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Architectural Management: Exploring Definitions and Impacts

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Abstract: Since the emergence of the term ‘architectural management’ nearly 50 years ago in the UK there have been very few attempts to define the term, or indeed, the field of knowledge. Most of the work in architecture, engineering and construction (AEC) has been associated with the CIB commission W096 Architectural Management. Parallel to this has been the use of the term architectural management in the field of information technology (IT). With architectural management increasingly conducted in a digital arena the definitions from the field of IT appear to be increasingly pertinent to those working in AEC. By bringing together definitions from both fields a number of questions arose about the term architectural management, the role of the architectural manager and the impact of CIB-W096 on architectural practice. A questionnaire survey was designed and issued to individuals associated with CIB-W096 in an attempt to gather some informed views on these issues. Also, the websites of three well-known recruiting agencies were consulted regarding the architectural manager’s job description and qualifications. The results were combined with the findings of the literature review to propose a definition of architectural management that is relevant to our current, digital, era.

Keywords: Architectural Management, Definitions, Impact, Information Technologies, CIB-W096.

1. INTRODUCTION

The first emergence of the term Architectural Management (AM) was in 1964; since which time only a few attempts have been made to define the term. This is despite arguments that have articulated the importance and significance of architects adopting architectural management. Based on reviewing the literature, only eight attempts have been made to define AM: Brunton et al. (1964), Boissevain and Prins (1993), Bax and Trum (1993), Banks (1993), Freling (1995), Nicholson (1995), Akin and Eberhard (1996) and Emmitt (1999a, 1999b). Each of these studies proposed a definition based on certain types of methodology. As a result, different thoughts, scopes and functions were included under the umbrella of architectural management. Nicholson (1995) attributed the difference in definitions to the fact that each individual considered the term from different perspectives, as a result of their different backgrounds. Nicholson also argued that defining this term might differ in ‘interpretation’ among different construction professionals. Given that the most recent attempt to define AM was in 1999 (by Emmitt), it would appear timely to revisit and upgrade the definition in light of the following motivations:

- The vast amount of data and information of today’s knowledge society.
- The continuous changes within the construction industry: e.g. competition, changing roles.
- The recent advances in technologies, e.g. Building Information Modelling (BIM), which might reshape the character of the previously defined roles and concepts.

As claimed by Swartz (2010), defining terms aims to improve humans' use of language as well as eliminate any kind of uncertainty. Further, developing a common definition is essential for future constructive debates in the field of AM. Thus, the research reported here does not aim to produce a new lexical definition, but it intends to articulate a description of AM, with the aim of eliminating unnecessary vagueness in its context and use.

2. RESEARCH METHOD

This research was conducted through five sequential stages. First, the previous endeavours to define the term architectural management were analysed chronologically based on a literature review. This stage aimed to identify themes and issues associated with AM. This was followed by an analogical comparison of how the term is used in the field of IT. Then, the role and job description of the architectural manager was identified through literature as well as through consulting several recruiting agencies' job advertisements for architectural managers, which reflect the market needs. The fourth stage of this research was conducting a questionnaire survey administered to the CIB-W096: Architectural Management data base of members and friends. The questionnaire survey aimed to gather experts' perspectives of AM definition and its impact. This data was then brought together and analysed. The result is a new definition of AM for the digital era.

3. LITERATURE REVIEW

3.1 Architectural Management

The starting point comes from when Brunton et al. (1964) launched the term architectural management in their book 'Management Applied to Architectural Practice'. During the course of their discussion AM was defined as: "*Architectural management falls into two distinct parts, office or practice management and project management. The former provides an overall framework within which many individual projects will be commenced, managed and completed. In principle, both parts have the same objectives but the techniques vary and mesh only at certain points*". Brunton et al. (1964) argued that the office is the vehicle through which the projects are delivered and these two parts "*mesh*" at certain points. According to Emmitt (1999a), this was the first appearance of the term.

With the establishment of the CIB Working Commission W096 Architectural Management in 1993, Boissevain and Prins (1993), and Bax and Trum (1993) were asked to conduct research to define the term on behalf of the Commission. Boissevain and Prins (1993) attempted to develop a model to include all the possible areas encompassed by the 'context of architectural management'. In their model they distinguished two environments (internal and external) to classify the place of each function within the context (Nicholson, 1995). From their model, it can be understood that managing architectural knowledge, design process and methods (internal functions-office activities) while considering the project context and supposed use (external functions-project tasks) leads to creating specific design strategies which are encompassed by architectural management. Then, AM was considered as a vehicle to monitor and control the project production and performance. The model did not mention the business side of the profession or market competition. Also, the model can be viewed as a call for architects to re-engage in practicing the administration of the whole project life-cycle.

Bax and Trum (1993) followed a similar approach by developing a model to categorise the location of 'architectural artefacts' into three levels: the urban environment of the building-level, the building-level, and the building details-level. They claimed that each of these levels represented a degree of

specialisation and thus a field of knowledge or 'domain', (Nicholson, 1995). In analysing these three domains and considering the qualitative nature of the domain theory, several functions with characterised similarities can be listed under each domain. But it is hard to decide which domain would encompass the managerial tasks as well as the business aspects of the profession, unless adding a new management domain.

Based on Bax and Trum (1993)'s argument, Boissevain and Prins (1993) developed their model into the 'Architectural Taxonomy Model', (Nicholson, 1995). In analysing the model, it can be argued that it failed to cover the two wings of architectural management highlighted by Brunton et al. (1964); hence it ignored the management of the office functions. Furthermore, the taxonomy theory aims to classify elements under a main category; in their model the main category was the 'architectural concept' not 'architectural management'. This could misinform the advocating of the concept of architectural management and narrow it to a small part of its components, the 'concept design'.

A simpler definition of architectural management was proposed by Banks (1993), cited in Nicholson (1995), as: "Architectural Management encompasses the more philosophical approach to management of the architectural processes covering management development theories and concepts with particular relationships to the wider construction industry". This definition urges the adoption of the managerial concepts and theories to the construction industry and the utilisation of their potential advantages. It can be argued that this definition is wide ranging and does not specify what AM entails.

In his PhD thesis Nicholson (1995) proposed two definitions of architectural management. Firstly, AM was described as an academic specialty and a professional area that covers the following tasks: office management, design management, the management of human, technical and financial resources, construction supervision, facilities management, building refurbishment and demolition. Compared to Banks (1993) wide interpretation of AM, this definition narrows the scope of architectural management to include; managing different functions within the office and within the project life-cycle, but without illustrating the necessity to integrate them and managing them in parallel. This definition gave attention to the importance of AM as both an academic and professional discipline.

Nicholson (1995) tried to offer a further abridged definition of AM as: "All those areas of expertise of the architect which do not include design skills". Furthermore, he concluded that: "The definition of Architectural Management extends the domain of and need for a broader educational base". He asserted that it cannot be separated from design education and hence AM provides the necessary skills for architectural practice. In this definition, the problem of the management exclusion within the architectural design-focused programs was highlighted. After discussing these two definitions in his thesis, Nicholson (1995) argued that the first book with the title 'Architectural Management' (Nicholson, 1992) did not offer a definition of AM in order to give contributors of the AM conference in Nottingham the chance to present whatever they felt relevant to the field. He further claimed that the ranking of relevance of the included topics to AM was agreed upon based on the consensus theory as follows: design process, production process, process of use, product definition, maintenance, strategies for use, facilities, and definition of need.

Also in 1995, a simple philosophical definition which saw architectural management as a constant reviewing approach to evaluate the position of architects in the construction industry and the tools they needed for their practice was put forward by Freling (1995). This definition portrayed AM as a remedy to help architects return to their 'lost position' and regain prestige within construction.

In the following year Akin and Eberhard (1996) offered a description of architectural management as the combined management functions involved in the design, construction and operation of buildings, (Akin and Eberhard, 1996). Similar to Nicholson's definition, this description stated the necessity to consider managing all the functions throughout the project whole life-cycle, but it went further, highlighting the importance of combining the managerial functions under one tool, AM.

Finally, the definition by Emmitt (1999a) states that: “The term architectural management is used to cover all management functions associated with a competitive professional service firm. Project management, design management, construction management and facilities management are all covered by the umbrella of architectural management, areas of specialist interest which are themselves interdependent upon quality management and human resource management, lying at the heart of a firm’s culture.” In Emmitt’s (1999a) definition, the concepts of competitiveness and firm’s culture were mentioned for the first time. Firstly, AM was interpreted as a range that covers all the managerial tools and functions which would increase the firms’ competitiveness within the business. Then the two components of AM, as highlighted by Brunton et al. (1964), were detailed and expanded by Emmitt (1999a & b).

Three simple definitions of AM are presented on the Wikipedia website. Although Wikipedia is not considered as a consistently valid or authoritative source of obtaining research data, it was decided to consider these definitions for the sake of covering every attempt to define AM. Architectural management can be considered as “*an ordered way of thinking which helps to realise a quality building for an acceptable cost*”. It is “*a process function with aim of delivering greater architectural value to the client and society*”. Further, it was described as “*a subject of practical aspects for an architect to successfully operate his practice*”, (Architectural Management Page: Wikipedia Website, 2011). The first two definitions emphasised the results given to the consumers, clients and society, but did not mention AM’s benefits to architects. The third definition resembled AM as a way of working for architects without describing what it entails. Thus, currently the material on Wikipedia does not add anything new to our understanding of AM.

On the CIB-W096 Website – Home Page, AM is described as “Architectural Management is about managing the Design of Buildings by means of the three P’s: Product, People and Processes to gain the highest quality of design within limited time and budget”, (CIB-W096 Website, 2011). This description narrows the scope of AM to the design management function. But, it can be interpreted that this was a reflection of the CIB-W096: International Conference on Design Management in AEC theme held in Brazil in 2008.

After reviewing these definitions it can be concluded that each attempt sheds light on aspects to be included under the AM umbrella. Table 1 summarises the key features extracted from each definition.

Table 2: Examples of AM Previous Definition Attempts

AM Defined by	Year	Major Aspects of definition
Brunton et al	(1964)	Office management and Project management
Boissevain and Prins	(1993)	Contexts: Two environments (internal and external)
Bax and Trum	(1993)	Domains of architectural management
Banks	(1993)	AM is a philosophical approach
Freling	(1995)	AM is a reviewing approach and tools
Nicholson	(1995)	Academic & Professional discipline
Nicholson	(1995)	All areas of expertise beyond design
Akin and Eberhard	(1996)	Combined management functions
Emmitt	(1999)	Competiveness, Office Environment. & Project Environment., culture
Emmitt et al	(2009)	AM as value adding

While conducting the literature review it was found that the world of information technology (IT) borrowed the terms architect and architecture from construction, but with better comprehensive descriptions. Thus, the following discussion is an analogical comparison between the construction and IT industries in their utilisation of the term and the position of architects within their organisations.

3.2 A Visit to Architecture in IT

In order to define architectural management accurately, it is essential to understand the words comprising the term, 'architecture and management'. Instead of understanding the lexical meaning of the words, it is better to understand what they mean in practice. This section provides a brief analogy on how these terms are used and defined in the software and IT industries compared to the construction industry.

The terms 'architect' and 'architecture' were adapted from the building industry to the IT world. Paradoxically, IT professionals start defining these terms and assign job description based on the ideal situation in and lessons learned from building architecture. In the world of IT, the term 'architecture' was defined as: *"the fundamental organisation of a system embodied in its components, their relationships to each other, and to the environment, and the principle guiding its design and evolution"*, (IEEE Computer Society, 2000). The definition relates to 'architecture' as a managing and organising tool to design and operate systems.

Similarly, the American Society for Information Science and Technology defined the term 'information architecture' as: *"the art, science, and business of organizing information so that it makes sense to people who use it"* and architects were defined as: *"...the members of the team who choreograph the complex relationships among all the elements that make up an information space..."*, (ASIST Website, 2011). These two definitions describe 'architecture' as a combination of art, science and business of the organisation process and 'architects' as the responsible participants of arranging the different relationships of elements, two descriptions lacked in the current building architecture and building architects.

Bredemeyer and Malan (2006) claimed that it is common practice for IT architects to utilise the lessons learned within the building architecture context. They described the building architect as being responsible for providing structural designs as well as managing the relationship between the project client and contractor, while on the other hand the system architect is mainly responsible for increasing the organisation's competitiveness. Thus, IT emphasises the role of the system architect in managing and pioneering the business side of their profession.

Similarly, Jonkers et al (2006) define the role of the building architect as the professional responsible for specifying the design and construction of a building based on the requirements of its owner/ potential users and in accordance with the professional regulations. Ironically, even IT professionals claim that the word architecture is vague in the context of the construction industry. Jonkers et al (2006) explained that enterprise architecture entails several domains: information architecture, process architecture, application architecture, technical architecture and product architecture. These domains must be integrated as a whole to result in successful enterprise architecture, (Jonkers et al, 2006).

Muller (2010) described the role of the system architect (SA) based on three perspectives: deliverables, responsibilities and activities. Interestingly similar to the building architect, Muller described the final outcome as clearly visible as well as tangible compared to the invisible tasks and activities practiced by the system architect.

Analysing the analogy between the two industries has the potential to exchange and transfer lessons and strategies. In this comparison, the aim was to understand the roles and position of the 'professional architect' within the context of each industry.

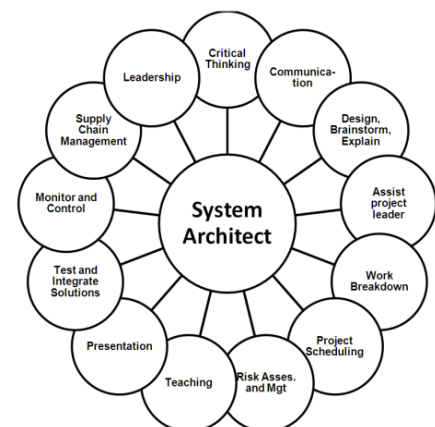


Figure 1: The Role of System Architect
Adopted from: Bredemeyer and Malan (2006), and Muller (2010)

This is in order to ease the process of updating the AM definition.

The following diagram was articulated from Bredemeyer and Malan (2006), and Muller (2010) to outline the tasks carried out by the SA, Figure 1.

The figure shows similarities to some of the tasks urged to be practiced by the building architect and outlined in the RIBA Plan of Work Stages. But, unarguably, IT industry was a step ahead in adapting managerial concepts and techniques.

Pulkkinen (2006) argued that enterprise architecture decisions must be taken on the highest levels of leadership considering: strategic business strategies, information, technology and systems. Also, the architect position within the organisation is at the highest level.

Within the construction industry, the common description of the architects' role can be obtained from RIBA *Plan of Work*. This plan of work categorises the construction project into four major sections and these sections comprises twelve stages. It can be seen from Figure 1 that architects are considered business champions in the IT industry. Their roles and tasks are practiced at the corporate highest levels. On the other hand, architects are professionals who practice design and some narrow scope of management within the building industry.

4. RECRUITING AGENCIES

Based on reviewing the AM literature, the title of 'architectural manager' was, as far as we know, only mentioned in Nicholson (1995) and Emmitt (1999). The former strongly demanded the emergence of this profession; and claimed that the architectural manger is responsible for: design briefing, project management, safety planning and facilities management. While Emmitt (1999) expressed the architectural manager's role in leading architectural practices by managing clients, individual projects, and the firm's assets. In defining the term it is also essential to understand the tasks and duties carried out by architectural managers in industry and the market needs. The best source to obtain this type of data was through recruiting agencies' advertisements for architectural mangers. After consulting the websites advertisements of three well-known recruiting agencies, the tasks of 'architectural manager' was summarised under two different levels: *strategic level* and *design management level*, as follows:

Table 2: The Architectural Manager Job Description – Recruiting Agencies Websites

At the organisation strategic level, AM is required to:	be the interface between construction sites, head office and clients;
	assure achieving the organisation's goals;
	identify the organisation's priorities;
	participate in developing the organisation's policy and development plans.
At the design management level, AM is required to:	lead, monitor and motivate personnel;
	act as a leader of various teams and coordinate their efforts.
	develop/manage architectural designs and coordinates construction contracts;
	plan, organise and manage architectural activities within organisations;

And the main requirement for the architectural managers' position is that applicants must have the balanced skills and knowledge in design, management and technology as well as the expertise in both design and construction of projects.

5. QUESTIONNAIRE SURVEY

The last step on this journey of defining architectural management is analysing what context it operates in, what advantages it can bring and who is responsible for advocating its deployment. These questions were addressed by examining the views and opinions of the CIB-W096 community. This was conducted through an online-questionnaire survey comprising a list of eight open-ended questions. An invitation was sent to all members and friends of CIBW096 as held on the current database of email addresses. 50 people were contacted, with 14 people completing the survey, giving a response rate of 28%. This section provides a brief discussion of the survey results.

1) *What does the term ‘Architectural Management’ mean to you?*

The first question aimed to gather the perceptions of the CIB-W096 members and friends towards the meaning of AM. The replies showed a high degree of variety; and can be organised into three categories. Some respondents (5/14) defined AM as the management of the associated activities with design; others (2/14) claimed that it is about engaging and managing the construction process; while the third category (7/14) combined these two functions and extended the domain of AM to cover other aspects of the profession. Some of the different views regarding the meaning of AM are:

- *“The gathering of the three most basic distinctions of a society, namely education, economy and culture. Architectural management is about all these subjects, thus about thinking, doing and feeling!”*
- *“Coordinating people and information towards the goal of getting the design of a building built”.*
- *“Managing our reasoning capabilities.....Thus, managing the meaning of life”.*
- *The management and organisation of aspects associated with architectural design.*
- *The term is mainly applied in construction engineering denominating a field of different strategies and tools for a more systematic approach in construction phases.*

2) *What are the impacts of Architectural management since the establishment of the CIB-W096 Working Group in 1993 until today?*

The replies to this question varied from; the role of AM in increasing value through design to the positive impact on the construction process. Generally, the respondents agreed that the successful impact was the building of an international research group and discussion platform for those interested in AM field, but less impact (“if any”) is seen on the practice level. Some criticism was focused on the lack of clear guidance for practitioners to adopt AM. Similarly, some respondents claimed that AM is still not recognised by professional bodies and educational institutes. Some recommendations emphasised the need for further research and more published guide books in the field of AM.

3) *What are the benefits of deploying Architectural Management?*

The aim of this question was to understand the respondents’ perceptions towards the benefits AM, thus understanding what can attract professionals to adopt architectural management. Among the replies, respondents emphasised on the following: creating a better relationship between the different phases of the project life-cycle; more efficient management of designers within the practice; better interface with clients; increasing the efficiency and control of the final product delivery and outcome;

stimulating education, economic activity and our cultural identification; improving the understanding of ways architecture and related fields are practiced; and AM can help in creating “*holistic societies*”.

4) *What are the duties carried out by the Architectural Manager?*

The fourth question aimed to understand the tasks carried out by architectural managers and thus ease the process of defining AM. Based on their replies, respondents can be categorised into two groups. Three respondents claimed that it is not necessary to have a professional with this title; rather any design professional with adequate managerial tools can practice AM. On the other hand, the second group’s views (11/14) agree with what was found in section 4; especially regarding the strategic position of the architectural manager within organisations, shown in Table 3:

Table 3: The Architectural Manager Job Description – Questionnaire Survey

At the organisation strategic level, AM is required to:	• Managing the business aspects of the architectural organisation.
	• Forecasting and analysing the potential impacts of any business decision, thus making the most informative and effective choices.
	• Controlling and monitoring the achievement of the organisation’s goals.
	• Managing the clients’ interests and relationships.
At the design management level, AM is required to:	• Managing and supervising the different activities involved in the project whole life-cycle.
	• Managing the design staff / and assuring their continuous education and development.
	• Managing the value design and delivery.
	• Sorting out and managing the complicated architectural process in each project.
	• Assuring schedule control, cost control, and quality Control.

Interesting comment was emphasised by two respondents that there is a distinction between a design manager (usually project specific) and an architectural manager (responsible for projects and office effectiveness). Also, two replies claimed that other terms can be used to refer to the architectural manager based on different terminology in different countries.

5) *Who is qualified to practice the role of Architectural Manager?*

The responses to this question can be categorised into three groups; where five respondents state that this role can be carried out and practiced by any professional provided his/her experience and expertise in both design and construction in addition to some managerial skills. The second view (6/14) emphasised that architects are only the ‘gurus’ of architectural management and no one else is capable of practicing this role effectively. Both views agreed that the architectural manager should be a reflective practitioner and have a strategic “*helicopter*” view. The third view (3/14) argued that AM must be practiced by every member within the organisation and projects and it is about teamwork and team effort.

6) *What would attract architects to adopt Architectural Management?*

Respondents claimed and argued that the understanding of AM’s role in: surviving competition; practice growth/success; enhancing performance; competitiveness; value design and delivery; financial return and profit; efficiency; serving clients and society; adaptability; and better monitor and control of process/product is only motive of AM adoption.

7) *What strategies are needed to deploy AM in architectural practices?*

Most replies agreed that it is hard to define a set of strategies for AM deployment unless architects recognise the need to manage their organisation/business professionally. Also, respondents claimed that strategies shall differ to suit different organisations, but all these strategies can be characterised as being ‘long-term’ strategies. Some respondents emphasised the role of effective HR strategies, resource planning, effective communication and better education as basic strategies for deploying AM.

8) *Please use this space to add any further information regarding Architectural Management*

The final question of this online-survey was left open to the respondents to add any comments or notions regarding architectural management. Among the replies, the following list shows some repetitive thoughts by respondents regarding (AM in practice, education, and the role of CIBW096):

- *“It is difficult to see how architectural management has evolved. There are still no clear philosophies, no clear guidance, and no clear message from CIBW096. CIBW096 is a good meeting place and encompasses a broad range of ideas and views, which is good to participate in, but the weakness is that to those outside the group there is no clear strategy - perhaps there should be”.*
- *“The practice must learn to think more universal, through holistic models, models that encapsulate the 'entire' reality”.*
- *“The day architects become interested in management will be a day for celebration - first there needs to be a revolution and this must start in education”.*

6. DISCUSSION AND CONCLUSION

This research is an exploratory study to understand what the term architectural management means based on the recent advances in the construction industry and management science. After utilising different data collection methods and analysing the findings this paper is concluded with a new definition of AM. The new definition does not attempt to question the clarity of previous definitions; rather it aims to suggest a working definition that could be agreed upon by the members and friends of the CIB-W096 with the objective of developing the field of AM.

As claimed by Swartz (2010), any definition is composed of two parts: *Intension* and *Extension*. The former specifies a set of logically necessary and jointly sufficient conditions for the application of a term; while the latter defines terms by sampling and listing their extensions. Thus, if the extension is known and agreed upon, then the intension should fit the extension as closely as possible; otherwise, the definition is considered too broad and wide in its scope and description. During the course of this study, it was noticed that most of the early defining attempts are too broad; they admit too many members to the extension of AM as exemplified in Table 4; also the intension is not agreed upon as showed in Table 5.

All of the previous intensions and extensions of AM, summarised in Tables 4 and 5, are applicable to architectural management; but it was noticed that each defining attempt aimed to include whatever new aspect or innovation appeared in the industry or within managerial science. For example, the issues of sustainability; value design and delivery; competitiveness; utilising BIM, did not appear in the early defining attempts, but once surface or debated, researchers included them in their definitions.

Table 4: AM Extensions from the Research Findings

Design for value – Design Management – Project Management – Construction Management – Facilities Management – Quality Management – Quality Assurance – Quality Control – Total Quality Management – Lean Thinking – IT Utilisation – Human Resource Management – Marketing and Sales – Business Planning – Strategic Management – Financial Management – Managing Growth – Communication – Knowledge Management – Performance Management and Benchmarking – Managing the Working Environments (social and physical) – Managing the Ethical and Legal Issues – Exploring and engaging new business ventures – Monitoring and Control - Continuous Education and Improvement – Teams Coordination and Collaboration – Managing Creativity and Capability – Change Management – Risk Management and others.
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Table 5: AM Intensions from the Research Findings

Managerial Tool – Thinking Philosophy – Management Technique – Way of Thinking and Management– Process – Working Template – Management Function - Working Model – Approach - Practical Framework – Set of Strategies – Systematic/Standardised Way - Research Domain - Enabler – Leadership Style - Subject of Practical Aspects – Procurement and Contracting Method and others.

The principle guiding strategy for this new definition was to present both clear and flexible intension and extension of AM, which describes its nature, what it entails, and what might be included in the future. It is argued that such a definition could ease and enhance further research work in the field.

First, it is important to distinguish AM from the Alternative Method of Management, (AMM) to avoid any confusion. AMM was invented as a procurement technique by architects in the 1980's by eliminating the role of the general contractor and working directly as intermediate agent between clients and subcontractors. It failed in practice because of the architects' weak position within the industry and because it was not accepted easily by their competitors, the contractors, (Emmitt, 1999a). Further, AMM failed because clients faced time and cost overruns when dealing with architect-led contracts, (Akintoye and Fitzgerald, 1995). All these issues can be attributed to architects' lack of business and managerial skills and expertise, (Finnigan et al., 1992; Nicholson, 1995; and Emmitt 1999b). The aim of this defining attempt does not advocate reinventing the AMM, but it aims to understand and define AM based on six attributes: its nature (Intension), its components (Extension), its players (architectural managers), who does it affect (stakeholders), its benefits (outcomes), and its responses to the industry's changes, (i.e. its response to the recommendations of the Latham (1994) and Egan (1998) Reports).

Starting with those affected by AM, the findings of literature review and questionnaire survey assure that almost everyone included within the construction industry is affected either directly or indirectly by architectural management, Table 6.

Table 6: AM affected Stakeholders

Architectural professionals – architecture as a profession and its professional bodies– society (social environment + physical environment) – construction as an industry – the different stakeholders (clients – users - consultants – contractors – subcontractors – suppliers) – organisations (the business side as well as the structuring – at different levels) – projects (how they are managed) – education (as a giver and feedback receiver)

Moving to the issue of who is qualified to practice or lead AM: based on the study findings, the main qualifications of architectural managers are: design-oriented professional (with preference to architects); armed with managerial knowledge and skills; and has sufficient experience in both design and construction. And the main task of the architectural manager is being at the strategic position to integrate the management of both the business sides and the projects of the architectural practice.

As claimed by both Latham (1994) and Egan (1998), there is a need for a quantum leap in the construction industry. Egan (1998) emphasised the importance of five aspects of improvement: committed leadership; focus on the customer; integrated processes and teams; quality driven agenda; and commitment to people.

Comparing these aspects against the benefits of AM identified in this study such as its role in: organisational management; managing value design and delivery; managing sustainability; increasing professional competitiveness; serving the society; practicing ethically and professionally, shows AM as an effective response to Egan and Latham recommendations for creating a better industry.

Regarding AM's *Intension* and *Extension*, which are the main components of any definition (as claimed by Swartz, 2010); and based on the research findings, the researchers decided to present their definition considering that it has both clear and flexible intension and extension of AM that describe its nature, what it entails, and what might be included in the future. Thus, the following guidelines were considered to compose the new definition, Table 7:

Table 7: The Research's Defining Guidelines of AM

- AM is the management of architectural practices (*Intension*). So, the "management" term does not narrow the scope of AM as 'tool, philosophy, framework...etc'; hence, the 'management' seeks always the continuous improvement and the utilisation of any new advances and innovations.
- AM assures the integration of *managing the business sides of the office with managing its individual projects*. (*Extension*). All the extensions provided in Table 4 can fall in one of these two components which have been identified by Brunton et al. (1964), Nicholson (1995) and Emmitt (1999b).
- AM is about assuring the value achievement for all those involved in the industry. (*Extension*). So, it is not utilised to underestimate or eliminate the role of the other key players within the industry. Besides that, such role is only managed by "strategic" position, (*Intension*).
- AM is practiced by those qualified with a balance of: design, management and experience. (*Extension*). So, experienced architects are the best nominees for this role (in terms of design capability) if they were prepared with managerial knowledge and skills by their education, (a criticism of architectural education in literature review and by most of the survey respondents).

Based on these guidelines combined with the study findings, the following definition was composed by the researchers: '*Architectural management (AM)* is the strategic management of the architectural practices that assures the effective integration between managing the business aspects of the office with its individual projects in order to design and deliver the best value to all those involved in the society'. This definition is illustrated in Figure 2:

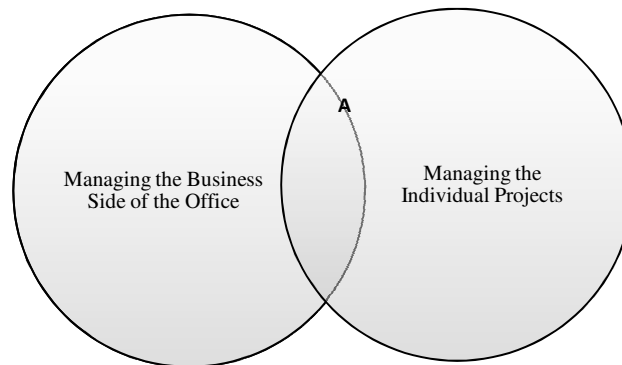


Figure 2: Architectural Management Definition

The way forward: This definition will be presented in the CIB-W096 Conference in Vienna 2011 and will be further examined by conducting interpersonal interviews with the members and friends of the CIB-W096. The aim of this future step is to examine the newly-proposed definition and its suitability as a working definition for further research in architectural management.

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