

# **TRACKING THE DEPENDENCIES BETWEEN COMPANIES' COMMERCIAL BEHAVIOR AND THEIR INSTITUTIONAL ENVIRONMENT**

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## **ABSTRACT**

This paper is a part of a research project addressing the problems caused by the construction industry's apparent dependency on cost information. The paper sets a theoretical base for the project by investigating the dependencies between micro and macroeconomic levels from the perspective of the construction industry. The hypothesis is that factors defining commercial behaviour and impeding or facilitating implementation of lean commercial practices include macroeconomic environment and regulation, market agents, informal institutions, such as culture, and individual abilities of the management. Understanding the reasons of the traditional commercial behaviour will help to find a way of changing it for a better. The paper might be of interest to both the academics and practitioners looking to change commercial practice. The main finding constitutes an analysis of the nature of the dependence between companies and their environment.

## **KEY WORDS**

Commercial behaviour, socio-economic environment, lean transformation, lean cost and commercial management.

## **INTRODUCTION**

This paper investigates the dependencies between construction companies' commercial behaviour and their institutional environment. The aim is to show how external forces (macroeconomic climate, culture, etc.) affect commercial decision-making and form traditional behaviour observed in the modern construction industry. We also touch upon the role of individuals, their knowledge and values in this process.

Why it is important to consider the dependencies? Conversations about lean construction often run in the context of systems. For example, it is widely admitted in the community that a person can do his/her job perfectly, but it does not lead to desirable outcomes for the entire project. This happens because one person or one company is one of many elements in the project delivery system, and to achieve meaningful results the whole not the parts have to be optimised. In the studies of lean commercial management a systematic approach has to be adopted as well. While in the example above systematic approach mean studying project delivery, for commercial management it lies in the wider national and global socio-economic

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context. Understanding why the traditional commercial practice is what it is the first step in finding a way of managing it.

To the moment no comprehensive research was completed on the topic of the impact the external environment has on commercial practice. The paper has indirect practical implications (transformation of cost and commercial management practice) and adds to the development of lean cost and commercial management theory and research on lean culture.

## **METHODOLOGY**

The question investigated in the paper is a continuation of the Lean Commercial Management studies, which main postulates are deduced from the Lean Construction theory. The present paper represents the first theoretical stage of this follow up research, which addresses the problem of the construction industry's dependency on cost information. A hypothesis and a number of predictions were formulated. Supporting evidence was collected via literature review. The second stage of the research involves direct observation of the companies' practices: a study of the decision-making process at the construction projects in both lean and non-lean client organisations that should allow comparison for identification of obstacles to adoption more effective commercial management practice.

## **THE HYPOTHESIS**

In this section we aim to explain how the paper fits in the context of the Lean Commercial Management research and show how the specific problem this paper addresses – cost dependency – was derived from it. The previous research project on the commercial management (Zimina & Pasquire 2011) defined the borders of the Lean Commercial Management and can be summarised in a series inferences. In addition to Waste reduction, Value creation is a central point of lean; in the construction industry value, product or service, is created in design and delivered on site. This makes commercial transactions a non-value adding activity. According to lean theory all non-value adding activities must be eliminated or left to support the production system. Hence in lean construction commercial function must be supporting the production/value creation function. “Eliminate” option does not seem viable taking into account the inter-organisational nature of the industry. If the summary above is correct, then the lean internal orientation/supporting role of commercial management is a profitable strategy<sup>3</sup>.

To illustrate the idea of external/internal orientation of the commercial function of a firm: for some profit-oriented companies, registered as contractors, the business of construction is not as important as the concomitant commercial operations. Construction deals generate cash, which is then invested in the financial markets or used in the merger & acquisition game. The commercial department is the source of income for the company, and commercial managers are the key people. This diverts focus from the production system and makes business improvement seem senseless

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<sup>3</sup> The validity of the argument depends on the validity of the assumptions. While those concerning lean theory seem to be stable, the question “what is value in the construction industry?” is still being actively discussed. Another potentially weak point: the assumption that lean construction companies enjoy stable profit above average industry level. The case of Toyota, although well-known, is clearly not enough and stronger evidence is required to support the statement.

and costly endeavour. On the contrary, lean companies have goals that are expressed through value statements<sup>4</sup> and make money on the construction activities themselves, while commercial operations are structured around the core activity.

The past and present day construction industry demonstrates external orientation of its commercial function. At the same time it is known to suffer from low margins and a high rate of bankruptcy. Having in mind profit orientation of the business this behaviour does not seem logical<sup>5</sup>. This research addresses this contradiction. The research question for this paper is then: why is this pattern of behaviour still being followed?

The hypothesis for the research: the current behaviour of the construction industry is due to the existing dependency of the profit-oriented companies on the environmental context they are in. The mechanism of the dependency is the exposure of the decision-makers to the binding power of existing macroeconomic context and regulation, market agents and business culture that set the rules of the game the decision-makers follow. Decision-makers in the lean companies are capable of challenging the power of the environment, and therefore lean companies are less dependent on it. If the hypothesis is correct, then we will find the following implications:

- 1) Profit-driven companies/individuals adjust behaviour according to the profit-making opportunities the market provides – we will find significant fluctuations in the companies' strategic behaviour.
  - a. Under the constraint environment, e.g. in the time of crisis, lean strategy will temporarily become a more plausible choice for profit-oriented companies due to elimination of other opportunities.
- 2) Lean companies will be more consistent in their internal orientation of the commercial function (mature lean companies) or progressing towards it.
- 3) The top-management of lean and not-lean companies is likely to be different in terms of values, personal qualities and knowledge.
- 4) The decision-making process (who is involved, when, how) within companies following different patterns will be different.

Answering this question will help to the Lean Commercial Management theory building. A choice between strategic paths is a commercial decision; hence we need to know why people make this or that choice as well as how do they do it. Answering the question might also be of practical use: understanding the reasons for commercial behaviour will help to identify obstacles for adoption of more effective management practices and to find a way of changing the situation for a better one.

## **CONSTRUCTION COMMERCIAL PRACTICES AND INSTITUTIONAL ENVIRONMENT**

This chapter provides reported in the literature evidence of the impact the external environment has on the commercial behaviour of the construction sector companies.

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<sup>4</sup> For example, Toyota's mission statement includes the pronouncement: "our company has been aiming to enrich society through car making"

<sup>5</sup> It is clear that profit-orientation is not the only goal of business existence. For simplicity the companies that do not invest in grow, such as self-employed labour and family business used as an alternative to work for an employer, are not taken into account. We also exclude possibility of any altruistic behavior of business.

The chapter is divided into three parts: with focus on the macroeconomic level first, followed by review of the market agents and studies the non-written rules of business culture. In the final part shows the role of the individual decision-making within the environment.

## **MACROECONOMIC CONTEXT AND REGULATIONS**

It is easy to observe that in the UK construction sector commercial behaviour (both at business and project level) reflects fluctuations of the state of the economy, such factors as inflation, government macroeconomic policies, level of demand, etc. Winch (2010) adds to the list the regulatory context which has particular importance for the dynamics of the actors at the micro level.

A significant amount of supporting evidence can be found in the literature. Lansley (1987) writes that the post-war British construction industry enjoyed high demand and growth; flourishing was possible simply by focusing on one or another market niche. Construction was very profitable business. At the same time clients, especially the public sector, were under severe financial constraints preparing bills of quantity, which became standard practice in the procurement procedure (the result of the UK Land Commission activity in 1967): “even modest projects routinely had lead-in times of several months or even years, while each post and posthole was drawn, specified, counted and recorded in the bills of quantities” (Cartlidge 2004, p. 16). The impact of quantity surveyors rose significantly. Later the property boom of early 1970s created by additional money supply (government economy regulation policy at that time) caused changes in the existing procurement techniques (ibid). For example developers demanded short-term lead-in times and fast completion – time meant money on the growing market. Another impetus for change in the 1970’s was rampant inflation of up to 25% per annum and historically high interest rates. The faster buildings could be procured the less profits were eaten up by interest charges and inflated material and labour prices. Even though construction still remained profitable during this decade, Langford and Murray (2006) illustrate that the private house building sector of the 1970s was achieving spectacular margins on the back of site management procedures and more profit came from intelligent land bank acquisition making extensive growth the most evident profit maximisation strategy. Cost and efficiency in construction could not be much of a concern as property values were rising so quickly (Cartlidge 2004). Commercial decisions were often based on opportunistic behaviour. It was more beneficial for managers to generate profits by manipulating their relationships with others for their own benefit than struggle for production perfection. Later on shrinking markets forced companies to look for alternative sources of income diluting construction activity with businesses in other sectors (Betts and Ofori 1992; Hillebrandt 2000).

Even such a limited historical overview demonstrates that the industry follows environmental fluctuations. Those who work in the UK construction industry for many years testify the transformation it has gone through was drastic. The current economic climate has cut profit margins and limited choices for the industry to increase the effectiveness of its processes. Thus growing popularity of lean at least partially was triggered by external conditions.

## **MARKET AGENTS**

Market agents and stakeholders (market agents that have interest in the particular project) often influence project decision making in intangible and contrary ways. A necessity to raise funds for the construction project might be the most evident dependency of this kind. It is true for construction clients, although they may chose to rely on proper capital and thus avoid external influence. It is even greater for the supply side which commonly operates with very little financial capital and works in credit (Hughes et al. 1998). Possible sources of funding are listed in the figure 1. Each source has its cost and other characteristics such as priority of payment, tax deductibility, etc. Moreover the behaviour of a financial institution varies depending on the national context.

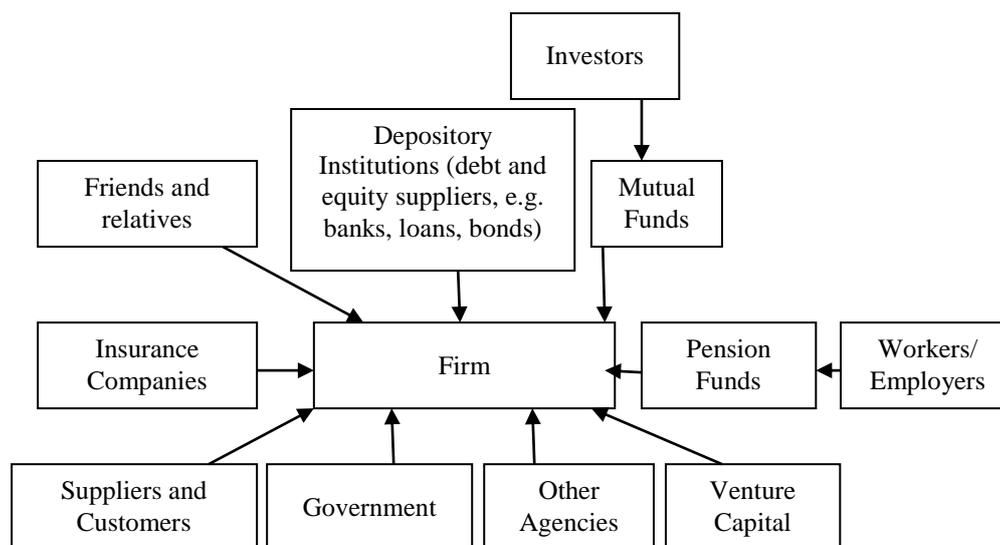


Figure 1. Sources of funding (after Tan 2007)

Whatever source is chosen (and typically it is a combination of them) it introduces new value streams into the project/firm and thus a burden of obligations, dependencies and risks that have to be taken into consideration. E.g. when insurance companies or pension funds play the role of an investor on a project, they will have a clearly defined set of criteria that have to be satisfied and demand significant control on the ways monies are spent. The level of details in the information they require includes the quality of the building, its location and even financial status of the tenants. As a result recipients of funding (e.g. developers) have to produce development schemes that first of all satisfy the financial institutions not the future occupants (March 2009). Another example, government-funded projects might be more carefully scrutinised for the reasons of public accountability and be affected by political pressures. Banks typically assume a more flexible approach and use the property asset as security for the loan or in case of higher risks try to get equity in the project (ibid). Development of stock markets have shorten financial cycles inhibiting the ability of the companies to focus on long-term objectives, since looking good to Wall Street for the quarter report may conflict with long-term investments in excellence (Liker 2004).

National characteristics of financial institutions matter as well. Thus Japanese and German banks tend to have close links with corporate groups which make it easier to obtain long-term funding. This is rarely the case in the UK and USA where

companies are under pressure to demonstrate profits quickly, encouraging short-term orientation. Whatever source of finance is chosen it will influence decision-making and there will be a control pull in the system.

To reduce project-related risk, financial institutions typically use an independent source of information about the recipient prior making the investment, e.g. services of the independent rating agencies, such as Dun & Bradstreet. These may also be used by construction clients to check construction companies before deciding to employ them. The power to influence companies' reputation, ability to attract finance and clients and thus commercial decision-making of these agencies is enormous.

Very closely related to the regulatory context, various government bodies, e.g. the Office of State-wide Health Planning and Development in California, US, or Bureau de Contrôle in France, form part of the project delivery process providing quality control from the client side and are clearly a significant force in the national construction industry. Another agent in this group is local politics. For example, in California trade unions have significant bargaining power and it would be a mistake with heavy consequences not to take it into account.

March (2009) notes an increasing impact of democratic institutions and spontaneous groupings on commercial behaviour in the construction sector. He divides them into three categories: 1) self-interest neighbours of the proposed development; 2) environmental protestors outside of the local area; 3) the non-governmental organization bodies at local and national levels, e.g. Greenpeace. Ranging from issues of minor significance, except to the objectors, to those of regional and national importance, their activity can be detrimental to the developer because of delays incurred, the cost of planning enquiries, increases in standards of materials and components, and even a threat of abandoning the project. Social and environmental responsibility--another form of social pressure--has become an integral part of company business and construction project planning.

There is always a number of stakeholders represented on the project that create multiple commercial operations, such as financial accounting, reporting, auditing, unnecessary bureaucracy, managerial resource spent on negotiations, public relationships, etc. This complicates transition to lean or any other conscious changes. A company that has such intention would have to explain to its debtor, why the latter has to wait longer for investment to payback and persuade a government agency to sacrifice procedures for efficiency.

## **BUSINESS CULTURE**

Compared to the two previous groups business culture discussed in this part is less tangible but perhaps more powerful force that binds commercial decision-making. The impact of business culture and culture in general is that it encourages particular pattern of behaviour and provides negative incentives for those deviating from it. Culture is fixed by inertia: paradigms once learned by people are very difficult to change. "The rules of the game come to be seen as given, normal, the only way to do things. Careers and status become dependent upon certain rules, threats to those rules become personal attacks" (Bowley cited in Winch 2010, p.21). Some of the cultural elements had their reason to be formed under the circumstances dominating earlier, but often are not valid when the conditions change.

The UK construction industry business culture is known for its silos mentality and hierarchy of professions. Bennett (2000) describes it as a system where each profession occupies a well-defined position in the hierarchy of powers: architects at the top and craftsmen and their supporting labourers at the bottom. This vision dominates thinking about relationships throughout construction projects and architects' judgments are rarely questioned by other professions. A young employee coming to a company takes for granted the way the things are because he/she has no other experience and also there is a belief that "so many people can't be wrong". As time passes another type of thinking substitutes it "I could not be wrong working this way for 40 years" as this becomes a matter of personal reputation. Hardly lean innovation can naturally occur in such milieu.

In its turn, each independent activity has its own hierarchy as well. Only the top management communicates with each other at the early stages and later communication is channelled through the named managers (Bennett 2000, Cartlidge 2004). A suggestion for improvement made by a middle-manager might be simply lost in the complex information channels.

The formation of such pattern of behaviour can be explained by natural for human beings desire to have situation under control. The common perception of control however is being a sole owner over the process and keeping others away from it. Information is kept strictly within an entity and any sharing is perceived as an equivalent to losing power and competitive advantage. For this reason clients often prefer traditional lump sum contract (Tan 2007). For the same reason the project team is typically disintegrated and works in informational isolation, that is, the design team keeps the contractors and they in turn keep the subcontractors at arm's length as long as possible into the project (Cartlidge 2004).

#### **INDIVIDUAL DECISION-MAKING**

Hillebrandt (2000) mentions that capacity as well as capability of firms is determined by their leaders and the quality of its management, which are the most valuable and at the same time scarcest resource. Eventually it is an individual manager that decides on company's actions. Therefore the institutional impact must depend on his/her individual knowledge (possession of information), skills (ability to make sense and use of the information), and values. A manager that does not know about alternatives to traditional project delivery and is not looking for them is limited to the existing choices. A manager who constantly attempts to widen the borders of the unknown has more chances to understand how to make it right and make it. On the other hand someone might have the information but choose to do nothing about it – this is where values come into play. Given the uncertainty surrounding decision making, the individual devising the firm's policies has to act as a true entrepreneur rather than as a manager routinely implementing clear-cut marginal rules for allocation (Furubotn 2001). Liker (2004) emphasises the fact that Toyota's leaders are the company's pivot and inspiration for its staff (Liker 2004). Collins (2001) demonstrates the dependency between ability of companies to achieve its goals and individual characteristics of their leaders. Top stock returns companies which managed to maintain them over 15 years period had leaders who were unusually ambitious, taking care more of the company, rather than pursuing narrow commercial self-interest. They combined will and strength to fight for success of their companies and personal humility.

## DISCUSSION

In this paper we focused on tracking the possible impact of the institutions on the commercial behaviour of the companies. Literature overview has demonstrated the existence of the impact of the external forces to the companies' commercial behaviour. This might explain external orientation of the commercial activities even when such strategy stops bringing income.

Although new for the lean construction community, the topic of the study has been addressed by several generations of economists, philosophers and psychologists. In the socio-economic literature it is widely accepted that the environment surrounding individuals and firms has a direct and crucial impact on their pattern of behaviour. In the study of the firm perhaps the most famous ideas were formulated within institutional and new institutional economics (from Veblen to Williamson) which has developed as a challenge to the neoclassical economic school with its reliance on rational and informative individual decision. North (1990) defines the environment as institutions that set the "rules of the game" and govern individual and company behavior and structure social interactions. Institutions can be formal (economic climate, political structure, legislation and regulatory), and informal (culture and social trends). Both types are knitted together via wide variety of norms, rules, moral obligations (Fukuyama 1995). National institutions are formed in the context of geographical factors (climate, access to sea, natural resources), global economy and socio-economic evolution. Thus they differ for each country unless those have shared very similar historical paths. Summarising the findings of this research, institutions influence decision-making through:

- 1) Imposing constraints or encouraging this or that particular commercial behaviour, e.g. preferences for specific procurement routes (macroeconomics and regulations)
- 2) Introduction of the additional stakeholders in the project delivery, which might constrain and dilute the understanding of value and create additional, potentially conflicting, value streams (market agents).
- 3) Offering "the beaten tracks", compared to other opportunities that seem costly (cost of information search, of effort required to go against the tide) and often remain unnoticed (business culture).

While the first might trigger interest and adoption rate of lean strategy through limiting other opportunities and resources available, it may also be a constraint, such as regulatory procurement requirements. The two others at the moment are more likely to be an obstacle unless lean will come into fashion. Not all institutions have the same impact, Table 1 suggest a hierarchy.

Table 1. Impact of Formal and Informal institutions over time

	<b>Immediate</b>	<b>Long-term</b>
<b>High</b>	Funding Politics, Power and control, Old habits	State of economy, Regulations Rating agencies
<b>Low</b>	Democratic institutions, Government bodies	Social and Environmental Responsibility

What about lean companies, are they affected in the same way? In regards of macroeconomic impact no data has been collected that would allow tracking the behaviour of lean companies over substantially long time. The question is open to investigation. The only example we can currently refer to - Toyota - allows us to conclude that it has invariably followed a lean path since it started in the middle of the last century.

According to our knowledge based on the observation of the companies following lean path in construction (e.g. Shepherd Construction (UK), Herrero Contractors (US), the Boldt Company (US), etc.) and from knowledge obtained during LCI conferences and documented case studies, their commercial behaviour in relation to market agents and business culture is different. These companies are typically less dependent on loan capital, control the impact of other agents when possible or involve the stakeholders in the decision-making to align their interests with those of the project. Lean organisations tend to be less hierarchical, assuming a horizontal model instead. Control becomes a function of information flow and team work. In lean thinking breaking dependence on culture occupies an important position, and is believed by many to be the main obstacle to lean transformation.

These observations confirm the commitment to the strategic choice, but do they mean that the environment has no impact at all? Porter's theory of competitive advantage states such an impact exists. His studies of why some companies enjoy competitive advantage while others fail show the reasons are rooted to a great extent in the external environment. He argues that limited resources and the overall devastation of the post-war Japanese economy was a major factor in the development of the flexible and highly competitive Toyota business. More specifically, lack of land resource and its high cost forced the company to adopt a Just-in-Time technique, which has become of its distinguishing features (Porter 2008). Freeman (1995) and Porter (2008) conclude that the influence of national institutions is not diminishing, but becomes even more important in the light of globalisation.

We suggest more research is needed for a meaningful conclusion: are the capital structures of lean and profit-driven companies different, and what are the differences? What is the role of financial accounting in lean companies? What is the impact of publicity (rating agencies) on the business reputation, does lean make a difference here? How do lean companies structure relationships with government bodies and democratic institutions? It is also has to be taken into account that the chosen methodology has limited probative force as it neither addresses other possible answers to the research question nor attempts to disprove it. Both tasks have to be completed in further research before making final conclusions on the validity of the hypothesis.

## **CONCLUSION**

The paper has discussed the impact of the immediate and institutional context on the construction industry commercial behaviour. The hypothesis for the research is that the current behaviour of the construction industry is due to the existing dependency of the profit-oriented companies on the environmental context they are in. Literature overview and observations of the examples of the lean companies in the construction sectors has provided some evidence in favour of the hypothesis' implications. At the same time we suggest that further investigation is required.

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