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Pricing construction work: a marketing viewpoint

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Recent work on pricing has shown that neoclassical microeconomic theory (NCMT) is preferred to tendering theory and that implied by absorption, or full-cost, pricing of construction work because of its explicit treatment of market conditions, competitor behaviour and firm capacity levels. Applying NCMT in practice, however, requires the consideration of pricing from a marketing perspective. This paper examines the challenges involved in terms of the two prevalent marketing paradigms—*marketing mix* and *relationship marketing*—to pricing construction work generally, and the traditional contracting (TC), design and construction (D&C) and speculative building (SB) procurement systems in particular. In general, the marketing mix (MM) approach, having the closest fit with NCMT, is most aligned to current practice. However, conceptual and practical limitations are identified. Relationship marketing (RM) is theoretically more applicable, yet has been largely overlooked in practice due to the transaction costs and investment involved. Nevertheless, some RM tools are increasingly being adopted in response to demand criteria and clients' needs for continuous improvement, offering a challenge to NCMT-related pricing. In terms of specific procurement arrangements, SB would seem most suited to the MM approach over the long term as it is closest to consumer good markets. D&C on the other hand is considered to be the most price sensitive to demand factors, with SB the least because of its ability to control resources, specifically land and financial packages, while TC is most suited to developing RM practices.

Keywords: Marketing, marketing mix, pricing policies, relationship marketing

Introduction

Most studies of construction pricing have been carried out by practitioners such as quantity surveyors, cost consultants or economists. These, however, are concerned with practical aspects and lack a comprehensive conceptual framework for analysis, while economics, though possessing a vast and sophisticated theoretical apparatus, is acknowledged by many to fail to produce much of practical value to price setters. As a result, the formal education of practitioners, for example, proceeds on the basis of a set of very basic and unlikely precepts:

(1) Economics provides a theoretical basis, yet is generally aimed at providing a rationalization of pricing behaviour rather than providing a basis for making practical pricing decisions.
(2) Practitioner pricing (PP) provides the necessary practical basis for pricing, yet is at best partial in application because of the overemphasis on costs at the expense of market considerations beyond appreciation of intensive competition as 'price takers'.

Marketing, on the other hand, claims concern for the theory and practice of pricing, price being part of a broader 'value equation' from added design value to after sales services. Differentiating the product is used by producers to create price differentials and the market acts back to stimulate producers to stratify prices. This is in line with NCMT, yet these forces lead firms to offer a series of products and services into the market, which is more akin to classical economics of Alfred Marshall than NCMT (Earl, 1995) than neoclassical assumptions of single product firms.

This paper examines:

- the relevance of marketing, perhaps as a means of reconciling the economics–PP schism;
- the challenges marketing provides to neoclassical economics and NCMT (Earl, 1995; Estelami and Maxwell, 2003).

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Rather than viewing pricing as 'a basic economic factor that determines the general lack of business activity or the manner in which resources are allocated' (Oxenfeldt, 1975, p. viii), the interdependence of pricing and marketing are examined in the context of the construction industry.

A general framework for pricing decisions is explored using marketing in relation to contingent conditions in construction. The marketing perspectives of pricing for three procurement arrangements, namely traditional construction (TC), design and construct (D&C) and speculative building (SB), are considered. Generic marketing procedures are considered (*cf.* Oxenfeldt, 1964; Nagle and Holden, 1995) together with construction-specific procedures (e.g. Mochtar and Arditi, 2001) for setting pricing strategies. These procedures are put into the context of two marketing paradigms for strategic price setting within construction.

The conceptual analysis strengthens the notion that pricing construction work has some similarities with intermediate and industrial goods and infrastructure, yet is distinct from pricing consumer goods. The rationale of the analysis requires empirical study because of the virtual absence of such work to date. One reason is the lack of research into pricing with marketing generally; another reason is sensitivity and confidentiality in construction specifically.

Overview of the economics of pricing

Runeson and Skitmore (1999) argued tendering theory (Gates, 1967) fails to take into account changes in market conditions, competitor behaviour and firm capacity levels. Conversely, Runeson and Raftery (1998) argue NCMT is likely to succeed, which Skitmore *et al.* (2006) have supported in contrast to absorption or full-cost pricing.

However, Oxenfeldt (1975, p. 10) observes, '[although] pricing has been written about in great depth by economists for centuries, many price-setters who have looked for help in a study of price theory and the literature on pricing have not found the effort too rewarding', the reason being that economic theory only seeks to explain basic economic forces, hence merely rationalize their behaviour rather than guide producers and consumers (Gabor, 1977). The assumption that firms in perfect competition set their own prices with total control of production inputs, adequate information on present and future supply and demand, restricts applied explanation to a few single product firms dealing mostly in commodity markets. Managers acknowledge that imperfect competition generally accords with practice (Gabor, 1977).

Empirical research supports this view, for example, a *positive* price–demand relationship has been found due to price–quality schemata (e.g. Monroe, 1990) which are dependent on the type of product (Lichtenstein and Burton, 1989), the consumer's familiarity with the product (e.g. Lim and Olshavsky, 1988) and contingent upon the state of both consumer and task environment variables (e.g. Bettman, 1979), recognizing that economic theory does not necessarily aid setting prices (i.e. lower prices do not automatically stimulate sales), and instead practitioners can employ empirical methods to determine price–choice relationships for pricing problems (Olshavsky *et al.*, 1995) or employ realist methods to conceptually determine what is necessary to stimulate sales across a configuration of marketing and pricing factors (*cf.* Smyth and Morris, 2007).

Prices are not impersonal market factors purely driven by inexorable market forces. Setting and changing prices is also behavioural, reflecting perceptions, cognitions, aspirations and preconceptions. Prices reflect methods of business decision making, availability of information, motivations, expectations and environment (Oxenfeldt, 1975). In practice, prices are generally set through relationships, actors processing data with contextual perceptions of the current market and personal experience. Decision makers therefore mobilize objective and subjective criteria to actively engage with the market. This is tactical, yet informed by strategy concerning objectives for the firm (Kotler, 2000). Basically, price setting is conceived as an optimization problem: 'Setting a price too high can have the effect of indirectly reducing profits via a reduction in the firm's market share, while setting a price too low can directly reduce a firm's profits through low profit margin' (Gordon *et al.*, 1980, p. 1). In tendering situations high prices result in winning fewer contracts and low prices win more contracts but with less profit in conceptual terms, moderated in practice by contextual conditions.

This overview applies to construction: 'A realistic model of price determination would need to be at home with loose or fuzzy concepts, not feel guilty about the lack of mathematical precision and able to cope with erratic non-optimizing decisions' (Raftery, 1991, p. 146), yet empirical research shows pricing in construction does not fully conform to the norms of other industries; it successfully borrows elements. For example, South African firms in the chemical and construction industries employ the same organizational structures and costing systems and both emphasize costs and competitor prices rather more than buyer behaviour in determining price. They do, however, differ in their pricing objectives, with construction firms emphasizing return on investment, while chemical

firms emphasize mark-up on cost (Abratt and Pitt, 1985). Tendering is largely market-oriented, which includes many subjective judgements (Green, 1989); however, marketing remains relatively unsophisticated and largely intuitive in construction (Smyth, 2000).

Overview of marketing and pricing

Economics has tried to understand pricing and pricing strategies, while reliable models for pricing remain elusive (Hoffman *et al.*, 2002). Marketing theory has established models, which include pricing, recognizing similarities and differences in objectives, methods and procedures between industries (Gordon *et al.*, 1980) and between product/service lines. '[F]or marketers of industrial goods and construction companies, pricing is the single judgement that translates potential business into reality' (Walker, 1967, p. 38). Aspects of marketing have been applied in construction and have been shown to have further application (Smyth, 2000; Preece *et al.*, 2003).

There are currently two primary marketing paradigms, the *marketing mix* (Borden, 1964) and *relationship marketing* (Berry, 1983). The marketing mix (MM) was developed in mass market consumer goods, utilizing the so-called 4Ps of product, place, promotion and price (McCarthy, 1964) and subsequent variants. This producer-oriented approach aggregates consumers into segments that are then supplied products using the mix of ingredients from the 4Ps. The objective is to maximize sales, hence profit. The producer accepts the market as it is and the consumer is viewed as passive, the transaction-based MM being aligned with NCMT.

Relationship marketing (RM) was developed for business-to-business (B2B) relationships, especially for intangible services (e.g. Grönroos, 2000). This is customer focused, whereby agile production and tailor-made services are configured for 'segments of one' (Gummesson, 2001). The objectives are to add product and service value to provide client satisfaction, engender loyalty, and hence increase repeat business and secure premium profit for the producer from satisfied customers. The consumer is viewed as active and the producer is a proactive market creator and market manager.

RM offers an alternative perspective to MM, yet opportunity for overlap is present. While some (e.g. Kotler *et al.*, 1996) emphasize overlap and integration of MM and RM, identifying scope for practitioners to amalgamate or transition between the two, tensions and conflicts can be overlooked, for example RM is not aligned with NCMT. RM requires proactive market management through systematic organizational and individual behaviour. At the micro-level, RM seeks changes in exchange processes and in the management of product and service delivery. Aggregated organizational behaviour can change the market at sector level, for example investment in relationship marketing can increase switching costs and create barriers of entry.

Conceptually, MM does not fit construction. Traditionally, contractors do not design the 'product' and therefore service is the primary aspect contractors can configure. Most contractors offer undifferentiated services, organizing themselves into divisions mirroring procurement routes originally developed by clients (Smyth, 2006a). Overall this reduces management inputs, with a consequential lack of service communality and standardization in management-cum-behavioural terms, projects typically being organized on a one-off basis according to a personality (or blame) culture (Smyth, 2000; Pryke and Smyth, 2006).

'Place' refers to distribution channel in marketing theory. However, logistics and the outlet of sale do not easily translate into construction where 'site' relates to 'place', which is client rather than contractor determined. The procurement route also concerns 'place', which at a project level clients choose prior to approaching the relevant contractor division because of the structural solutions to marketing adopted by contractors (Smyth, 2006a). Promotion in the market is constrained by geographical coverage for small firms and larger firms rely upon reputation and referrals, especially from consultants (Smyth, 2000). Promotion is not a major issue, especially with undifferentiated services.

Conceptually price becomes the major marketing issue, which accords with practice in a fragmented and competitive market. While Alfred Marshall recognized the importance of multi-product firms (Earl, 1995) and marketing theory and practice embrace heterogeneous product and service markets, constructors tend to offer undifferentiated services. The continuous improvement agenda has largely been 'thrown over the wall' as client driven (Smyth, 2006a) or simply passed along the supply chain (Smyth, 2005; Green, 2006).

Marketing theory of price and pricing strategies have not always been articulated in empirical research (Rao, 1984). The mass market origins of MM have militated against price-based research as prices are fixed at an aggregate level, individual exchanges being irrelevant. This does not concur with specific assets in construction markets. Market leverage of individual suppliers and customers (Jain and Laric, 1979) continues to exert downward price pressures in construction (*cf.* Cox and Ireland, 2006; Green, 2006). Rao (1984) recognized that different customers value different product and service attributes, enhanced by customer perceptions of value (Shapiro and Jackson, 1978), and

thus accommodate different price structures—important in asset-specific exchanges yet inhibited in contracts where features and benefits cannot easily be sought out and evaluated in advance compared to goods produced ahead of sale (Smyth, 2000).

Conceptually, RM would be expected to closely fit construction services. Intangible services for one-off 'products' largely delivered B2B are suited to RM. In practice, the fragmented market of contractors supplying capital-intensive services over long contracts in conditions of discontinuous workload and project uncertainty have led to transaction cost management being to the fore (Gruneberg and Ive, 2000; Winch, 2002). Minimizing transaction costs results in low levels of investment in marketing and particularly RM (Smyth, 2000, 2004), undifferentiated services and the low service support levels from the head office to projects being consequences (Smyth, 2000, 2006a; Pryke and Smyth, 2006).

Client-driven agendas for continuous improvement—partnering, supply chain management and lean production—have led to limited changes. In general, the contractor remains a market taker in line with NCMT. Contractors have responded by adopting the client procurement-driven model, rather than making a marketing response—the other side of the procurement coin (Smyth, 2005)—learning the collaborative 'rhetoric' and passing the agenda along the supply chain (Green, 2006). Continuous improvement, therefore, is anchored within the transaction cost domain, including *relational contracting* (cf. Kumaraswamy and Rahman, 2006), which seeks reactive behavioural responses to changes in governance and market structure, whereas RM, hence relationship management, seek proactive and aggregated behavioural change which can change the market if practices become widespread (*cf.* Smyth, 2006b).

However, some contractors go beyond relational contracting (RC) on a piecemeal basis, making investment into improving relationships and adopting some of the 'tools' of RM (Smyth, 2000; Kumaraswamy and Rahman, 2006), which has grown incrementally in recent years, but is yet to constitute systematic approaches to RM and relationship management (Pryke and Smyth, 2006).

RM theory has also neglected empirical research on price, perhaps being partly explained by Grönroos' comment: 'Price is never a sustainable advantage. As soon as a competitor can offer a lower price, the customer will be gone' (2000, p. 4). RM has drawn attention to the value of the relationship in pricing (Ford *et al.*, 2003). This has to be offset against the investment and costs incurred in developing relationships (Grönroos, 2000), inducing a positive relationship revenue over the customer life cycle (Storbacka *et al.*, 1994). Therefore, prices must be set not too high so as to potentially damage the relationship, yet high enough to offset the additional costs and yield a profit based upon the enhanced service value (Ford *et al.*, 2003).

Pricing under RM therefore emphasizes process—managing investment, relationships and costs—seeking to change market transactions in contrast to MM where 'hidden' relationship costs are high in terms of transaction cost analysis.

Factors affecting pricing—construction industry issues

Supply and demand influences on setting pricing strategies

Producing in response to demand forecasts is a conventional product–price issue. Working to contract in construction means production occurs *after* sales are secured, hence reversing basic marketing theory chronology. Each 'product' is client and project specific hence unique. Production and assembly techniques are generic rather than standard in a flow-line systems' sense, reducing opportunities for knowledge transfer between projects and accurate comparative pricing (Cassimatis, 1969). Historical cost data are only pricing indicators and forecasts inherently unreliable, scarce and time-lagged between data collection and availability (Raftery, 1991; Bowen, 1994). Actual work processes are not used as a basis for pricing, forms of measurement being surrogate indicators of activities.

While effective cost control systems are essential to minimize uncertainty in construction (Perera and Imriyas, 2004), few contractors know their real costs precisely, the cost curve of the firm at any stage varying over a wide range (Hillebrandt, 2000). Construction firms are unaware of their exact marginal cost and revenue curves (Raftery, 1991) and calculations for the point of equilibrium (Gruneberg and Ive, 2000).

Speculative building (SB) can be an exception when the contractor is the developer and production precedes sale in the commercial market. The product is also relatively fixed at an early stage in housing development markets due to planning and the application of standard house types.

Traditional contracting (TC) is typical of many business operations, both inside and outside the construction industry, where demand—number of contracts and value of work in construction—is outside contractor control (Gruneberg and Ive, 2000, p. 236), industry living with demand fluctuations, hence firms being defensive (Hillebrandt, 2000) amid market uncertainty (e.g. Tavistock Institute of Human

Relations, 1966; Raftery, 1991). Work is said to go to 'the best assessor of an uncertain situation rather than the most efficient to undertake the work' (Hillebrandt, 2000, p. 153). Contractors can only stimulate demand where they offer an additional resource, for example SB, using land or financial packages to overcome an obstacle to a conventional project (Smyth, 1985)—cases of increasing market share by product/service differentiation.

Business development managers and directors of construction divisions and parent organizations endeavour to reduce uncertainty through courting potential clients, their design teams and client programmes (e.g. Preece *et al.*, 2003) as well as information about the environment and competition through personal contacts established through courting and industry networks (e.g. El-Higzi, 2002). Selling therefore mixes promotion and market research for contractors trying to get close to potential clients and design teams (e.g. Ngowi *et al.*, 2000). Such relationship benefits are frequently lost for pricing as business development managers are seldom involved with estimating, project planning and decisions on tender prices that determine the service offer and margin. Directors are typically insufficiently involved to play this role; hence, the theoretical applicability of RM is compromised to the transaction approach of the marketing mix (Smyth, 2000; *cf.* Pryke and Smyth, 2006).

Environmental influences

The construction industry is characterized by a high degree of fragmentation as well as flexibility (Fellows *et al.*, 1983). Although competition can be intense, the market is tiered, contractor size acting as a barrier to tiers. In addition, competitors on one project can form a consortium to bid on another. These factors can render detailed knowledge of competitors for any project difficult, even for those with sophisticated management information systems. In the TC market it can be difficult to analyse prevailing prices, reinforced by sealed bidding (Raftery, 1991, p. 139; Hillebrandt, 2000, p. 152). The contractor cannot accurately know prevailing market prices (Hillebrandt, 2000, p. 153), price forecasting being 'a matter of judgement and ''knowledge'' of the market' (Raftery, 1991, p. 33), and 'there is no futures market … nor is retracking or assignment allowed' (Gruneberg and Ive, 2000, p. 238) to gauge future project prices.

Procurement arrangements

In MM, procurement is akin to place, which in construction is largely 'received' rather than created in market terms. In RM the procurement route is an active co-selection between client and contractor as part of meeting client needs. Three procurement options are examined, namely TC, D&C and SB, to illustrate some of the price-marketing factors.

Traditional

TC procurement is characterized by the separation of design and construction processes and therefore offers limited scope for contractors to compete on enhanced function or design quality of the finished product. Marketing has been price dominated within MM (Smyth, 2000). What is surprising is service as 'product' is not configured as part of the mix. The creation of divisions to handle procurement routes inhibits contractors actively becoming involved with advising clients and responding with differentiated services to generic service needs. Moreover, business development—the construction sales function—typically terminates with pre-qualification or tendering. This is the first breakdown in service continuity. Further horizontal breaks in service are often evident as the project team put forward to bid for a project is not always available when work commences on site, and various teams may be introduced at subsequent stages as teams are reallocated to maximize the potential to win new projects and manage transaction costs in personnel terms (Smyth, 2000, 2004). This militates against service continuity for fulfilling promises and service differentiation for adding value, specifically affecting delivery of client satisfaction and securing repeat business. Moves towards partnering and supply chain management have not had a considerable effect upon this tendency—RC working within market structures and governance—RM being the management means to improve service continuity, hence improving service quality in adding value and meeting client needs (Smyth, 2005; Pryke and Smyth, 2006).

Some major contractors have started to implement key account manager or account handler methods (Smyth, 2000; Pryke and Smyth, 2006), although typically this has led to an internal struggle for resources, support, and thus a loss of client orientation, hence the transaction mindset largely prevails and is reflected in low prices and poor value for money (Smyth, 2000).

There are also related, vertical beaks in continuity of service caused by the lack of relationship management systems for marketing and project management between the main office and sites. Therefore the experience a client receives on one project can be quite different on the next project. Hence a personality culture dominates sites. A transaction approach

dominates pricing and hence sacrifices opportunities for managed service differentiation that yields client satisfaction, hence repeat business. While there is nothing wrong with such approaches for individual firms, the surprising aspect is wholesale lack of service differentiation limiting client choice.

Design and construct

In D&C the contractor is responsible for design. This radically changes price setting from pure service provision towards production. In theory it could be expected that the contractor seeks to configure the product, and has done so within the limits of 'buildability'. In practice D&C paradoxically intensifies price issues. Design introduces a new variable, creating every incentive for contractors to reduce design quality and specification in order to achieve the lowest bid price.

Historically, some contractors have used design as a promotion tool and created a reputation in particular market segments or building types. IDC provided a good UK example in the 1980s process and pharmaceutical industries, but were taken over by Amec—a likely market outcome for contractors wanting to create value beyond the undifferentiated services of traditional contracting. The firms absorbing such rivals tend to treat them as cash cows by default, if not by design, because they fail to adopt new pricing strategies that will protect and develop the expertise.

Speculative building

SB incorporates design and production with the addition of a sale, usually for housing where current competitor prices are known. This form is the most similar to purchasing consumer durables. Reputation and brand have some impact in SB markets, some house designs being recognizably attributable to certain builders. To this extent, product differentiation is discernible, involving both technical specification and quality dimensions. Market segments are defined by income, lifestyle and house size, frequently expressed via price and number of bedrooms. However, promotion and product are not dominant marketing features. Once a speculative builder has secured a site they have locational monopoly, becoming price makers rather than being customer or product focused. In addition, customer purchases are often determined through financial packages for mortgages and part-exchange schemes, which conceptually are part of price within MM.

A growing numbers of customers will only buy new homes. It is still a niche market and does not necessarily translate into repeat business. Particularly in buoyant markets, buyers frequently buy off plan or prior to completion, which housebuilders encourage by phasing release on large sites, hence also increasing cash flow and minimizing working capital. Therefore, the quality of the building is often being taken on trust (Shen and Dong, 2001), largely an RM issue in a MM market.

Table 1 summarizes some of the main marketing issues and options posed across different procurement routes.

A procedure for setting pricing strategies for the construction industry

Strategic motivation

Therefore price is dominant. Survival is of great strategic importance owing to downward price pressures in fragmented markets. Survival comes before profitability or growing market share via MM or through RM criteria of client satisfaction, hence repeat business. This is explored across several dimensions: product quality, market share, profitability and survival *per se*.

Product quality leadership

Product quality leadership is possible where contractors control design. D&C paradoxically mitigates against design quality as design becomes the prime source of price competition, so much so that many clients take design out of contractor hands through novation under D&C. BOOT-type contracts such as PPP/PFI offer opportunities where input specifications have been substituted by output specifications (Ive and Rintala, 2006). This can also be seen as an indirect form of 'product' control by the client. SB does offer opportunity; however, the control of inputs, especially land, provides a dimension of oligopoly that militates against this, thus MM dominates largely via price and service-cum-financial packages. However, product quality has been improved as branding and mainstream advertising has grown over 25 years, in addition to which brownfield city centre development requires more innovative design and technology, which is incrementally having an effect on product quality from a customer viewpoint (Prapas, 2005).

Maximum market share

The main motivation for growing market share is to increase market power and increase dividend returns to shareholders from volume, particularly where margins are static. For contractors the main motivation is different, whereby growth in company size permits entry into the next tier of the market, economies arising from access to projects larger in value rather than

Table 1 Characteristics of marketing and pricing across procurement routes

Issue	General	TC	D&C	SB
Design—product	Not undertaken by contractor.	Not undertaken by contractor.	Contractor responsibility for design, concept frequently controlled through client under novation, all or remainder usually subcontracted by contractor.	Responsibility of contractor-developer, sometimes in-house, sometimes subcontracted; usually developed with a producer rather than customer orientation.
Facility—product	Simple-complex.	Simple-complex.	Normally-complex.	Simple.
Customer or client	Institutional, suited to marketing mix and relationship marketing, core clients seeking added value with repeat business opportunities.	Usually institutional, suited to marketing mix and relationship marketing, some core clients seeking added value with repeat business opportunities.	Usually institutional, suited to marketing mix and relationship marketing, some core clients seeking added value with repeat business opportunities.	Contractor as customer
Procurement route	A marketing issue treated structurally by contractors, thus clients are initiators rather than contractors.	Structural solution means contractor are too passive in understanding client needs and expectations.	A procurement route that contractors react to client initiative.	A procurement route primarily suited to marketing mix, relationship marketing viable for referral market only.
Contractor selection—service as product	Competitive tender, which practically is a price dominated variant of the marketing mix, yet conceptually is suited to relationship marketing; Negotiated which theoretically suits relationship marketing.	Competitive tender: opportunity to use marketing mix (through business development managers for pre-qualification) or use relationship management throughout (using account handler and/or relay team approach with baton representing understanding of client needs and expectations).	As TC, yet more product-like in marketing mix terms, typified low design quality as design is a variable in bidding process.	Self-selection or 'direct nomination'.
Differentiation	Service differentiation currently minimal, yet considerable scope.	Service differentiation currently minimal, yet considerable scope.	Service and product differentiation variable and further scope.	Branding differentiation through design, some service differentiation with scope for further service differentiation.
Price	Competitor prices unknown. Price takers.	Competitor prices unknown. Price takers.	Competitor prices unknown. Price makers in design terms and takers in other respects.	Competitor prices known. Price takers in context of second hand homes market, price makers in context of design and especially location.

number of projects undertaken (Smyth, 2006a). However, contractors reduce prices to maintain market share, helping to keep prices at traditional market levels and constrain price increases to invest in improving services, hence maximizing repeat business opportunities as an avenue to increase share.

Gordon *et al.* 's (1980) study suggests SBs ideally would want to maximize market share. In practice, though, even the largest firms have relatively small shares compared to most industries (Prapas, 2005) and are unprepared to lower prices to gain share.

Maximum current profit

Profit maximization has not been a major driver in construction (Skitmore, 1989), opportunities to set high prices being limited for all procurement methods. Determining profit margins through bidding is highly unreliable and less important than maximizing the efficient use of working capital and cash flow management once a project is secured. Contractors have less capital than most industries, return on capital employed (ROCE) being more significant for them than profit margins. ROCE is higher than for most other sectors (Gruneberg and Ive, 2000).

Prices may be raised to levels of market skimming under exceptional circumstances, for example when work is very buoyant and capacity stretched. Conversely, prices may be lowered when the market is highly constrained to protect market share and cover overheads for survival.

Survival

Companies pursue survival as their major objective, especially where demand levels lead to overcapacity, intensified competition or changing customer wants. Price, hence profit, is less important than survival. According to Wilson and Gilligan (1997) pricing for survival can often mean pricing below (variable) cost to maintain cashflow. Many TC and D&C firms maintain flexible capacity by astute management of resources to manage unevenness of demand, lumpy contracts and project uncertainties, thus survival is a major construction industry preoccupation (e.g. El-Higzi, 2002). Construction is generally a highly competitive industry (e.g. Krippaehne *et al.*, 1992) and, although some specialists may occupy dominant positions and contractors may occasionally avoid bidding altogether in high intensity situations (Skitmore, 1987), many organizations feel they have to fight for survival (Skitmore *et al.*, 2006).

Determining demand

In NCMT consumer goods prices are related to the current quantity of demand expressed in a demand curve, moderated by competition from other products that will tend to be slightly different in MM terms. In TC contract bidding, the product is identical for all bidders (Hillebrandt, 2000). Contractors therefore weigh the opportunity cost of bidding for contracts, assessing risk profiles, estimated number of bidders and other context-specific factors rather than price in deciding whether to bid. Such choice is only an option in a buoyant market.

Price sensitivity

Price sensitivity is concerned with the effect that prices have on demand, that is, price elasticities and quantity demanded. In competitive tendering potential changes in prices affect the chances of winning contracts, therefore, contractor willingness to lower prices will not elicit higher demand levels, but merely increase the likelihood of securing a contract. Several commentators (e.g. Morledge, 2000; Cox and Ireland, 2006; Green, 2006) have pointed out the lopsided demand nature of TC, where client-owners possess considerable market power, which some clients use to solicit lower bid prices in a highly competitive market and dangle the carrot of repeat business where there is a programme of projects. Thus, market conditions are important in determining pricing strategy (e.g. Flanagan and Norman, 1985).

It has been argued that price is a function of prevailing market conditions rather than sensitivity to one product or service offer that helps form the market. This transaction approach means that marketing comes behind survival and that MM, particularly with a price orientation, has been typically preferred. Continuous improvement has provided scope for contractors to adopt more comprehensive marketing policies, and where this has been done RC has dominated—in essence another structural response as a marketing solution in line with historic structural responses to client procurement innovations. While RM remains theoretically possible, most actions within this paradigm have been tentative. Although this shows that MM and RM can be dovetailed, there is minimal evidence to suggest that transition strategies from MM to RM are underway; however, the scope for continuous improvement is seriously constrained without such a move (Smyth, 2005).

Selecting a pricing method

There are two conceptual techniques for setting the final price. Cost-oriented techniques are mark-up pricing, target return on investment, early cash recovery. Market-oriented techniques are perceived value pricing and going-rate pricing (see Mochtar and Arditi, 2001). Mark-up pricing is the standard industry

textbook approach (e.g. Bartholomew, 2000). A production-cum-cost focus in line with MM, it largely ignores current demand, perceived value and competition. It is unlikely to lead to optimal pricing, due to zero-sum games, yet forms part of setting price to win particular bids (*cf.* by Skitmore *et al.*, 2006). In SB, mark-up considerations are not directly involved, but increases in prices between land purchase and time of house sale creates a 'mark up' in the form of capitalized rent on the house.

Target return on investment pricing depends on price elasticity and applies in construction where time is critical, for example management fee, cost plus and target cost contracts. It could also come into limited play where added value is high and price sensitivity is lower, thus where RM has been applied to create high levels of client satisfaction, repeat business and higher margins. Perceived value pricing can occur where image and buyers' perceptions of value determine price, added service value enhancing image (Smyth, 2000), supplemented by promotion through brand, advertising and sales techniques (Chang and Wildt, 1994). Market research is needed to establish the market's perception of value, which in construction comes through RM in the sales process in the form of close understanding of client needs (Smyth, 2000) in order to guide effective pricing (*cf.* Skitmore *et al.*, 2006). This is poorly conducted or neglected in construction.

Value pricing is a low price for a high quality offering. The use of value pricing has been suggested for roadworks (Lam, 2003), yet is inapplicable for construction work in the absence of repeat business in markets of high added value services, which remains largely absent in construction. Going-rate pricing is largely based on competitors' prices. This applies in bidding, where competitor prices are unknown at a detailed level, yet assessed by bidders through industry networks and suppliers, and in SB where price comparisons form a primary means for price setting.

Competitive-oriented pricing is common where firms submit sealed bids, based on expectations of how competitors will price rather than on a rigid relation to the firm's costs or demand. Using expected profit for setting prices makes sense for firms making many bids, thus learning through past experience to inform current bid prices (*cf.* Runeson and Skitmore, 1999). This fits with the price dominant element of MM in construction.

Initiating and responding to price changes

Firms can face the need to change product and service prices. A price decrease can reduce excess capacity, declining market share, and induce higher market share through lower costs, or during economic recession. This applies in the general to SB and tends to apply to D&C. Price increases might be brought about by cost inflation or over-demand. TC prices are set contract-by-contract, hence price changes are manifested in post-tender negotiations, and through claims and variations for work that was not accurately or fully specified for the tender, owing to an absence of information (Pheng and Hua, 2000). Contractors try to absorb such changes by requiring subcontractors and suppliers to re-bid for their contracts as much as possible.

Discussion

Two marketing paradigms have been applied—MM and RM. MM applies in current practice, with price being dominant of the 4Ps. This is the case in TC and is intensified in D&C as design becomes a key variable in achieving competitive pricing. Novation has been used by clients to take design out of the pricing equation; however, where clients increasingly place design quality as a key selection criterion, for example in PPP/PFI bids, then design quality becomes a product factor. Price dominates SB because builders are price makers due to oligopoly derived from the physically fixed nature of land as a resource input. SB uses the other three Ps—product, promotion and place (site)—to some limited degree.

Price is important in TC and D&C in terms of project costs, but demand factors are important in terms of market activity levels. For individual projects realistic pricing is difficult to establish with confidence and usually bears little relation to outturn prices. Prices are formed through an assessment of what it will take to win a contract. The effect is that contractors have sought survival as the primary strategic approach to pricing, marketing taking a subsidiary role. Consequently, contractors largely fail to differentiate services and standardize services in the management of projects, hence educating clients into price domination.

RM would seem to be conceptually the most appropriate marketing approach. Certain contractors applied RM piecemeal in response to continuous improvement agendas. RC is within the transaction remit, hence MM, governance and market structure being taken as given. RM accepts the market, but not as is, trying to change behaviour and processes by investing in relationship management systems that in aggregate change the market.

RM offers greater potential and flexibility for pricing strategies. Moving from transaction-based MM to RM is an issue that contractors face—a change in pricing

strategy is essential for any firm moving towards RM. The change can start with raising prices in a buoyant market, the return being invested to deliver the added value to increase client satisfaction and repeat business. In a steady market, then the investment has to be made first, so that the added value is demonstrated to specific clients and in referral markets through promotion and reputation before prices can be raised. Investment therefore will initially lead to an increase in working capital and a reduction in ROCE. As repeat and referral business increases, further investment can be covered, for it costs over five times more to find a new client than keep an existing one (Smyth, 2000).

In order to progress, exploration of practice is required along three further dimensions: general empirical work on pricing regarding contractors and clients, general empirical work on decision making on pricing and mark-ups from a marketing-cum-pricing perspective, and specific work on attempts and constraints in using RM principles piecemeal and more comprehensively.

Conclusion

A marketing approach offers a perspective that is both conceptual *and* suited to practical application. Pricing has, however, been a neglected area in marketing generally and is absent within the construction marketing literature. In exploring this area, a fruitful avenue for educating and training practitioners has been opened up as it engages theory with practice in ways that economics has yet to adequately achieve.

The analysis has also indicated that pricing from a marketing perspective may help inform price setters in industry of the issues to take into account in specific contexts. It may also inform construction firms concerning pricing strategies to adopt according to their corporate strategy in general and marketing in particular. Furthermore, pricing is a key element in any strategic shift in marketing strategy.

MM fits with NCMT. RM accepts the market, yet is interventionist, trying to change behaviour and form. It has been argued that SB is conceptually and practically closest to MM, while TC and D&C are price dominated yet theoretically more suited to RM, the paper analysing the scope for transition within the changing, client-driven construction agendas.

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