defining managers' information requirements

relevant to ACCA Qualification Papers P3 and P5

critical success factors

Critical success factors (CSFs) are often quoted in management literature as those areas in which an organisation needs to perform best if it is to achieve overall success. CSFs have frequently been used to help determine the requirements for executive information systems (EIS), supporting the 'key indicator' approach to management control. A number of methods have been developed to identify these key indicators, and the CSF approach is one of the most widely used, which should be measured and monitored using EIS to help manage the strategic direction of an organisation,

It is difficult and expensive to gather, store, validate and make available the various types of management information required for decision making. As such, it is important for managers and providers of information support systems to determine, in advance, what is most relevant to them.

It is necessary to identify the 'key indicators' that will help a manager to plan, manage, and control an area of responsibility. This method is based on the need for managers to focus, at any point in time, on the most significant aspects of their responsibilities. The development of an EIS, designed to support management control, is based on two main concepts:

- The selection of a set of key indicators of the health of the functional business area. Information will then be collected for each of these indicators.
- Exception reporting – the ability to make available to a manager, as required, information on only those indicators where performance differs significantly from expectations.

The underlying belief is that an effective control system must be tailored to the specific industry in which the organisation operates, and to the specific strategies that it has adopted. It must identify the CSFs that should receive careful and continuous management attention if the organisation is to be successful, and it must highlight performance with respect to these key variables in reports available to all levels of management.

The first concept is frequently approached from the viewpoint of CSFs in that a limited number of areas are identified in which results, if they are satisfactory, will ensure successful performance. They are the few key areas, it is believed, where 'things must go right' if the organisation is to flourish. In turn, each manager must identify the key areas that apply to them, in which results are identified as being absolutely necessary to achieve specific goals. The goals, in turn, support overall organisational goals. The genesis of this approach goes back to the history of warfare, where writers on battles have identified the successful leader as the one who concentrated his forces on the most significant areas.

The current state of performance in these areas should be continually measured. Because these areas are identified as being critical, each manager should have the appropriate information that indicates whether events are proceeding sufficiently well in each area. CSFs and associated performance indicators (PIs) can play a central role in this.

BACKGROUND TO THE APPROACH

The concept of CSFs was first introduced in 1962 by D Ronald Daniel, later managing director of the management consultancy McKinsey and Co. Introducing the concept, Daniel cited examples where major corporations had introduced computerised information systems, processed extensive amounts of data, and claimed to produce meaningful information. However, this information, on closer examination, appeared to be of little use in assisting managers to better perform their jobs, especially in terms of direction, planning, management of operations, and control. To draw attention to the type of information required, Daniel coined the phrase 'critical success factors'. Further, he provided examples of CSFs that he had identified for contemporary major industries. These included:

- In the automobile industry – styling, an efficient dealer network organisation, tight control of management costs.
- In the food processing industry – new product development, good distribution channels, effective advertising.
- In the life insurance industry – the development of agency management personnel, effective control of clerical personnel, innovative new policies.
- In the supermarket industry – the right product mix available in each store, having it actually available on the shelves, advertising it effectively to pull shoppers in, pricing it correctly (since profit margins were low in this industry).

Daniel identified CSFs as being necessary to support the attainment of organisational goals. Goals represent the end points that an organisation hopes to reach. CSFs, however, are the areas in which good performance is necessary to ensure attainment of these goals. Daniel focused on those CSFs that are relevant for any company in a particular industry.

REFINING THE APPROACH

Early research in to the uses and usefulness of CSFs took place at the Massachusetts Institute of Technology (MIT) in the early 1970s, which took Daniel's work further (see Rockart, John F, *Chief executives define their own information needs*, *Harvard Business Review*, March–April 1979, Vol 57, pp 81–93 and John F Rockart and Christine Bullen, 1986, *The Rise of Managerial Computing*, Sloan School of Management and IT).

Daniel's initial thinking had been that CSFs are those that are common to organisations operating in a particular industry. However, MIT identified five prime sources of CSFs:

- the structure of the particular industry
- competitive strategy, industry position, and geographic location
- environmental factors
- temporary factors
- functional managerial position.

The structure of the particular industry

As first identified by Daniel, any industry has a set of CSFs that are determined by the characteristics of the industry itself. Each company in the industry must pay attention to these factors. For example, the manager of any supermarket would ignore at his peril the CSFs listed above.

Competitive strategy, industry position, and geographic location

Every company in an industry is in a unique situation determined by its history and current competitive strategy. For smaller organisations within an industry dominated by one or two large companies, the actions of the major companies will often produce new and significant problems for their smaller competitors. The competitive strategy for the smaller companies may involve establishing a new market niche, getting out of a product line completely, or redistributing resources among various product lines. Their strategy is mainly a reaction to the larger companies' strategies.

In this way a major competitor's strategy can produce a CSF for a small company. For example, Dell's competitive approach to the marketing of small, inexpensive computers informs the CSF identification for all computer manufacturers. The smaller companies must identify what they will do in response, and how they measure the effectiveness of their response. Just as differences in industry position can dictate CSFs, differences in geographic location (eg distribution costs) and in strategic positioning (differentiation or focus strategies for smaller companies) can lead to different CSFs in companies within the same industry.

Environmental factors

As the Gross National Product of an economy can fluctuate with changes in political and demographic factors, CSFs can also change for an organisation. In the early 1970s, virtually no chief executive in the US would have listed 'energy supply availability' as a CSF. However, following the organisation of OPEC and its oil embargo, this factor is now closely monitored by most executives, because adequate availability of energy, and its price stability, is vital to organisational planning and bottom-line performance in manufacturing and distribution.

Temporary factors

Internal organisational considerations often lead to the monitoring of temporary CSFs. These are areas of activity that are deemed significant to the success of the organisation for a particular period of time because they are considered below the threshold of acceptability, even though they may generally appear to be in good shape and not apparently in need of special attention. For instance, an insurance company that had just been fined by the industry regulator for miss-selling would probably generate a short-term CSF of ensuring that such miss-selling, and consequent financial penalties, would not happen again in the near future.

Functional managerial position

Each functional managerial position has a generic set of CSFs associated with it. For example, almost all manufacturing managers are concerned with product quality, inventory control, and cost control.

Two further dimensions

These five sources of CSFs are one form of classification. CSFs can also be classified as follows:

Internal versus external sources of CSFs

Every manager will have internal CSFs relating to the department and the people they manage. These CSFs can range across such diverse interests as human resource development or inventory control. The primary characteristic of such internal CSFs is that they deal with issues that are entirely within the manager's sphere of influence and control. External CSFs relate to issues that are generally less under the manager's direct control such as the availability or price of a particular critical raw material or source of energy.

Monitoring versus building/adapting CSFs

Managers who are geared to producing short-term operating results invest considerable effort in tracking and guiding their organisation's performance, and therefore employ monitoring CSFs to continuously scrutinise existing situations. Almost all managers have some monitoring CSFs, which often include financially-oriented CSFs such as actual performance versus budget or the current status of product or service transaction cost. Another monitoring CSF might be personnel turnover rates.

Managers who are either in reasonable control of day-to-day operations, or who are insulated from such concerns, spend more time in a building or adapting mode. These people can be classified as future-oriented planners whose primary purpose is to implement major change programmes aimed at adapting the organisation to the perceived emerging environment. Typical CSFs in this area might include the successful implementation of major recruitment and training efforts, or new product or service development programmes.

RESEARCH CONCLUSIONS – CSFs IN PRACTICE

Research has shown that, in general, individual managers focus on a mix of CSFs drawn from the above sources. From an organisational perspective, however, CSFs also have a number of hierarchical levels:

- industry CSFs
- corporate CSFs
- functional CSFs
- individual CSFs.

As mentioned at the beginning of this article, industry CSFs affect an organisation in the development of its strategy, objectives, and goals. No organisation can afford to develop a strategy that does not pay adequate attention to the principal factors that underlie success in its industry. In turn, the strategy, objectives, and goals developed by an organisation lead to the development of a particular set of CSFs for the whole organisation (corporate CSFs) unique to its own circumstances. In turn, corporate CSFs become an input into a similar CSF determination process for each sub-organisation or division in the corporation. Managers at each organisational level will have an individual set of CSFs that will depend heavily on their perspective of their role and on temporary factors.

It is at this point that we should discuss the concept that organisations are 'human activity systems', and that individuals within these systems bring their own 'world view' to their roles – encompassing their whole belief system – based on their training and previous experience. This world view will influence their perception of what they consider to be important in achieving their own organisational objectives. Thus a new incumbent to a role may identify a number of new CSFs that may augment or replace the CSFs identified by the previous incumbent.

STEPS TOWARDS IMPLEMENTATION – MEASUREMENT

The main use of the CSF concept is as a focus for implementing organisational transformation by supporting beneficial change. This is achieved by:

- helping individual managers determine their priorities and their supporting information requirements
- aiding an organisation in its general planning processes, for strategic and annual planning, and for budgeting purposes
- aiding an organisation in its information systems planning processes.

A key driver for strategic and tactical information systems development is the provision of better performance management information, in order to match achievement against critical organisational goals. To achieve any benefit from using the CSF concept it is also important to remember that choosing what to measure and report on will markedly influence behaviour at every level. So care needs to be taken in human activity systems to recognise that an unbalanced set of indicators, while valid for the short-term needs of an individual in the hierarchy, may have unintended consequences in influencing the behaviour of subordinates. Therefore there is a need to produce a Balanced Scorecard of indicators and measures.

As a starting point in a typical command and control organisation, the following implementation tactics may help:

- Concentrate on measurement, not on counting. For example, focus on what the organisation is trying to achieve, set targets, and measure progress towards achieving those targets.
- Make it a priority to establish measures for the main core processes (core being defined as those that touch the customer or client).
- Ensure that the chosen measures reflect what matters to the customer or client.
- Use historic data to establish existing capability – identify targets and have a plan to close the gap.
- Continually review measures in use and their impact – look at 'what' is being measured and 'why', and publicly discard those measures no longer most relevant.

As a starting point, four areas for measurement should be considered when managing for improvement: customers, response, process, and system.

Customers
What matters to customers? Can these things be measured (simply and efficiently)? Do we have any systematic methods for understanding what matters to customers? Do we translate what matters into measures for managing and improving performance?

Response
Can 'what matters to customers' be turned into response measures? Are there other 'end to end' measures that will help the organisation learn about, for example, customer acquisition and the efficiency of services delivered? What processes must be measured end to end? Consider risk management – what events in the outside environment do we need to watch out for? What do we need to know about competitor activity?

Process
What measures might be useful in the processes? Some measures should be permanent and some should be temporary. For example, 'throughput' might be an important permanent measure, and 'waste' a useful temporary measure.

System
How should the above measures fit together to tell managers how they are performing, and how they will perform? Are other whole system measures needed? How well is the organisation integrated into, and monitoring, its external environment?

Finally, CSF measures chosen should be SMART, that is:

- specific – in the context of developing CSF objectives this means that the action, behaviour, or achievement described is always linked to a rate, number percentage, or frequency
- measurable – a system, method, or procedure exists that allows the tracking and recording of the behaviour or action on which the CSF objective is focused
- agreed – there should be an agreement with those involved in achieving the objective that it is relevant and necessary
- realistic – that the objectives set are capable of being achieved
- time-based – the objective set should be linked to a date by which it is to be achieved. ■

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