

Business Strategies for Architectural Firms: Type versus Capabilities

John L. Heintz, j.l.heintz@tudelft.nl

Faculty of Architecture, Delft University of Technology

Guillermo Aranda-Mena, guillermo.aranda-mena@rmit.edu.au

School of Property, Construction and Project Management, RMIT University

Abstract

There is now no shortage of strategic management advice on offer to architectural firms, from either consultants or books – although one may have to search for it. Much of this advice is based on typologies of architectural firms. This allows the consultant or the reader to assign a firm to one or another type, and read off the strategic recommendation. The simplicity and decisiveness of these typologies gives them a certain authority. In this article we argue that the typology of architectural firms is unfounded, lacking convincing empirical evidence and sufficient complexity to reflect the actual nature of architectural firms and the markets they operate in. Specifically, while most strategy literature is written as if there are relatively few sellers and many buyers, architects must compete among many sellers for work from comparatively few buyers.

Drawing on the language of the resource based view of strategic management (RBV), we offer an alternative account of strategy options for architectural firms based on understanding the market in terms of demand, competition and segmentation, and the firm in terms of values, capabilities, differentiation, and branding. We suggest that the typological systems do not allow for sufficient differentiation, and that architectural firms must strive to present themselves as having identifiable differences in capabilities from their many competitors. RBV also allows architects to specifically address issues such as market segmentation, diversification and specialisation.

Keywords: professional service firms, strategic management, firm typology, architectural design expertise

1. Architectural services: What's in a Type?

There is now no shortage of strategic management advice on offer to architectural firms, from either consultants, papers or reference books – although one may have to search for it. Much of this advice is based on typologies of architectural firms. This allows the consultant or the reader to assign a firm to one or another type, and read off the strategic recommendation. The simplicity and decisiveness of these typologies gives them a certain authority. In this article the authors argue that this use of type are unfounded, lacking convincing empirical evidence and sufficient complexity to reflect the actual nature of architectural firms and the markets they operate in. This paper makes a call for increasing the understanding architectural practices and calls for empirical studies to provide well founded and less idiosyncratic directions.

1.1 Architectural firm as a business

Architecture is a business in which technical knowledge, management, and an understanding of business are as important as design. In this paper type refers not to the type or kind of architecture produced such as by functional types, morphological types or historical types but to the forms of business and organizational constitution of architectural firms. A search for business modelling and strategies for architects academic search using EBSCO, Science Direct and the Web of Knowledge search engines yielded results dating back to the early 1970s applying generic business sense architectural firms, but it was not until the late 1970s that could find evidence for market research specifically for architectural firms “Identifying your markets of future” (1978). Since, a number of architectural business typologies have emerged some of which are discussed here.

Much of the management literature applied to the practice of architecture takes a single-sided view on the managing on delivering a building, service or product and less on the *market positions* or *strategic management*. Market positioning (or super-positioning) refers to the coupling of these two variables – management as delivery and management as business strategy (Smyth, 2003). This paper is concerned with the second aspect of management.

The practice of architecture is often narrowly defined and misunderstood, in some cases is located in the field of arts and humanities (Lawson, 2006), in other cases as a service industry and business driven (Nordenflycht, 2010). Business and marketing literature tends to ignore the unique and complex nature or architecture as a design oriented service and common idiosyncrasies of the profession. Historically it was Le Corbusier the first to identify the need to develop a brand and business niche in architecture as he consciously developed a ‘signature’ especially by making use of publishing and media with glossy books bound in landscape format accommodating thus drawings and sketches in a more enticing format for the reader and using typography from pre-first world war, German art movement, the Werkbund providing promotional material to his ideas and practice (Boyer, 2011).

In more recent times competitive advantage for architects doe not only rely on market positioning but on an array of business performance and productivity outcomes (Tinnilä & Vepsäläinen, 1995). Perhaps all this tilting too heavily on IT and computer systems with the

advent of cad CAD, BIM and the Internet where technology adoption present not just a knowledge challenge but a cultural challenge. The following is a review and critique of practice typologies.

2. Firm Typologies

The most authoritative and well known and fully developed system of firm types was developed in the 1980's by the Coxe Group firm of management consultants, including Weld Coxe, David Maister, and Brian J. Lewis (Coxe, 1987; Lewis, 1988). The Coxe Group typology was developed drawing from Maister's generic typology of professional service firms (1985), and was based on the premise that "*there are observable categories of consulting engineering firms, and each category has a definable and consistent set of management strategies.*" (Maister 1982 and Maister in Lewis, 1988) Maister referred to Vollmer (1966). The Coxe typology is part of a larger consultancy system called "*superpositioning*". The typology is based on a division of firms into three categories of "*design technologies*" and two categories of "*organizational values*" yielding 6 types.

Table 1: The Coxe Typology

Coxe et al		Organizational Values	
		Practice Centred Business	Business Centred Practice
Design Technologies	Strong Delivery	A	B
	Strong Service	C	D
	Strong Idea	E	F

Strong Delivery technologies provide efficient service on routine projects for product oriented clients. *Strong Service* technologies provide experienced and reliable services for complex projects. *Strong Idea* technologies provide deliver singular expertise or innovation for unique projects. Although *Strong Idea* firms are associated by most readers with architectural stars, firms delivering highly specialized or niche expertise may also fall into this category. Practice centred businesses are driven by professionals who are devoted to high quality service and the exercise of their professional expertise. Business centred practices are driven by bottom line, financial rewards.

A firm's type is determined by answers to 9 questions. These concern:

1. Ownership
2. Firm-wide decision making
3. Staffing
4. Marketing
5. Organization
6. Project related decisions
7. Reward structure
8. Pricing
9. Clients (quality preferences)

Each question has 6 possible answers or attributes, and these answers correspond to the 6 types. Each type represents a unique match between firm structure, policies, and goals. Thus the characteristics of a prize *winning firm (brand)* marketing Strong Ideas will be quite different from those of a highly profitable firm marketing reliability, budget and time control *all attributes forming a brand* (i.e., Strong Delivery). Together these six types are intended to cover all possible viable forms of architectural, engineering and design practices. Success according to the Coxe Group, lies in bringing the characteristics of your firm into compliance with one or another of the six ideal types. Any firm wishing to be successful must conform to the type it most resembles. Evolution from one type to another is deemed possible along a (*linear*) unidirectional line from idea through service to delivery and from practice to business – i.e., along a line of decay from idealistic to commercial to crassly commercial. It is as if as architects age they lose their interest in art and gain an interest in golf and income but also perhaps in sustaining more established practices employing a larger number of staff.

The Coxe typology is therefore *normative*. It is not an attempt to describe architecture firms as we find them, but rather a scheme intended to outline the *only possible successful configurations* available to architectural firms.

By the mid '90's the Coxe Group had advised over 600 firms using the *Superpositioning system* (Cheung, 1994). The Coxe typology corresponds well to 'common sense' and to widely held stereotypes of architects. It has become familiar to many architects and is often referred to in the literature on design management. However, it is often abbreviated to the three design technologies: Strong Idea, Strong Service, and Strong Delivery. Unfortunately, the questionnaire, the ideas and theories built into it remain less well known.

Several authors have developed architectural firm typologies since Coxe et al., and the most important of these will be discussed below. We will show that these are reducible to the Coxe typology, and offer little additional insight.

2.1 The Winch & Schneider Typology

In the 1990's Graham Winch and Eric Schneider developed an alternative typological system to facilitate architects in positioning themselves in their market. Their system was a reaction to the Coxe group system (Winch & Schneider, 1993). Following Porter's (1981) approach to strategic management, they focused on market characteristics rather than characteristics of the firm. The typology is intended to yield a mapping of the market in terms of four market positions, yet their type labels bear a clear resemblance to those of the Coxe group system.

Table 2: The Winch & Schneider Typology

Winch & Schneider		Project Complexity	
		Simple	Complex
Quality Preference	Client Review	Strong Delivery	Strong Experience
	Peer Review	Strong Ambition	Strong Ideas

Winch & Schneider's (1993) Strong Delivery, Strong Experience, and Strong Ideas correspond well to Coxe's Strong Delivery, Strong Service, and Strong Ideas (although Winch & Schneider's Strong Ideas type is more closely associated with distinctive architectural style). Their Strong Ambition is simply a smaller or start-up form of the Strong Ideas type. If we correlate Winch & Schneider's 'project complexity' with Coxe's clients and their 'quality preference' with marketing, than we get exactly the same result in the matrix. Winch & Schneider's scheme is therefore simply a reduction of the Coxe scheme to those attributes that describe the interaction between the firm and its market. Winch & Schneider agree with the Coxe Group that firms are unlikely to be able to perform strongly in three or all four of the markets with any consistency. Firms, we are told should focus their strengths. However, they offer no empirical data for their conclusions.

2.2 The Allinson Typology

Kenneth Allinson also developed a typology of firms that appears initially independent of the Coxe typology (Allinson, 1997). However references to the Coxe typology in earlier work (Allinson, 1993) suggest that an awareness of it played a role in Allison's thinking. Allinson's types Signature Practice and Delivery firm are equivalent to Coxe's types Strong Idea and Strong Delivery. A *Consultancy* is equivalent to a (1) 'practice' centred Strong Service firm and an *Expert Practice* is a (2) 'business' centred Strong Service.

Table 3: The Allinson Typology

Allinson		Power Structure	
		Consensus Seeking	Power Seeking
Problem Orientation	Problem Finding	Consultancy	Signature Practice
	Problem Solving	Expert Practice	Delivery Firm

Allinson's system relies on firm characteristics rather than market characteristics: 'problem orientation' and 'power structure'. If we correlate power structure to Coxe's Firm-wide decision making, and problem orientation to the departmentalization as reflected in Coxe's organisation, then once again we arrive at an identical matrix. Thus here too, we have a simple reduction of the Coxe typology.

2.3 The De Bont Typology

On behalf of Bureau De Bont, Bouwdewijn & Broekhuizen developed what appears to be an independent typology (Boudewijn & Broekhuizen, 2002). Here the relationships between the characteristics listed by Bouwdewijn & Broekhuizen and those listed by Coxe is not so clear. There are no clear synonyms and the three characteristics by which the firms are typed are not synonymous with any of Coxe's. De Bont's characteristic manner of working includes elements that fall under both Coxe's organization and project related decision making. Core quality includes elements that fall under Coxe's general descriptions of the design technologies, as does basic principle. On a holistic comparison of the descriptions of the types, De Bont's types correspond well to Coxe's design technologies. Indeed it has been claimed by other authors that their system was based on that of Coxe (Loonen, 2004).

Table 4: The De Bont Typology

<i>De Bont</i>	<i>Basic Principle</i>	<i>Core Quality</i>	<i>Characteristic Manner of Working</i>
<i>Studio</i>	<i>My idea and creativity</i>	<i>Innovative</i>	<i>Improvisational</i>
<i>Firm</i>	<i>Our Client Risk Management (Process)</i>	<i>Relation(s)</i>	<i>Project Based</i>
<i>Business</i>	<i>The product and engineering</i>	<i>Product Management</i>	<i>Routine</i>

Note that *firm* and *business* practice type denotes a consulting with Strong Delivery (i.e. risk management) whereas *Studio* would align closer to Strong Ideas (i.e. my idea and creativity, innovative and improvisational). Similar practices to '*studio*' type often are referred as atelier, büro and workshop, often named after the principal. Leon Van Schaik has been an avid supporter of the studio/practice as influential in the way built environment shapes our cities. His advice to studio type practice are found in Mastering Architecture (Schaik, 2005) and emergence of sophisticated markets (Schaik, London, & George, 2010).

2.4 The HLB Nannen Advies Typology

In 2004, Nannen Advies (an accounting firm) was commissioned by the Bond van Nederlandse Architecten to do a study of architectural firms in the Northern Region of the Netherlands. In this study B.M.H. Loonen (Loonen, 2004) combined Henry Mintzberg's (1980) typology of organizational structures with the Winch & Schneider typology of firms interpreted as market positions he derives 6 types of firm. He provides no argument or evidence for his correlations.

Reference to Mintzberg's types allows connections to be made to a large body of organizational and strategic management knowledge. Mintzberg himself *discussed the tensions between flexibility loved by some architects and the imperatives of administration*

Table 5: The Nannen Typology

HLB Nannen Advies		Organizational Structure*		
		Simple Structure	Professional Bureaucracy	Adhocracy
Market Position**	Strong Delivery	Type A.1		
	Strong Ambition	Type A.2		Type C.2
	Strong Experience		Type B.3	
	Strong Idea		Type B.4	Type C.4

* From (Mintzberg, 1980)

** From (Winch & Schneider, 1993)

which emerge as a firm grows larger – the tensions between *adhocracy* and *machine bureaucracy* (Mintzberg, Otis, Shamsie, & Waters, 1988). And this is indeed reflected in the Nannen typology as Types B.3 and B.4. Mintzberg also acknowledges a typical attribute of architectural firms such as ARCOP staffed with highly trained professionals, the distinctions between *the machine* and *professional bureaucracies* is the level of *staff training* (Mintzberg, 1980). We may therefore assume that he would consider the appropriate structure for an architectural firm to be a professional rather than a machine bureaucracy. It must be noted that in 1965, when ARCOP, the firm Mintzberg studied, was feeling the pull towards bureaucracy most strongly it had over 140 employees and an annual billing of \$3,000,000 (in 1980 Canadian Dollars). A few Australian and Dutch architectural firms approach this size with the exception of practices such as Bligh Voller Nield (BVN) Architecture, Woods Bagot or Hassell Architecture. In any case, the Coxe questionnaire includes questions about organization and staffing that serve the same role as the inclusion of Mintzbergs organizational structures. Indeed, given the similarity between Winch & Schneiders typology and Coxe’s, one might claim that the characteristics of the organization are represented twice in this system.

2.5 Comparison

There is an underlying consistency between all these typologies. All cited typologies to make strong *normative claims* about how firms should be organized. These claims are drawn primarily from management literature, and from the experience of consultants. However there are two problems with all of these typological systems and the strategic advice they embody. The first is a lack of published empirical evidence. The second is that through their generality, these types fail to provide firms with any means of differentiating themselves from their competitors. A firm’s closest competitors will all be of the same type.

Table 6: Comparison of Typologies

<i>Coxe</i>	<i>Winch & Schneider</i>	<i>Allinson</i>	<i>De Bont</i>	<i>Loonen (Winch & Schneider)</i>
<i>Strong Delivery</i>	<i>Strong Delivery</i>	<i>Strong Delivery</i>	<i>Business</i>	<i>Strong Delivery</i>
<i>Strong Service</i>	<i>Strong Experience</i>	<i>Consultancy*</i>	<i>Firm</i>	<i>Strong Experience</i>
		<i>Expert Practice**</i>		
<i>Strong Idea</i>	<i>Strong Ideas</i>	<i>Strong Signature</i>	<i>Studio</i>	<i>Strong Ideas</i>
	<i>High Ambition***</i>			<i>High Ambition***</i>

* Corresponds to Coxe’s business centered practice.

** Corresponds to Coxe’s practice centered business

*** A smaller start-up version of strong ideas

As empirical support for their claims the Coxe group published results of a study of 100 firms in the form of two bar graphs showing a significantly higher percentage of firms of satisfaction among firms with a high degree of consistency with their typology than among those with a low degree of consistency. Unfortunately, no definition of ‘high’ or ‘low’, and no data were provided concerning the numbers of firms in the high or low groups. Lacking this, the statistical significance of the data cannot be established. A small independent study in the 90’s attempted to validate the Coxe Group *Superpositioning theory* (Cheung, 1994), but yielded inconclusive results.. They found a small but statistically significant positive relationship to architectural success using two of three analytical methods, and no significant relationship using the third. They found no significant correlation to financial success (Cheung, 1994).

Further there is evidence that architects do not accept that their own firms fit into the types. Cheung found that many respondents found it difficult to answer the Coxe questionnaire, sometimes feeling that more than one answer was appropriate (Cheung, 1994). In a study of architect’s marketing practices in the Netherlands, it was observed that architects were reluctant to identify themselves with a single type (Roberti, 2009; Schaap, Van Der Voordt, & Heintz, 2010). Architects seemed to believe that identification with one type implied a weakness in other areas. Interview respondents claimed to be strong in all three areas: idea, service and delivery. Another TUDelft study showed no correlation between organization type and the architectural typologies (Klein & Volker, 2010). Finding that 90% of the firms responding to the questionnaire were adhocracies. This is perhaps not surprising as the study was dominated by small firms, 60% with 10 or fewer employees and thus within the span of control of a single person. However, it certainly adds to one’s scepticism about typology.

The principal advantage of typology is that it provides a simplified view – arguably perceived as *simplistic* by architectural practices. The reluctance of firms to identify themselves as one or another type (ie. without recourse to the Coxe questionnaire) might be a conscious strategic

move. At this point firm typology seems to provide an oversimplified or simplistic view of properties that bear on their business strategies. However, the value in typology is that when used well it helps to focus on “*key*” characteristics of their firm and how they interact. Attention is drawn to the relationship between *ownership structure* and *clients*, between *service offer* and *staffing*, between the *goals or ambitions* of the firm and the advancement *opportunities offered to junior staff*. This system offers architects an entry point into understanding their firm in contexts interacting with market and business dynamics.

It would seem therefore that another approach might serve architects better – an approach which left the decision making in the hands of the principle architects, while providing them the tools needed to identify the relevant factors in strategy formation and the relations between them. We propose that the Resource Based View can fill this gap.

3. The resource based view

As an alternative to the typological basis for strategy, we propose to draw on the Resource-Based View (RBV), an approach to strategy that draws attention to a firm’s resources and the advantages that the firm can derive from them in expanding, or diversifying into (new) markets. The RBV strategy approach arises out of the work of Edith Penrose on the growth of industrial firms (Penrose, 1959). It holds that a firm is in possession of resources that provide services to the firm and enable it to produce products to be sold in specifically identifiable markets. In short her claim is that firms in possession of unique resources have competitive advantages that they can use to expand. The advantage of RBV for small firms (and architectural firms are almost always small in economic terms) is that it draws attention to the characteristics of the firm itself, rather than to the characteristics of the market (about which a small firm cannot do much). The disadvantage, which prevents us using the more mathematical variations of RBV, is that it is difficult to identify unique resources in a market encompassing a large number of small competitors.

Resources come in a variety of shapes and forms, they may be assets, or capabilities, terminology varies and is sometimes obscure (Fahy, 2000). For our purposes we can designate resources as “asset or input to production (tangible or intangible) that an organization owns, controls, or has access to on a semi-permanent basis,” and capabilities as “the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result” (Helfat & Peteraf, 2003). Rather than the unattainable standard of uniqueness, resources and capabilities must fulfil the so called VRIN conditions to be of strategic significance. That is, resources and capabilities must be:

1. Valuable in enabling the firm to exploit opportunities and counter threats.
2. Rare among competitor organizations.
3. Imperfectly imitable.
4. Not easily substitutable. (Barney, 1991; Carter, Clegg, & Kornberger, 2008)

Due to the industrial origins of RBV, resources tend to be defined in terms of the production of mass produced goods to be placed in the market. For architectural firms however, the

acquisition of work is as significant as the ability to do it. We therefore propose that resources and capabilities also include those assets that firms may use in acquisition as well as in design. Thus a partial list of resources would include: principles, staff, CAD & BIM (both software and knowledge of how to use it), specialist knowledge (e.g., of building types, specific uses, or relate sciences) portfolio, reputation, client list, etc. Capabilities would include the ability to design, but must also include more specific or specialized design abilities (drawing on specialist knowledge or methods), and abilities to supply additional architectural services such as briefing or construction supervision.

Strategy then becomes a process of examining the firm and it's market and developing a path towards a more desirable fit between the two. Rangone proposes the following steps:

1. Define the company's strategic intent and key performances;
2. Identify the company's resources [including capabilities] influencing key performances;
3. Assess the strategic value of resources, i.e. their ability to create and sustain a long term competitive advantage;
4. Assess the strategic consistency of resources in contributing to the achievement of the strategic intent;
5. Generating strategic options. (Rangone, 1999)

For many architectural firms this may be a difficult confrontation with the generic nature of architectural services. Certainly any given firm can design buildings, they all can – the pertinent question is whether there are any capabilities a firm has that are not shared by most of their competitors. The obvious distinction is in terms of style or signature – but that may not be a distinction that is very important to many clients. Clients may have broad tastes, or they may have other priorities. Likely both. Architects need to develop distinct capabilities and resources that will help them differentiate themselves from their competitors.

4. Conclusion

Current overly simplified for making management decisions aligns with “one size fits all” and does not address the intricate business nature and market demands. The most acute problem facing architects now is acquiring enough work to maintain the firm and allow it realize its goals. Issues such as market segmentation (by building type), service offer (concentrating on schematic design or offering services throughout the building cycle), and differentiation (from the many similar firms in the market) will be the key determinants of firm strategy for the foreseeable future. This will require that firms carefully consider their current resources as well as their ability to develop new resources in light of the particulars of their chosen markets. The RBV view, with its focus on the distinguishing characteristics of individual firms is far better suited to this task than are the typologies discussed above.

The challenges of adopting new technologies and design methods also present real challenges to firms. Architectural firms will need to develop an individualized range of capabilities, specialisms, business awareness and technology adoption aligned with business strategies – moving thus away from a generalist *adhocracy* towards a more considered market positioning

and deployment of resources and capabilities. More awareness of image and branding is also to be expected in a profession that highly values *peer critique*, but market demands will present new venues for practicing architects in domains that are not perceived as core to the practice of architecture. Architect practices need to better match their services to the demands of clients, while maintaining their individual character. A portfolio including a number of buildings of a specific type can be changed into a conscious entry into a segmented market with the development of capabilities (such as specialist knowledge of a specific building type and the operations of its occupying institution) derived from experience and aimed specifically at that market. This shift is fundamental to sustain the profession in a highly global competitive market.

Applying other research methods and techniques such as SWOT analyses (Strengths, Weaknesses, Opportunities and Threats) is to add understanding to *quantitative* findings via surveys. Also the use of psychological techniques is proposed such to investigate the decision-making practice principals envision as to their strategies and business sustainability (Fromm, 2004).

Such an approach, while sacrificing the simplicity and normative power of typology will allow firms to examine themselves more thoroughly and to shape themselves uniquely to respond to the goals of the owners, and the characteristics of the staff and portfolio they have acquired over time. Dealing with these characteristics as independent dimensions allows architects to see their firms as occupying unique positions on a number of spectra, and to create a firm that is more highly individuated from its competitors. A more dynamic and responsive diagnosis method is to emerge – providing more realistic and accurate organisation and business maps tailored to specific architecture firms.

5. Acknowledgements

The authors would like to thank the following people for assistance in the preparation of this paper: James Baxter, Richard Lombardo, Prof. Leon van Schaik and Dr. Dominik Holzer.

6. References

Allinson, K. (1993). *The wild card of design: a perspective on architecture in a project management environment*. Oxford; Boston: Butterworth Architecture.

Allinson, K. (1997). *Getting there by design : an architect's guide to design and project management*. Boston: Architectural Press.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.

Boudewijn, E. C., & Broekhuizen, R. P. V. (2002). Voel de kracht van je ontwerp. *Blad van Nederlandse Architecten*, 8-9.

Boyer, M. C. (2011). *Le Corbusier, homme de lettres*. New York: Princeton Architectural Press.

Carter, C., Clegg, S., & Kornberger, M. (2008). *A very short, fairly interesting and reasonably cheap book about studying strategy*. London: SAGE.

Cheung, S.-H. (1994). *The applicability of superpositioning to american architectural firms*. Texas Tech University, Lubbock, Texas.

Coxe, W. (1987). *Success strategies for design professionals : superpositioning for architecture & engineering firms*. New York: McGraw-Hill.

Fahy, J. (2000). The resource-based view of the firm: some stumbling-blocks on the road to understanding sustainable competitive advantage. *Journal of European Industrial Training*, 24(2/3/4), 94 - 104.

Fromm, M. (2004). *Introduction to the Repertory Grid Interview*: Waxmann Verlag GmbH.

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24(10), 997-1010.

Klein, R., & Volker, L. (2010). *Participating in integrated project delivery: The future mainspring of architectural design firms?* Paper presented at the CIB World Congress 2010.

Lawson, B. (2006). *How designers think: the design process demystified*: Elsevier/Architectural.

Lewis, B. J. (1988). A new model for successful management of engineering design firms -- 'superpositioning'. *Engineering Management International*, 5, 31-44.

Loonen, B. M. H. (2004). *De noordelijke architectenbranche, een strategische verkenning*: HLB Nannen Advies BV.

Maister, D. H. (1982) Balancing the professional service firm. An examination of the management of professional firms. *Solan Management Review*. Harvard

Mintzberg, H. (1980). Structure in 5's - a synthesis of the research on organization design. *Management Science*, 26(3), 322-341.

Mintzberg, H., Otis, S., Shamsie, J., & Waters, J. A. (1988). *Strategy of design: a study of "Architects in Co-partnership"* Paper presented at the Strategic management frontiers, Greenwich.

Nordenflycht, A. V. (2010). What is a professional service firm? Toward a theory and taxonomy of knowledge-intensive firms. *Academy of Management Review*, 35(1), 155-174.

- Penrose, E. T. (1959). *The Theory of the Growth of the Firm*. Oxford: Basil Blackwell.
- Porter (1981) The contributions of industrial organization to strategic management. *Academy of Management Review*. Vol. 6, No. 4, 609-620 Harvard.
- Rangone, A. (1999). A resource-based approach to strategy analysis in small-medium sized enterprises. *Small Business Economics*, 12(3), 233-248.
- Roberti, Y. (2009). *Architect(en)promotie, Een onderzoek naar hoe Nederlandse architecten zich promoten*. Delft University of Technology, Delft.
- Schaap, A., Van Der Voordt, T. J. M., & Heintz, J. L. (2010). *Project start-up in the architectural design process*. Paper presented at the CIB World Congress 2010. Retrieved from <http://www.cib2010.org/post/files/papers/1075.pdf>
- Schaik, L. v. (2005). *Mastering architecture: becoming a creative innovator in practice*. London: John Wiley & Sons.
- Schaik, L. v., London, G., & George, B. (2010). *Procuring innovative architecture*. New York: Routledge.
- Smyth, H. (2003). *Review of market positioning models for architectural practices*. Unpublished manuscript.
- Tinnilä, M., & Vepsäläinen, A. P. J. (1995). A Model for strategic repositioning of service processes. *International Journal of Service Industry Management*, 6(4), 57-80.
- Vollmer, H. M. and Mills D. L. (1966) *The Elements of Professionalization*. Englewood Cliffs, N.J: Pentice-Hall Publishers
- Winch, G., & Schneider, E. (1993). The strategic management of architectural practice. *Construction Management and Economics*, 11(6), 467-473.