Proceedings of the IATUL Conferences 1987 IATUL Proceedings

Information Culture and Business Performance

Mariam Ginmen
Abo Akademi University

Iatul Quarterly Vol. 2, No. 2, pp. 93-106
The 12th Biennial Conference, 1987, Helsinki

Information culture and business performance

MARIAM GINMAN
Department of Library and Information Science, Åbo Akademi — The Swedish University of Finland, SF-20500 Åbo, Finland

1. The Project

A market-geared company thrives through the transformation of its resources. These resources can be either primary or secondary. Primary resources are essential for the acquisition and utilization of other kinds of resources. In many companies, the main primary resources are the momentary ones. Inflow of capital into the organization is a prerequisite for the acquisition of other resources needed for its activities, such as employees, raw materials, and technological production facilities. Together, these components constitute the basis of the company's material resource transformations (Fig. 1).

A company possessing these funds and supplies is not yet productive, unless a transformation of intellectual resources is maintained alongside the transformation of material resources. The primary resources for this transformation are varying kinds of knowledge and information. The output achieved is a processed intellectual product which is necessary for the material activities to function and develop positively (Fig. 2). At present, companies are investing heavily in optimizing the transformation of material resources. Training, computerization, administration, target-orientation, strategic planning, and rationalization are the means by which basic resources achieve optimally efficient production. But whatever happened to the intellectual transformation process? Some companies have started regarding it as essential and worth investing in, while others have developed it only very little or not at all. In the former case, information is used as a resource; in the latter, rather as a product.'

In early 1986, the Department of Library and Information Science of Åbo Akademi — The Swedish University of Finland — launched a project investigating these questions. A specific aim of the project is the analysis of the factors determining information culture in a business environment. The target groups chosen were on the one hand the small and medium-sized metalworking companies and, on the other hand, the giants of the field. Thirty-nine Chief Executive Officers (CEOs) were interviewed. The technique applied was a semi-structured thematic interview lasting for several hours per interviewee. Every interview was tape-recorded and transcribed. Responses were graded

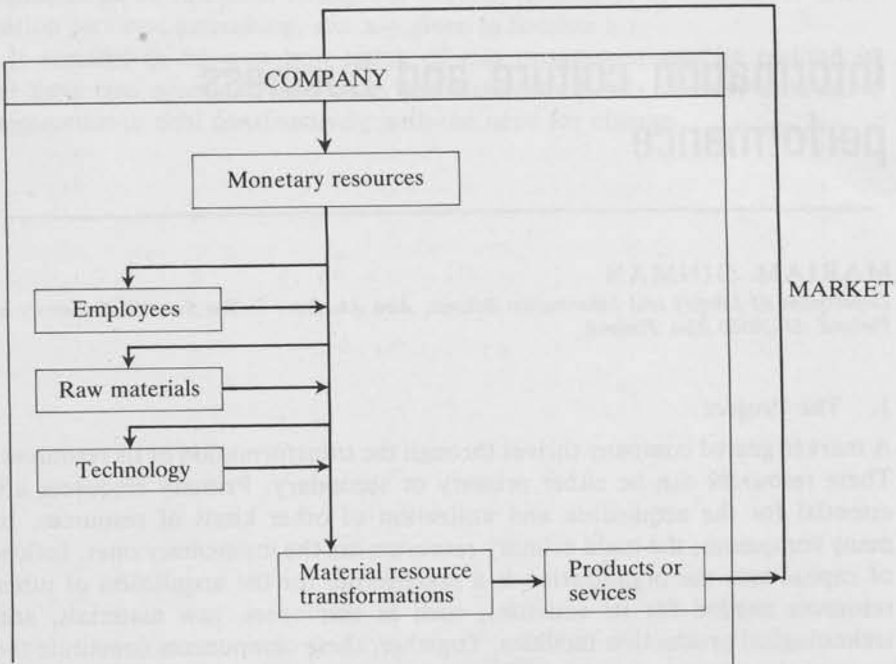

Fig. 1 Material resource transformations.

with a view to obtaining total scores for the various theme headings. The results were evaluated mainly according to soft methods, and they were further supported by the results of combined factor and regression analysis.

2. Results

The aspects investigated can be grouped under three main headings:

(a) *The CEO's approach to information* was described in terms of six variables, namely:
1. Use of internal information
2. Use of external information
3. Use of oral information
4. Use of written information
5. Quantity of information used
6. Attitudes towards information.

(b) *Company characteristics* included the following variables:
1. Size and age
2. Efficiency

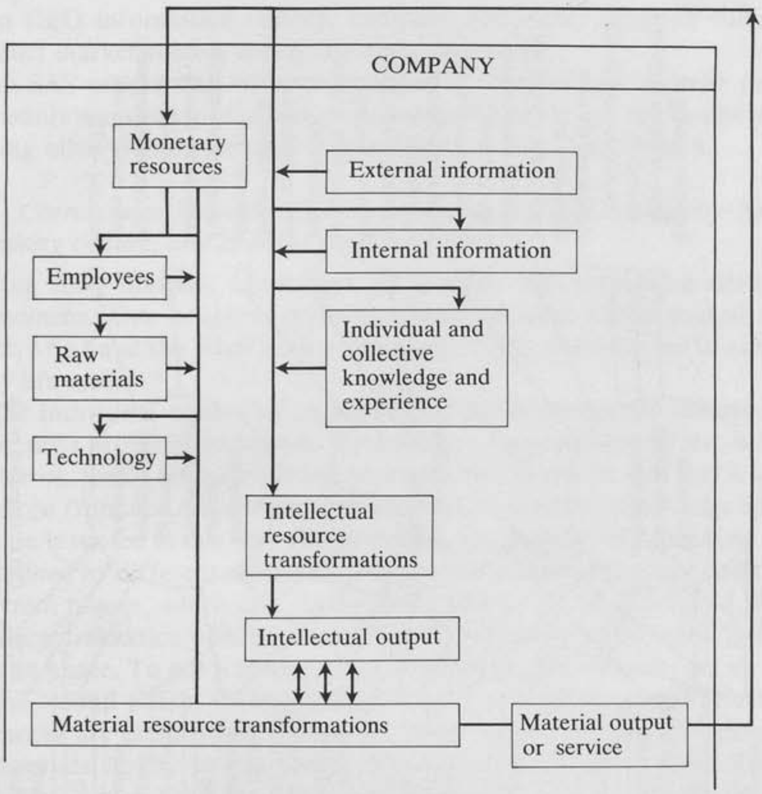

Fig. 2 Intellectual resource transformations.

3. Level of research, know-how, and knowledge
4. Internal communication level
5. External communication level
6. Problem level (development phase, life cycle, and culture).

(c) *Personal characteristics of the CEOs* included the following variables:
1. Age, training, and work experience
2. Experiential orientation
3. Market orientation
4. Production orientation
5. Approach to administration and management.

All the variables within these three main sections comprise a large number of different questions, grouped and graded so that higher scores reflect a higher degree of orientation. The analysis of the approach to information in relation to sections (b) and (c) revealed interesting links, which were further corroborated by subsequent factor and regression analysis. These links were also

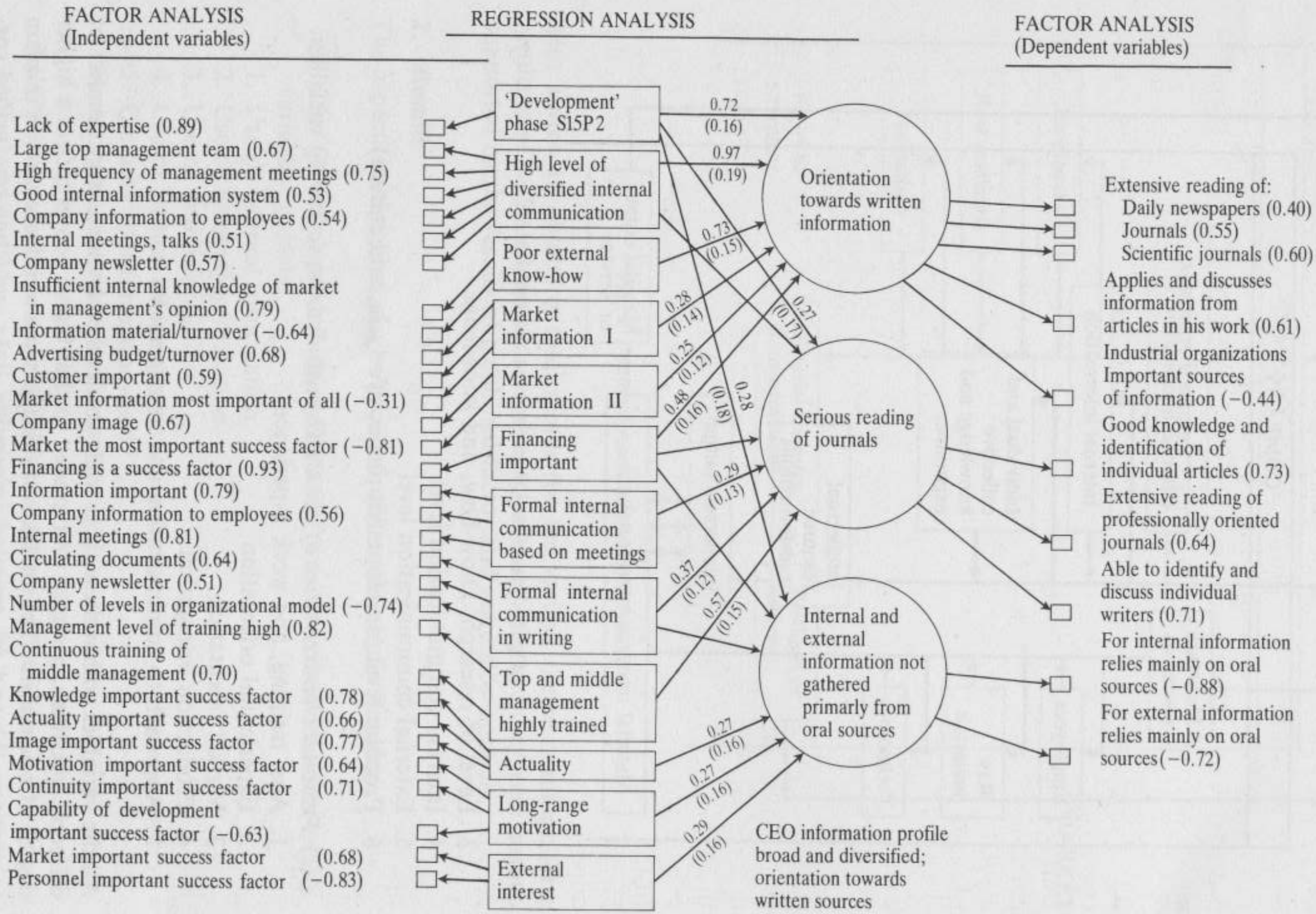
FACTOR ANALYSIS
(Independent variables)
REGRESSION ANALYSIS
FACTOR ANALYSIS
(Dependent variables)
Lack of expertise (0.89)
Large top management team (0.67)
High frequency of management meetings (0.75)
Good internal information system (0.53)
Company information to employees (0.54)
Internal meetings, talks (0.51)
Company newsletter (0.57)
Insufficient internal knowledge of market in management's opinion (0.79)
Information material/turnover (−0.64)
Advertising budget/turnover (0.68)
Customer important (0.59)
Market information most important of all (−0.31)
Company image (0.67)
Market the most important success factor (−0.81)
Financing is a success factor (0.93)
Information important (0.79)
Company information to employees (0.56)
Internal meetings (0.81)
Circulating documents (0.64)
Company newsletter (0.51)
Number of levels in organizational model (−0.74)
Management level of training high (0.82)
Continuous training of middle management (0.70)
Knowledge important success factor (0.78)
Actuality important success factor (0.66)
Image important success factor (0.77)
Motivation important success factor (0.64)
Continuity important success factor (0.71)
Capability of development important success factor (−0.63)
Market important success factor (0.68)
Personnel important success factor (−0.83)
'Development' phase S15P2
High level of diversified internal communication
Poor external know-how
Market information I
Market information II
Financing important
Formal internal communication based on meetings
Formal internal communication in writing
Top and middle management highly trained
Actuality
Long-range motivation
External interest
0.72 (0.16)
0.97 (0.19)
0.73 (0.15)
0.28 (0.14)
0.25 (0.12)
0.48 (0.16)
(0.18)
0.28
0.27 (0.17)
0.29 (0.13)
0.37 (0.12)
0.57 (0.15)
0.27 (0.16)
0.27 (0.16)
0.29 (0.16)
Orientation towards written information
Serious reading of journals
Internal and external information not gathered primarily from oral sources
CEO information profile broad and diversified; orientation towards written sources
Extensive reading of:
Daily newspapers (0.40)
Journals (0.55)
Scientific journals (0.60)
Applies and discusses information from articles in his work (0.61)
Industrial organizations Important sources of information (−0.44)
Good knowledge and identification of individual articles (0.73)
Extensive reading of professionally oriented journals (0.64)
Able to identify and discuss individual writers (0.71)
For internal information relies mainly on oral sources (−0.88)
For external information relies mainly on oral sources (−0.72)

Fig. 3

used to establish different characteristic company blocks. Inter-relations between CEO information culture, company life cycle, company culture, and product market success are discussed in this paper.

An SAS programme with varimax factor rotation and stepwise regression procedure was used for the factor and regression analyses. The results included, among other things, the correlations shown in Fig. 3 and Fig. 4.

2.1 *Correlations between CEO information culture, company life cycle, company culture, and product market success*

During their lifespan, companies go through two interesting development phenomena. One concerns different phases of their chronological development, [2,5,6,8] and the other is an evolutionary cycle, also referred to as the company life cycle. [4,7]

The individual phases of chronological development are initiated by the company's problems and crises. Each phase is characterized by its own specific problems, which ultimately bring about a crisis. It can be said that a company develops from one crisis to another and that its need for knowledge and information is rooted in this very characteristic. The number of crises (and phases), as defined by different researchers, varies, but a summary might comprise five different phases, which are: (1) the initial phase, (2) the functional phase, (3) the decentralization phase, (4) the official supervision phase, and (5) the information phase. To put it briefly, in the first phase, activities are set up (Fig. 5). In the second phase, various functions diversify and a formal structure and hierarchy are established. During the third phase, tasks are delegated to the appropriate levels. In the fourth phase, the CEO starts losing control of activities, and a need for official supervision arises. In the fifth phase, the company enters a stage where it strives to achieve complete integration of activities and diversified information. For the first time, information becomes a need recognized by the CEO in phase 4.[1]

In each development phase, companies may be at different stages of their life cycles. The life cycle is the phenomenon which, in conjunction with the development phase, determines company ideologies, norms, attitudes to problems, and the nature of the problems themselves. Initially, the life cycle phases coincide with the stages of chronological development, but may later develop independently within the various development phases, or as partial functions of company activities, e.g. within different strategic business units (SBUs). The company life cycle is generally divided into five phases: [4,7]

- *Birth Phase I*

  The company is young, lacks experience, is extrovert, audacious and informal.

- *Growth Phase II*

  Attention focuses on output and growth, the company adopts a more cautious approach and is reluctant to make dramatic investments. The

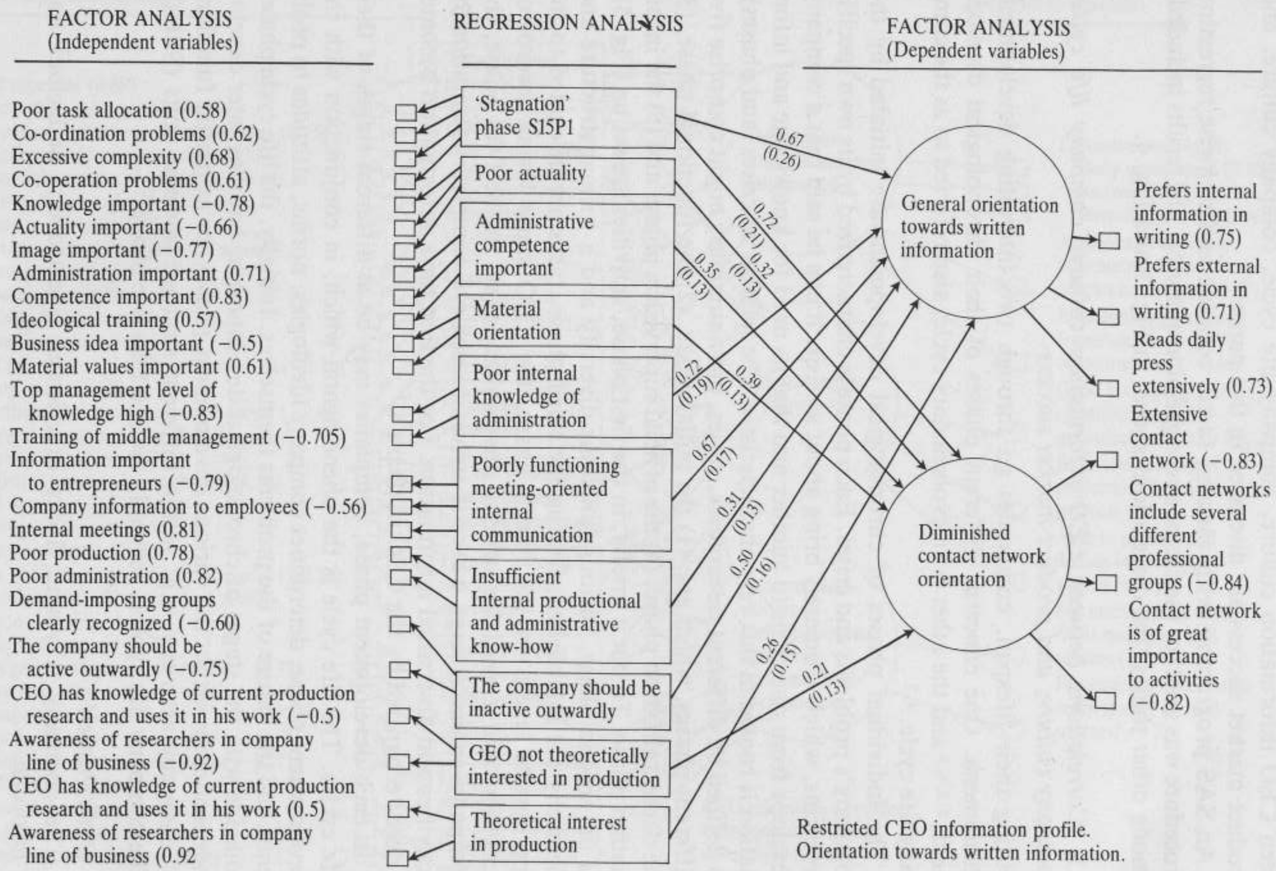
FACTOR ANALYSIS
(Independent variables)
REGRESSION ANALYSIS
FACTOR ANALYSIS
(Dependent variables)
Poor task allocation (0.58)
Co-ordination problems (0.62)
Excessive complexity (0.68)
Co-operation problems (0.61)
Knowledge important (−0.78)
Actuality important (−0.66)
Image important (−0.77)
Administration important (0.71)
Competence important (0.83)
Ideological training (0.57)
Business idea important (−0.5)
Material values important (0.61)
Top management level of knowledge high (−0.83)
Training of middle management (−0.705)
Information important to entrepreneurs (−0.79)
Company information to employees (−0.56)
Internal meetings (0.81)
Poor production (0.78)
Poor administration (0.82)
Demand-imposing groups clearly recognized (−0.60)
The company should be active outwardly (−0.75)
CEO has knowledge of current production research and uses it in his work (−0.5)
Awareness of researchers in company line of business (−0.92)
CEO has knowledge of current production research and uses it in his work (0.5)
Awareness of researchers in company line of business (0.92
'Stagnation' phase S15P1
Poor actuality
Administrative competence important
Material orientation
Poor internal knowledge of administration
Poorly functioning meeting-oriented internal communication
Insufficient Internal productional and administrative know-how
The company should be inactive outwardly
GEO not theoretically interested in production
Theoretical interest in production
0.67 (0.26)
0.72 (0.21)
0.32 (0.13)
0.35 (0.13)
0.72 (0.19)
0.39 (0.13)
0.67 (0.17)
0.31 (0.13)
0.50 (0.16)
0.26 (0.15)
0.21 (0.13)
General orientation towards written information
Diminished contact network orientation
Prefers internal information in writing (0.75)
Prefers external information in writing (0.71)
Reads daily press extensively (0.73)
Extensive contact network (−0.83)
Contact networks include several different professional groups (−0.84)
Contact network is of great importance to activities (−0.82)
Restricted CEO information profile.
Orientation towards written information.

Fig. 4

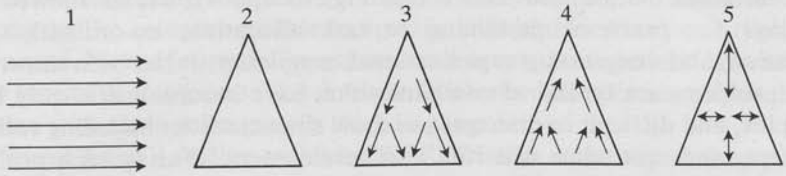

Fig. 5 The chronological development of a company.

decision-making process becomes more complex, CEOs pay more attention to employee demands and thereby become more aware of internal company matters.

- *Maturity Phase III*
  Companies are older and bigger, the market is heterogeneous, bureaucracy increases, internal achievements assume more and more significance, company history and culture are important.
- *Revival Phase IV*
  Old traditions are abolished, employees dismissed, the company looks for new knowledge and expertise, fresh ideas and innovation. Attention focuses maximally on external matters.
- *Decline Phase V*
  This phase may start at any point and is characterized by falling profitability, emphasis on cost-cutting, rigorous control of internal activities, low morale, scepticism, maximal fixation on internal matters by the CEO.

The different phases of company life cycles are thus characterized by different attitudes and problems. A matter of particular interest, therefore, is that the factor analysis of characteristic company problems established two

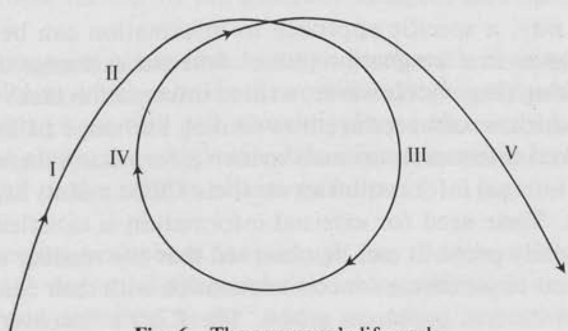

Fig. 6 The company's life cycle.

new variables, S15P1 and S15P2 (see Figs. 3 and 4). S15P1 showed high loadings for problems pertaining to task allocation, co-ordination, co-operation, and unnecessary organizational complexity. It has been shown that such problems are typical of companies that have become sufficiently large, complex, and difficult to manage, i.e. show characteristics impeding rational, efficient, and up-to-date activities and development.[7] Facing such problems compels the CEO to turn his interest to internal factors. He becomes introvert and runs the risk of not finding sufficient time or interest to keep up with developments in the external environment. Consequently, he (and the company) will start falling behind and development will stagnate more and more. Considering these problems and the CEO's 'introvert–extrovert' orientation in different life cycle phases, it may be said that the behavioural pattern comes rather close to that observed in the maturity phase, which (especially if it extends over a longer period) may imply stagnation and subsequent decline. Companies showing this problem profile are therefore in the present context referred to as being in a 'stagnation phase' of their life cycle.

S15P2 was obtained as a second factor in the factor analysis of company problem profiles. It showed high loadings for recognized lack of expertise in a company (Fig. 3). Miller and Friesen[7] demonstrated that such an expertise-oriented way of thinking is typical of a company moving through the revival phase. There is a strong demand for new know-how as well as development and restructuring of all company activities. Experts are called in, employees replaced, new strategies devised, and established attitudes scrutinized. In the present study, companies facing these problems will therefore be referred to as being in the 'revival phase' of their life cycle.

The regression analysis revealed that in organizations going through 'the revival phase of their life cycle', the CEOs' information culture has both width and depth (Fig. 3). They read and communicate extensively, taking their reading seriously. The fact that they are able to discuss individual writers and articles implies that they memorize and analyse what they read. Their extensive active use of external information in their work indicates an information culture resembling that of Gatekeepers. This seems to take place at the expense of an extremely pronounced oral orientation in their ways of gathering information.

In the same way, a specific approach to information can be observed for CEOs of companies in a 'stagnation phase'. Internal exchange of information is mainly in writing (Fig. 4). However, written information lacks the social and other aspects which would produce a rewarding exchange of knowledge and ideas. The marked orientation towards written information therefore supports the notion that internal information serves these CEOs mainly as a formal control instrument. Their need for external information is satisfied by extensive reading of the daily press. It can be observed that the reading of newspapers increasingly seems to substitute for communication with their contact networks as the extent of current problems grows. The CEO's 'introvert' orientation becomes increasingly pronounced. Serious journals do not seem to interest

CEOs of 'stagnating companies'. They do read journals, but at the same time belong to the category unable to specify individual authors or articles they have read. 'I read journals like women read women's magazines' is a statement very typical of this group. Nor do these CEOs normally discuss acquired information with their colleagues in the company.

Figures 3 and 4 further indicate that CEOs with a broad and deep personal information profile work in companies with a high level of diversified internal communication. In the case of CEOs with little interest in information, the level of oral communication is downright poor. It is also noticeable that CEOs of the former category do not rank the market as the foremost element of success, although they emphasize its importance alongside that of other aspects. Material resources, such as employees, are not regarded as primary success initiators, but long-term motivation is put forward as an essential success factor. This factor is based on concepts such as motivation and continuity (Fig. 3), which in present personnel research are seen as essential to successful personnel management. These CEOs also stress the importance of actuality as an essential element in success. This factor encompasses concepts such as knowledge, actuality and image (Fig. 3). CEOs with a highly developed serious interest in information thus seem prepared to invest in expertise, internal communication, knowledge, 'extrovert orientation', actuality, motivation, and continuity, i.e. factors also found to be characteristic of companies moving through the development phase. CEOs with a restricted information profile manifest an 'introvert' orientation in regard to all these factors. In their opinion, the company's expertise in production and administration is inferior, in comparison with the competition. They do not think their companies ought to be actively outwardly oriented. This, to them, justifies focusing their attention 'inwards'. They regard internal administrative competence as an important prerequisite for success, but actuality, knowledge, and image as less significant.

CEOs with a narrow information profile mainly rely on internal reports and, as regards external information, restrict themselves to reading the daily press. Their companies, too, show poor formal information systems as well as friction in administrative co-operation, CEOs of this type attach importance to administrative competence and monitored development of material resources. These factors fit the generally accepted description of stagnating companies.

Each development phase thus seems to be characterized by its own specific company culture, which moulds the common norms and attitudes.

If the Birth phase and the Growth phase are combined into one, the Development phase, the company cultures put forward by Deal and Kennedy[3] can be applied to the various phases as follows:[4]

1. The Development phase has a Tough Guy / Macho culture, characterized by a high degree of financial risk-taking and rapid feedback to investments and described as the 'find a mountain and climb it' ideology.
2. The Maturity phase has a Work Hard / Play Hard culture with a low

degree of risk and rapid feedback to investments, referred to as the 'find a need and fill it' ideology.

3. The Revival phase has a Bet Your Company culture, which is the opposite of the Work Hard/Play Hard culture.
4. The Decline phase has a Process culture, characterized by low risks, slow feedback to investments and a high degree of bureaucracy. Attention focuses 'on how something is done rather than on what is being done'.

The linkage to the market will be examined by plotting the company products in a market growth share matrix (Fig. 7). A company's position, which can be any one of four, is determined by two co-ordinates: the relative market share of its products and market growth rate. The top right field contains 'question marks', products with low shares of a fast-growing market.

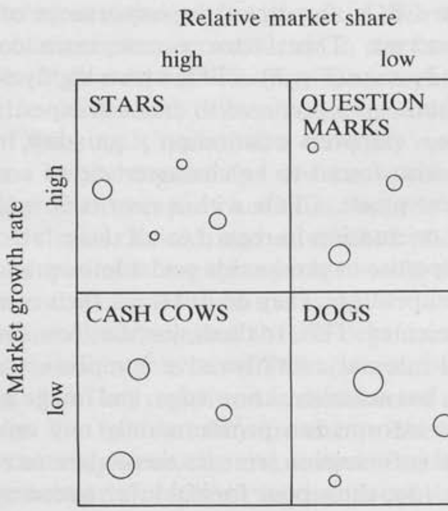

Fig. 7 Market growth share matrix (the Boston consulting groups model[4]).

Investments in these may produce a product belonging in the top left field, i.e. a 'star' with a high share of a rapidly growing market. The products in the bottom left corner have high market shares in a stabilized market and consequently are the real 'cash cows' continuously supplying the company with capital to be used e.g. for the transformation of 'question marks' into 'stars'. Just before a product disappears completely from the market, it usually turns into a 'dog', i.e. has a small share of a market characterized by a low growth rate.

If one relates the links between life cycle, culture, and market success, as proved by Deshpandé *et al.*,[4] to the results of the comparison between information cultures at different development stages, in different life cycle phases, and as determined by different approaches to information, this produces four blocks of characteristic connections (Fig. 8). The criteria used to define information culture were the degree of interest in information and the attitude to factors in the external company environment.

Fig. 8 demonstrates four different blocks, each with a specific CEO information culture.

Interest in external matters, Market growth rate, Risk-taking / Degree of interest in information, Relative market share, Rate of feedback	high	low
high	*B* Intense interest in information Revival phase Bet Your Company culture 'STAR' products	*A* Casual attitude to information Development phase Tough Guy/Macho culture 'QUESTION MARK' products
low	*C* Stable interest in information Maturity phase Work Hard / Play Hard culture 'CASH COW' products	*D* Hostile attitude to information Decline phase Process culture 'DOGS' products

Fig. 8 Linkages between CEO information culture, company culture, life cycle and business performance.

Block A represents a company with a casual attitude to information. With regard to the introduction of its products in the market, the company is at an initial stage. Its culture is Tough Guy/Macho. Its products are still 'question marks'. Marketing is essential. Investments in advertising and sales promotion are substantial. Cost and risks are high, return on investment is slow, market shares are small, but there is clear market growth. The companies are bold and confident. Investing in making the market aware of the company is a far more important issue than adapting the company to the market. There is little concern for information from outside. Certainly, the company is extrovert, but this applies mainly to the distribution of sales and advertising information.

Block B. A company with an intense interest in information has a Bet Your Company culture. There is market growth, and market shares are substantial. The company's products are 'stars'. Investments in marketing and production are heavy. Risks are high. Keen competition in the market and the fast feedback to strategies necessitate a constant active gathering and in-house dissemination of information. Investments are geared to the future. Management and the whole company become very aware of information. The CEO has a broad information profile, i.e. he makes abundant use of internal and external information. He consciously endeavours to create a social environment that will facilitate the flow of information at all levels in the company. He devotes himself to serious reading of both professional and scientific journals and appreciates expertise. He insists on long-term motivation and continuity. Internal communication is at a high level, and the CEO is well aware of the significance of current information in relation to the history and traditions of the company. Continuous efforts are made to up-date knowledge and expertise.

Block C. A company with a stable interest in information maintains a Work Hard/Play Hard culture. Its products are so-called 'cash cows'. The sales curve becomes horizontal, growth declines, and the market stabilizes. Risks are low and feedback to investment is rapid. Since there is no further market growth, companies can increase their shares only by taking over markets from each other. This, however, only rarely happens as a result of advertising. More frequently, methods such as price competition or customer service are applied. This tends to cut profit margins and compels companies to rely on volume. Small companies founder, the giants sail through. In this phase, internal functions assume great significance. All transformations of material resources must yield optimal profits. The production process is analysed with a view to initiating cost-cutting improvements. Internal control becomes prominent. The CEO becomes more and more internally oriented, often at the expense of external information. Complex bureaucracy and supervision, however, impede the flow of internal information. Employee expertise declines, and so does external know-how. The CEO assumes a bureaucratic and defensive attitude towards his environment, relying on formal, written, internal information and information acquired through extensive reading of daily newspapers. The contact network orientation gradually becomes weaker.

Block D. A company with a hostile attitude to information has a Process culture. Its products are 'dogs' and the company is in the decline phase. The characteristic features of this phase are almost identical with those of the maturity phase, only much more accentuated. Market shares are shrinking and investments decline. Risk-taking is low and feedback to possible investments is slow. The CEO becomes more internally oriented, the Board assumes a more prominent position, news is often negative and tends to be shunned by the CEO, who communicates less and less, both internally and externally.

3. Discussion

It can be concluded that a highly developed information culture correlates positively with successful business performance and is closely connected with activities, attitudes, and business cultures initiating successful results.

The adaptation of a company's business culture, its characteristic problems as determined by the life cycle, its approach to the market and its information culture emerge as the result of internal interaction and as a rule finally reach an optimal mode within a block. This state of harmony is not easily disturbed. It has proved difficult and often impossible to implement a business or information culture typical of one block in another without modifying the other functions. To mention the extreme cases: introducing a Bet Your Company culture in the maturity phase or a Tough Guy culture in the decline phase is inconceivable. Attempts to make a CEO change his approach to information to one of intense interest in an environment hostile to that kind of culture will hardly succeed. Consequently, the supply of information to companies must be designed to comply with their prevailing culture and requirements.

A company may decide actively and deliberately to modify the current behavioural patterns within its block. To facilitate such change, all the different factors, i.e. the company's culture, approach to information, etc. must be kept flexible. If a company can move painlessly from one block to another during its life cycle, it is in a position to achieve greater success more smoothly and with a minimum of conflict. Quite often very successful companies have deliberately maintained a flexible approach in order to avoid being restricted by one particular culture at a certain stage of their life cycle. IBM is often mentioned as an example of cultural flexibility.

Obviously, an information culture characterized by intense interest creates prospects for successful business performance; in other words, there seems to be a strong connection between intellectual and material resource transformations. It is not sufficient to change one of the factors in a block unless the others have been modified to allow for the change. Consequently, intellectual resource transformations must be incorporated in strategic planning on an equal footing with the planning of material resources. This is the only way of ensuring that various future information needs are recognized in time and that the company is sufficiently prepared to meet them as well as capable of optimizing both the form and the quality of its intellectual output to provide a maximally efficient service to the material resource transformations.

The Author

Mariam Ginman holds an M.A. in chemistry of the University of Helsinki and a Doctorate in library and information science of the University of Tampere. She is Acting Professor in Library and information science, Department of Library and Information Science, Åbo Academy.

References

1. Aalto, P. and Jarenko, L-M. Tieto yrityksen voimavarana. *Ekonomia-sarja*, Weilin + Göös, 1984.
2. Bhasker, M. *Tietohallinnan kehitys organisaatiokehityksen osana*. Helsinki Business School (Mast. thesis), Helsinki, 1985.
3. Deal, E. and Kennedy, A. A. *Corporate cultures*. Reading, Mass., Addison Wesley, 1982.
4. Deshpande, R. and Parasuraman, A. Linking corporate culture to strategic planning. *Business Horizons*, **29** (3) 1986: pp. 28–37.

5. GREINER, L. E. Evaluation and revolution as organizations grow. *Harvard Business Review*, **50** (4) 1972: pp 37–46.
6. LIEVEGOED, B. C. J. *The developing organization.* London, 1973.
7. MILLER, D. and FRIESEN, P. M. A longitudinal study of corporate life cycle. *Management Science*, **30** (10) 1984: 1161–1183.
8. PULKKINEN, K. *The premises of decision support systems*. Helsinki, Helsinki Business School Publications, 1982.