

NOTE

The role of leaders' paradigm in construction industry change

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As in other industries, firms in the construction industry need to become more client- and market-oriented. In the last decade, several initiatives have been taken to change the construction industry in that direction. The changes, however, seem to be slower than other industries and less forthcoming than projected. Old practices and patterns die hard. Fundamental changes in orientation, strategy and strategy deployment require shifts in the management paradigms (i.e. the 'frames of mind' that steer individual and collective behaviour). Management is seen as a crucial factor in these change processes, but can the new business be created by old management paradigms? Can the leaders in the construction industry shake off the old paradigms? An explorative quantitative study shows that the mainstream paradigm of construction industry leaders today is much as it was in the past: technology- and project-oriented. Acting out of this paradigm, issues as social-organizational change and strategic focus on the client – regarded as important for the industry – will probably not be addressed properly. Change initiatives could gain in success, when they create wider awareness of existence and persistence of incumbent and prevailing paradigms.

Keywords: Construction industry, innovation, paradigms, barriers to change, construction management

Introduction

Today, more than ever before, business is about fulfilling client satisfaction. In the times of Frederick Winslow Taylor and Henry Ford's Model T, business was about *efficient* production. The more efficient, the better the company. In the second half of the 20th century, *quality* became an important strategic issue. First generation quality was about production control. Later generations were about fitness for use, client's satisfaction, continuous improvement and the learning organization. Womack *et al.* (1990) describe this transition in the automotive industry in their popular book *The Machine that Changed the World*. Bolwijn and Kumpe (1990) describe a similar

development of management focus within firms in various industries from efficiency (in the 1950s and 1960s), via quality (1970s) and flexibility (1980s) to innovation (1990s). In their view, a firm must first master one stage of development before being able to pass on to the next. By adapting a market orientation forerunners, at least, have obtained better market positions and better business profitability (Narver and Slater, 1990, 1994). Sellers markets evolved into buyers markets. In this advancement, businesses adopted their strategies and management paradigms. Marketing, business communications and product development surpassed production as fields of strategic interests and investment. This change could also be observed in the firms' boardrooms.

In the last decade, initiatives to reform the construction industry also stressed a change towards more client

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oriented business processes. Initiatives such as the Client Industry Board's *Constructing the Team* (Latham, 1994) and *Rethinking Construction* (Egan, 1998) are exemplar in the way that they call for a new vision for and new perspective on the construction industry: more client- and quality driven. The business focus has to shift from exploiting production capacity to serving clients. This implies that enterprises will have to operate in a more 'market-driven' manner. Management will have to relate the inner firm operations and competences more strongly to market requirements, but these changes seem to be slow. Several authors point out that the construction industry is not a rapidly changing sector that naturally adopts innovations. Manseau (1998) argues that the sector appears to change slowly and with great difficulty. Other authors came to similar conclusions. How can we explain this slowness and inertia? Changing requires learning, and learning carries change. Kululanga *et al.* (2001) are sceptical of the learning capabilities in the construction industry. They argue that there is still a long way to go before organizational learning is fully implemented. Construction industry is not ready yet to gain competitive advantage, attain a state of readiness for change and build a capacity to respond and identify future business possibilities. The huge number of studies and papers produced by researchers analysing the construction industry implicate that major changes are required (e.g. Gann, 1998; Winch, 1998; Koskela and Vrijhoef, 2001). In change processes, the role of committed management demonstrating leadership was acknowledged in the past. Organizational learning requires committed management and leadership that is up to this task (e.g. Argyris and Schön, 1978; Senge 1990). New business requires a new approach to management. New professionals found their ways into the boardrooms of the leading companies. Professionals that were more geared towards the firms changing environment. The ideas on what is (proficient) management changed, as well as what (proficient) managers are changed. The management paradigm changed along with the challenges the businesses faced (e.g. Koskela, 1992; Ranta, 1993). The educational backgrounds of directors changed towards legal, financial, commercial, human sciences and business administration.

The underlying assumption in this note is that as the management paradigm changes then it must have consequences for the staffing of boardrooms and for the qualifications required as stated in the personal ads for management positions. In this paper, we present data that suggest that this change in management paradigm is not happening in the (Dutch) construction industry. We come to this conclusion by, first, looking at the educational background of the directors in construction firms, and, second, the requirements for managers as stated in personnel advertisements. The data are split towards

construction and other industries, and for the construction industry, we compare the situation of 1992 (Pries and Janszen, 1995) to the situation in 2001.

Engineers as managers

In 1995, Pries and Janszen wrote about the qualifications (tabulating the professional titles) of the general managers of the largest Dutch construction companies (over 100 employees). Data of the education level of the management of Dutch construction companies was collected from registers of the Chamber of Commerce. In 1992, about 51% of these managers had a technical title (ir or ing, the Dutch equivalents of MSc and BSc), 2% had a legal education, 4% an MBA and 43% did not have a title. The managers without a title were expected to be educated within the business and were promoted on experience in the field (in most cases, they started their careers working on construction sites). The analysis was repeated in 2002. In total, 2082 executive managers were recorded in a database (Table 1); the data are segregated to company size (Table 2). From these figures, some relevant observations can be subtracted:

- (1) Even in the bigger companies, only a minority of general managers have a Bachelor or Masters degree;
- (2) In 2002 as well as 1993, managers without title together with the educated engineers represent 95% of all recorded managers – no change;
- (3) Non-technical titles are rare with general managers in construction. In 2002 as well as 1993, 90% of all recorded titles is 'engineer' – no change;
- (4) The smaller the company, the smaller the percentage of educated managers (Table 2), and an even smaller relative amount of non-technical educated managers. In this also, little has changed over ten years.

Of course, the approach followed has some methodological drawbacks. For instance: it is possible that people have titles, but that they are not mentioned in the register. Nevertheless, given the fact that in the last decade the companies had to redirect their strategic perspective towards the client, the data provide little evidence that it has resulted in different staffing of boardrooms. General managers in the construction industry seem as much engineers now as they were a decade ago.

Employment advertisements

The qualities that are expected of a good manager are expressed in the personnel advertisements. In these ads, organizations express what qualifications and competences

Table 1 Analysis of professional education (2002)

	>100 employees (%)	All companies (%)
No title	71	83
Title, technical	24	14
Title, non-technical	5	2
No title & title technical	95	98
	<i>n</i> = 729	<i>n</i> = 2082

Table 2 Company size and titles of management (*n* = 2082)

Company size (no. of employees)	No title (%)	ir/ing (<i>tech.</i>) (%)	Other (%)
1–10	95	4	1
11–50	93	7	1
51–100	80	17	3
101–250	79	16	5
251–500	63	34	3
501–1000	58	32	10
> 1000	58	38	5
Total	83	14	2

they feel are needed to fulfil management jobs within the organization. At any time, these ads are an image of the contemporary management paradigm. We acknowledge the analysis of the personnel advertisements has certain methodological problems:

- Working with the job descriptions given, the classification of the functions and disciplines was troublesome in cases. Then context information within the advertisements was used to classify;
- The economic situation and the dynamics of construction industry differ in 1982 from 2002. In the early 1980s, there was an economic relapse in The Netherlands;
- Advertisements are only one way to the recruit staff. Furthermore, we had no data on the investments in courses, training and education to develop the management potential. This type of courses has certainly boomed in the last decade. These type of courses and degrees are seldom explicitly mentioned in the advertisements;
- Job descriptions, professional education and functions have changed in the last two decades.

These drawbacks should be kept in mind when looking at the outcome of the classification and analysis. Nevertheless the differences between construction industry and other industries are that remarkable, that given reservations for methodological uncertainties, the significance seems undisputable.

In The Netherlands, the weekly-published magazine *Intermediair* is a leading magazine for employment advertisements typically for the higher segment of the labour market. Our analysis included Dutch employment

advertisements in 1982 and 2002 (both September and October – the most active period in the labour market). A total of 1072 advertisements (all sectors) were analysed, 141 of which originated from the construction industry. Other sectors were divided into manufacturing industries, services and government.

When 141 construction industry advertisements are compared with the other sectors, the dominance of the technical component is striking (Table 3). For all sectors in 1981, only in 24% of all advertisements were technical competencies needed. In 2001, this was reduced to a mere 6%. Other manufacturing industries really made a shift from a technically oriented focus. The construction industry, on the other hand, showed a stable percentage score for both periods – over 60%. Compared with other manufacturing industries (such as the chemical industry, ship building, automotive, etc.), the construction industry has a far more technical approach to management and it seems unchanged over time.

Obviously in the construction industry, there is a constant and exceptional high pursuit for technical skills and experiences. In other sectors, the general need for technical skills and experiences has been strongly reduced over the last 20 years. While the other industries seem to seek an influx of non-technical professionals, the figures of the construction industry show quite a different trend.

Conclusion

In this note, we presented data about the management paradigm in the Dutch construction industry. The boardrooms of the leading Dutch construction firms are still

Table 3 Distribution of demanded technical qualifications in employment advertisements

Technical qualifications	Construction industry	Other producing industries	Services and others sectors	Government and education
1981 <i>n</i> = 448	61%	55%	21%	13%
2002 <i>n</i> = 625	64%	12%	6%	3%

staffed predominately by people growing through the ranks and those with technical backgrounds and education. Little has changed over the last two decades. Personnel advertisements for management positions show that technical degrees are preferred above other professional education(s). In this, the construction industry does not follow the changes as have occurred in other industries. Those industries had to become more market oriented, and saw an influx of managers with a legal, economical, business and other professional degrees. Not so in the construction industry: it seems that although it is now aware of the need for more client- and market focus business strategies, the management paradigm is still mainly technical and the management profile still mainly engineer-manager. The ‘*how to produce*’-capability still receives far more emphasis than the knowledge ‘*what to produce*’-capability. Such inward looking orientation may obscure the vision on the changes in the business environment, and may constrain the aptitude to change, and limit the impact of the construction industry reform initiatives.

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