly concerned about research-funding information, competitor intelligence and government policy amongst other things (Table 9).

TABLE 9  
Information needs of academic Heads of Department:  
Sciences, Social Sciences etc.

Information Types	Interview Groups							
	Science		Social Sciences		Arts		Medical	
	No.	%	No.	%	No.	%	No.	%
Staff management information	14	100	11	91.7	12	100	4	66.7
Research funding alternatives	10	71.4	8	66.7	4	33.3	5	83.3
Employer's needs	10	71.4	8	66.7	3	25.0	2	33.3
Current student needs	6	42.9	7	58.3	7	58.3	1	16.7
Student recruitment information	7	50.0	3	25.0	4	33.3	2	33.3
Resource availability	7	50.0	6	50.0	3	25.0	3	50.0
Competitor intelligence	8	57.1	7	58.3	8	66.7	4	66.7
Government policy	6	42.9	7	58.3	3	25.0	3	50.0
Staff recruitment information	7	50.0	3	25.0	1	8.3	2	33.3
Formal/informal performance	7	50.0	7	58.3	7	58.3	3	50.0
Teaching opportunities	7	50.0	6	50.0	6	50.0	2	33.3
Potential student needs	5	35.7	4	33.3	4	33.3	2	33.3
Marketing information	5	35.7	1	8.3	7	58.3	2	33.3
Potential research sponsors	4	28.6	2	16.7	1	8.3	3	50.0
Financial management	5	35.7	4	33.3	6	50.0	2	33.3
University research policies	2	14.3	1	8.3	1	8.3	2	33.3
University policy	2	14.3	5	41.7	7	58.3	2	33.3
Advice/assistance	1	7.1	1	8.3	0	0.0	0	0.0
Needs of disabled students	0	0.0	0	0.0	1	8.3	0	0.0

(Based on Greene, Loughridge and Wilson, 1996)

## CONCLUSIONS

The Critical Success Factors approach proved to be an effective way not only of identifying the range and nature of organisational goals, the factors vital to their achievement, and management information needs but of correlating them to specific characteristics of the academic departments surveyed, such as academic discipline, the age, size, structure and status of their parent institution, research and teaching activities, and the ratio of postgraduate to undergraduate students. It was found that, apart from some initial confusion about the concept of Critical Success Factors amongst a small number of Heads of Department, and some reluctance to define departmental goals in other than subjective terms in an equally small number of cases, Heads of Department were able to identify organisational goals clearly, define the Critical Success Factors necessary for their achievement, and the management information they required in relation to these.

Overall, the project found that, in attempting to fulfil their disparate managerial duties, Heads of Department were, in their own opinion, generally not well-served by the management information support services in their universities. Most felt that the information support provided by their university was poor; it often failed to provide the kind of information they required or provided it too late or it was frequently inaccurate and/or too intricate or cumbersome to use effectively. It was clear that they were all to a great extent dependent upon informal networks of contacts for vital information. Many felt that, far from being the recipients of management information within their universities, they were, for most of the time, net suppliers of such information to the centre. Too little notice was taken of the requirements of those who needed to use the management information systems already in place in institutions. Heads of Department did not look for or expect to receive any management information from their library which, for them, was essentially a support service for teaching and research with only a minor role, if any, in the provision of management information. For their part, the majority of the librarians interviewed did not see any role for the library in the delivery of management information to heads of department.

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