

# BUILDING THE EFFECTIVE ARCHITECTURAL TEAM IN DESIGN FIRMS: THE CASE OF THE UNITED ARAB EMIRATES

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(Received September 2007 and accepted March 2008)

إن الإكمال الناجح لمشاريع البناء من خلال إنجاز أهداف المالك في حدود الوقت و الميزانية ومعايير الجودة المطلوبة يجب أن يكون في قائمة أولويات أي مؤسسة تصميمية تروج البقاء في السوق و المنافسة في المستقبل. هذه الأهداف لا يمكن إنجازها من قبل أفراد يعملون بمفردهم و إنما من خلال فريق عمل فعال، منسق و ملتزم. بسبب الدور المهم الذي يلعبه في صناعة البناء، فإن كل مؤسسة تصميمية عليها التركيز على بناء فريق معماري فعال، قادر على تسليم مشاريع ناجحة و تحسين معدل إنتاج المؤسسة. يهدف هذا البحث إلى تأسيس المبادئ و وضع القواعد لبناء فريق معماري فعال في المؤسسات التصميمية. تم تصميم طريقة بحثية مكونة من مراجعة الأدبيات و الدراسة الميدانية لتحقيق هذا الهدف. أولاً: تم استخدام مراجعة الأدبيات لدراسة مفهوم بناء الفريق، التوظيف، الاختيار، البرامج التدريبية و تقنيات التحفيز في المؤسسات التصميمية. ثانياً: أجريت دراسة ميدانية على عينة مختارة من المؤسسات التصميمية بدولة الإمارات العربية المتحدة لدراسة مدى الفهم و التطبيق لعملية بناء الفريق. في نهاية البحث تم تلخيص الدروس المستفادة المستخلصة من الدراسة الميدانية إضافة إلى توصيات البحث للمؤسسات التصميمية.

Successful completion of construction projects in terms of achieving client's objectives on time, within budget and as specified should be the first priority of any design firm wishes to remain in market and compete for the future. These deliverables could not be accomplished by individuals working alone, rather by effective, coordinated and committed teams. Because of the important role it plays in the construction industry, every design firm has to focus on building effective architectural team that is capable to deliver successful projects and improve the organisation's productivity. This research aims to establish the principles and set the rules for building effective architectural teams in design firms. A research methodology consisted of literature review and field study is designed to achieve this aim. Firstly, literature review is used to study the concept of team building, recruitment, selection, training programmes and motivation techniques in design firms. Secondly, a field study is carried out in a selected sample of design firms in the United Arab Emirates (UAE) to study the perception and application of the team building process. Finally, leaned lessons extracted from the field study as well as recommendations for design firms are summarised.

*Keywords:* Teamwork, Architects, Recruiting, Selection, Training, Motivation

## 1. INTRODUCTION AND RESEARCH RATIONALE

The rapid changes in the business environment in terms of policy, economy, law, technology, and competition have important impacts on today's organisations. As an approach to exploit the positive impacts of these changes and avoid their threats to the organisation's future, many organisations changed their policies, strategies, structures and methods of performing works. Team work has become the cornerstone of any organisation wishes to remain in market and compete for the future<sup>[1,2]</sup>.

Organisations have realized that employees working in teams can achieve, effectively, clients' objectives, accomplish their satisfaction, facilitate coping with rapid changes in the work environment,

and significantly improve the product quality. Teams have the potential to highlight employees' awareness and involvement which are considered essential ingredients for organisation's long-term success in today's market place<sup>[3,4]</sup>.

The increasing competition between design firms offered clients the opportunity to select between these firms based on their resources availability, experience, management ability, compatibility, problem-solving approach, cost and value services<sup>[5]</sup>. As the first line of contact with clients in the construction industry, building effective architectural team becomes a basis for any design firm aims to retain its clients, keep them loyal and win new ones. In addition, it is essential for increasing the organisation's profitability and enhancing its performance<sup>[1,6,7]</sup>. Team building commences with selecting the right people at the right

time. Teams could be formed internally when the organisation has the sufficient capabilities. Alternatively, accurate planning, attraction and selection of external candidates could be carried out. Training programmes for team members play an important role in improving their skills and enhancing their abilities. Design firms have to implement the most appropriate motivation techniques to encourage the architectural team members devote their efforts to achieve client satisfaction, increase the organisation profitability and enhance its performance.

Although team building is a well established discipline, its application in the construction industry in general and the architectural practice in particular received scant attention in construction literature<sup>[8,9]</sup>. Results of observations, survey questionnaires and interviews carried out in the United Arab Emirates showed that different design firms have different perceptions and use unlike procedures for building their architectural teams. This necessitated the importance to establish the grounds and state the rules for building effective architectural teams in design firms. To achieve this aim, four objectives have to be accomplished.

1. Reviewing the concept of team building in design firms,
2. Investigating the recruitment and selection process of the architectural team members,
3. Examining the training programmes and motivation techniques of the architectural team members, and
4. Outlining the leaned lessons and feedback extracted from the field study and summarising the research recommendations.

## 2. RESEARCH METHODOLOGY

The abovementioned aim and objectives called for a research strategy, which could gather data sufficiently rich to establish the principles and state the rules for building effective architectural teams in design firms. The research methodology developed for this research consisted of literature review and field study. Literature review is used to review the importance of the team work in design firms, teams and team building, organisational frameworks in design firms and the members of the architectural team. In addition, literature review investigated the recruitment, selection, training programmes and motivation techniques of the architectural team. Results of a field study carried out by the author in a selected sample of design firms in the Emirates of Abu Dhabi, Dubai and Sharjah of the United Arab Emirates will be presented. This field study aimed to investigate the perception of design firms regarding the team building concept and examine the practical implementation of recruiting, selecting, training and motivating the architectural teams in these firms.

## 3. THE IMPORTANCE OF TEAM WORK IN DESIGN FIRMS

Clients of the construction industry typically select design firms on the basis of their qualifications, experiences and capabilities. Once, the design firm has been selected, the architectural team becomes responsible for delivering the building design that achieves the client's objectives and meet his / her requirements. A successful and competent team is the one that succeeds in producing a product that meets or exceeds client expectations within time frame, allocated budget and quality standard required. Such a team is a healthy indicator of the organisation growth and stability. In addition, team work helps the organisation retain and keep its clients loyal and win new customers. This highlighted the importance that every design firm has to understand the principles of team building in general and architectural team in particular<sup>[9,10]</sup>.

## 4. TEAMS AND TEAM BUILDING

A team is defined as a group of people with a high degree of interdependence geared towards the achievement of a goal or completion of a task; they agree on a goal and agree that the only way to achieve this goal is to work together<sup>[11]</sup>. Team building is a catchall term for a whole host of techniques aimed at improving the internal functioning of work groups, whether conducted by company trainers or outside consultants<sup>[12]</sup>. The Association of Project Management (APM) defined team building as the ability to assemble the right people to join the project and to get everybody working together for the benefit of the project. Training, motivating and resolving conflicts between team members are important elements of team building<sup>[13]</sup>. Encouraging team members to work and plan together results in their commitment to achieve the agreed goals. The sense of being a part of a team encourages people to develop their talents, contribute their ideas and pass the sense of teamwork to others in their organisations<sup>[14]</sup>.

## 5. THE TEAM LIFE CYCLE

A number of individuals begin to work at interdependent job often pass through several stages as they learn to work together as a team, Figure 1. The typical stages of the team life cycle are:

### 5.1 Forming

Members share personal information, start to know and accept one another, and begin turning their attention towards the group's tasks. An aura of courtesy prevails, and interactions are often cautious.

### 5.2 Storming

Members compete for status, jockey for positions of relative control, and argue about appropriate direction

for the group. External pressures interfere with the group, and tensions rise between individuals as they assert themselves.

**5.3 Norming**

The group begins moving together in a co-operation fashion, and a tentative balance among competing forces is struck. Group norms emerge to guide individual behaviour, and co-operative feelings are increasingly evident.

**5.4 Performing**

The group matures and learns to handle complex challenges. Functional roles are performed and fluidly exchanged as needs, and tasks are efficiently accomplished.

**5.5 Adjourning**

The most successful groups, committees, and project teams disband sooner or later. Their break up is called adjourning, which requires dissolving intense social relations and returning to permanent assignments. Lessons learned and feedback will help team members improve their performance in future projects<sup>[15]</sup>.

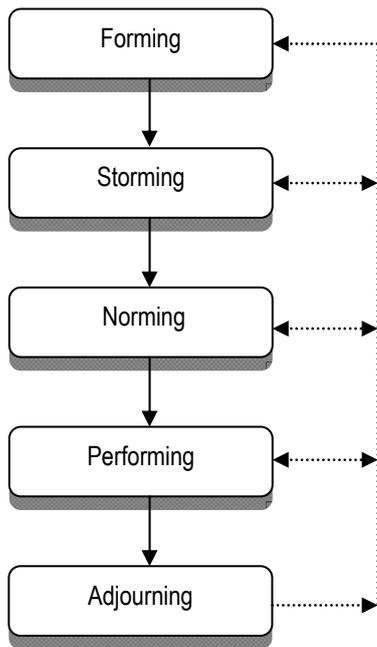


Figure 1. Life Cycle of a Team

**6. ORGANISATIONAL FRAMEWORKS IN DESIGN FIRMS**

The architectural practice needs to be organised in an efficient way to maximise the use of everyone working for the firm. An organisational framework is an arrangement where the total workload of the firm is divided among the staff. The organisational frameworks in design firms and the implication on the people involved are:

- The simplest situation is where one architect working on his own. The architect has to accept only works that he can complete without assistance. In addition, he has to plan the work in an efficient manner as possible.
- The second situation consists of an architect with one assistant. The architect has to know as much as he can about the assistant's background, interests and abilities in order to allocate appropriate tasks to him.
- Figure 2 shows a shallow framework in which a single principal has a sufficiently small staff to manage. It is assumed that the firm undertakes mainly domestic work, with some commercial projects. Where possible, the five technical assistants specialise in one of these two areas. There also a secretary who undertakes the administrative work, and an office junior, who does some of the simpler drawing job, but is mainly employed to run errands, file drawings and work the plan printer.
- Figure 3 shows a single principal, but this time the firm is larger. He employs three project leaders. They are either architects or senior architectural technicians, and each one leads a group of people responsible for one or more projects. The principal also directly manages general assistant, a technical information assistant and private secretary who in turn manages two other assistants.
- As an architectural practice increases in size, it may be best to introduce a further tier in the organisation framework. In Figure 4, it is assumed that there is still a single principal. Directly under him there are two associates, although in a firm of this size they may have junior partners instead. Both of these associates will manage several project leaders, whom in turn lead a number of assistants. The principal (or senior partner) directly manages his own private secretary, and also the office manager who is in charge of the administrative and support office.
- Figure 5 shows the arrangement for a firm in which there are three partners, who have five associates working under them. One of these associates has a special responsibility for the administrative side of the practice, and the others manage one or more projects, under the overall guidance of the partners. Each associate has a team of assistants to help him. Each partner has a private secretary and one of the partners controls the work of CAD operators<sup>[9,16]</sup>.

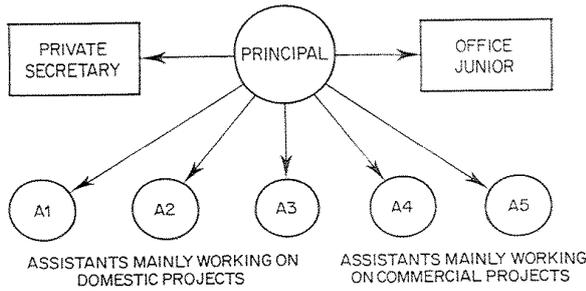


Figure 2. Small Firm with Sole Principal

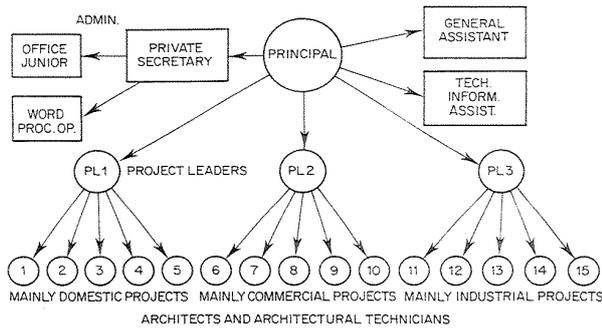


Figure 3. Medium Firm with Sole Principal

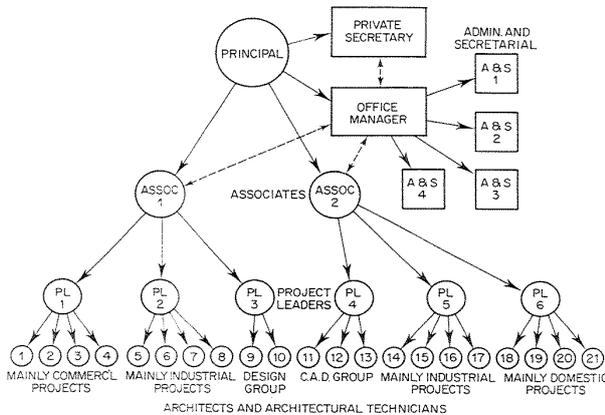


Figure 4. Large Firm with Sole Principal

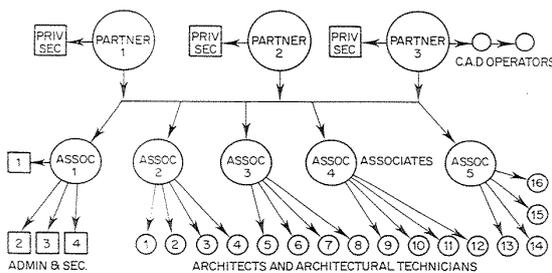


Figure 5. Partnership

## 7. THE MEMBERS OF THE ARCHITECTURAL TEAM

The number of the architectural team members varies according to the organisation size and the project requirements. Hence, the largest size and the optimum project requirements are considered. According to this, the architectural team members are: (1) Principal / Partners, (2) Team Leaders or Associates, (3) Project leaders, (4) Architects and (5) Architectural Technicians<sup>[2,9]</sup>.

## 8. RECRUITMENT PHILOSOPHY IN DESIGN FIRMS

Design firms complain of the difficulty of finding appropriate people. There is a serious shortage of talent for most positions. It is estimated that design firms spend an average of \$ 6000 and 22 man-hours of labour for every person hired. When it comes to the long-term survival and prosperity of the design firm, there is no more important activity than recruitment. Recruitment is the set of activities a design firm uses to attract job candidates possessing the abilities and attitudes necessary for the enterprise to achieve its objectives. The recruitment process is a systematic, ongoing attempt to find qualified prospects for existing or potential openings in the organisation. Professional design firms have to strive to get the highly qualified, talented, and experienced professionals. For a firm to build a top quality staff, it must have feelers that allow it to learn about the best people, as they become available, and then it must be prepared to act when the time is right. The establishment of recruitment philosophy is essential for attracting the best job candidates. The top management of the firm has to agree that recruitment is a priority activity that deserves constant attention not just when there is a particular position to fill. The firm should always be on the lookout for quality people and should always focus on upgrading its staff resources, regardless of whether there is a specific position to fill<sup>[8,10]</sup>.

### 8.1 Recruitment of the Architectural Team Members

The steps which design firms have to adopt when recruiting architectural team members are:

#### Determining the Vacancies

Although the time to hire an outstanding candidate is always now, that does not mean that firms should hire without consideration to the alternatives. It is imperative to assess the need for a new staff. Because of the emerged financial implications, when the organisation decides to hire new team members, organisations tend to innovate alternatives that can achieve the organisation's objectives at the lowest recruiting cost. These alternatives could be: use overtime, reorganise the work, mechanize the work,

make the job part-time, sub-contract the work, and use an agency<sup>[8,16]</sup>.

### Selecting the Recruiting Sources

The two main sources of recruiting for design firms are: the internal recruiting sources and the external recruiting sources.

- *Internal Recruiting Sources:* Design firms have to attempt to fill vacant positions from within the organisation. Promoting internal staff to apply not only contributes to high morale, but holds down recruitment and training costs. Vacancies are published on the bulletin board or lists available to all employees. Interested employees must reply within a specific number of days. Recruiting internally encourages employees to increase their efforts and improve their morals in order to be promoted to better positions. In addition, it preserves the security of information inside the organisation<sup>[17,18]</sup>.
- *External Recruiting Source:* External recruiting is often needed in design firms that are growing rapidly or have a large demand for skilled technical and managerial employees. The most popular sources of external recruiting are: college campus recruiting, private employment agencies, public employment agencies, executive search firms, trade unions and professional bodies<sup>[8]</sup>. External recruiting can bring new team members with new insights and perspectives which will help enhancing the performance and increasing the efficiency of the organisation. In addition, the pool of the talent is much larger than when recruiting is restricted to internal sources. On the other hand, team members hired from outside the design firm need a longer adjustment or orientation period. In addition, outside recruiting is more expensive, because of the time and expenses spent in advertising, interviewing, analyzing, and testing<sup>[18]</sup>.

### Job Analysis

Job analysis is the process of obtaining and reporting information about a job by determining what the duties, tasks or activities of this job are. Job analysis consists of two components: job description and job specification.

- *Job Description* It is a written description of the job and its requirements, it includes: job title and location, organisational relationship, relation to other jobs, machine tools and materials as well as working conditions.
- *Job Specification* It is a written statement of the necessary qualifications of the job incumbent. It includes: education, experience, training, mental abilities, physical efforts and skills, responsibilities, Judgment and decision-making<sup>[19]</sup>.

### Advertising

The job description and specification provide the blueprint for the post to be filled with the person

required. Advertising is the process of communicating the vacancy to potential applicants. The job and working conditions should be expressed in a way that makes them attractive to the right sort of people. At the same time there is a need to limit the number of potential applicants to those that are most likely to be able to do the job<sup>[20]</sup>. The placement of an advert should be appropriate to the audience that is to be attracted. This might indicate using national press, trade or professional journals and related web site, where the advertise will be read world wide. Design firms should advertise consistently in the same publications. Being seen in the same place all the time helps build name recognition of the firm. This name recognition increases the likelihood that even those who are not looking change their jobs now, may contact the design firm when they do get in the job market<sup>[8]</sup>.

## 9. SELECTION OF THE ARCHITECTURAL TEAM MEMBERS

The steps which design firms have to adopt when selecting architectural team members are:

### 9.1 The Application Form

After the organisation announces its need to employ one or more of the architectural team members, it will receive many resumes from potential candidates. For most design firms the first impression is normally made by the resume. If the resume leads to further interest from a potential employer, the applicant will normally have to fill out much of the same information on an employment application. One of the best, least expensive, and fastest ways for a design firm to generate qualified candidates for a position is to develop and maintain an electronic resume databank that include the resume for every person applied to the firm<sup>[21]</sup>.

### 9.2 The Initial Screening Interview

The main aim of the initial screening interview is to eliminate the candidate who does not interest the design firm and the candidate who is not interested in the firm. The initial screening interview sifts the large number of candidates who apply for a post in order to determine the eligible candidate for further steps in the selection process<sup>[22]</sup>.

### 9.3 The Employment Interview

Employment interview includes at least one interview and many design firms use two, three or even more interviews. The first interview determines the mutual interests, get the details on the candidate's background, and set the stages for the next interview with the technical person responsible for the area the person would be working in. The technical person will discuss with the candidate his previous experience, training courses attended and managing skills. The

aim of the interview is to determine which candidate from the short list best meets the requirements of the job. It is also to present the job and the organisation to the candidate. The interview should allow the organisation to determine if the new team member could do the job and fit in with the existing team members.

#### 9.4 Employment Tests

There are many types of tests that play an important role in selecting the architectural team members. The tests range from cognitive test which measures the mental capability of the candidate as well as personality and interest inventories test which examines the measure dispositional characteristic of the architectural team member. There is also job knowledge test that measures the person's level of understanding of a particular job such as architectural details, building materials, managerial, scheduling, controlling, and monitoring abilities. The sample test is the final test, which will be conducted. This test will measure the skills for office work. The candidate is given a part of a job to assess his abilities, this could be the preliminary design of a small building, drawing a perspective for a selected project, preparing specification and contract for a project, or managing a team consists of group of architects and architectural technicians<sup>[2,23]</sup>.

#### 9.5 References Checking

In order to complete the picture of the potential candidate, references from previous employers, college lecturers or people that have known the candidate for a significant period of time are usually required. If a job candidate is still employed, informal reference checking should be conducted confidentially with the employee's knowledge and permission<sup>[20]</sup>.

#### 9.6 The Selection Decision

While all the steps in the selection process are important, the most critical step is the decision to accept or reject applicants. Because of the cost of placing new team member on the pay roll, the final decision must be as sound as possible. Thus, it requires careful consideration of all the relevant information about the applicants. It is common to use summary forms and checklists to ensure that all of the pertinent information has been included in the evaluation of the applicant. The manager has to ensure that the team contains all the necessary skills and expertise needed to carry out its mission. It is necessary to take account of the candidate's acceptability to the working group, not just to the managers responsible for the selection. This is a two-way business, as the result will be equally serious whether the group rejects the individual or the individual rejects the group<sup>[4]</sup>. Ordinary, three or more names of team members at the top of the register are submitted to the requisitioning official. This

arrangement provides some latitude for those making a selection and, at the same time, preserves the merit system<sup>[18]</sup>.

#### 9.7 The Team Leader

When the architectural team members are selected, the team leader has to create the team spirit in order to build an effective team who are capable to achieve both the client's and organisation's objectives. This could be achieved through:

- Perceiving the nature, abilities, and skills of every team member to assign the appropriate job and the role that commensurate with his abilities and skills.
- Forming the team as early as possible to maximise its performance throughout the project life cycle.
- Collaborating with team members to state and achieve consensus objectives will ensure their commitment to achieve the stated objectives.
- Establishing the team norms and maintaining team cohesiveness through having common goals, close co-operation, creating conditions for satisfying member's personal needs.
- Being a figurehead, motivator, liaison officer, spokesman on behaves of the team, resources allocator, negotiator, excellent listener, and problem-solver as well as a decision maker.
- Establishing effective communication within the team members to ensures smooth transferring of information from one person to another.
- Managing team conflict and appraising team performance to ensure that the client's and the organisation's objectives are achieved<sup>[24]</sup>.

### 10. TRAINING THE ARCHITECTURAL TEAM MEMBERS

Occasions arise daily in design firms that point out the need for training. The rapid changes in the architectural field, computer applications, information revolution, construction technology, building materials and project management practice, increased the need of design firms to respond to these changes by adopting and designing training programmes to improve and enhance team members' skills and abilities<sup>[25,8]</sup>. Table (1) establishes the training needs and objectives at the different levels of the design firm.

#### 10.1 Training Evaluation

Evaluation is the final phase of training. It involves collecting information on whether trainees were satisfied with the programme, learned the material, and were able to apply the skills in their jobs. In addition, evaluation ensures that the programmes achieve their objectives in a cost-effective manner<sup>[26]</sup>. Training evaluations helps rectifying the weakness of training programmes and withdraw less effective ones to save time and cost. Evaluation of training can be categorised into the following areas:

Table 1. Training needs, objectives and targeted architectural team members.

	Training Needs	Training Objectives	Targeted Members
Organisation Level	Identifying and testing the objectives, resources, context and problems confronting the firm.	Achieving the organisation objectives, increasing and developing the firm productivity, improving the managing, planning, scheduling, controlling and monitoring abilities, winning and satisfying clients.	Principal, partners and Team leaders
Task Level	Identifying the job's tasks and duties and listing the steps that performed by the team members in order to complete each task.	Achieving client objectives, meeting their requirements, performing projects on time, within budget, and as specified. Provide the trainees with the latest computer applications in the architectural field, new techniques and materials.	Project leader, architects and architectural technicians
Personal Level	Determining the specific skills, knowledge and attitudes required for the architectural team members	Improving and enhancing the team member's behaviour, skills, knowledge, and experience.	Team members who need to improve their skills

- **Reaction Evaluation**

Reaction evaluation includes: programme content, programme structure and format, instructional techniques, instructors abilities, and style, quality of learning environment, extent to which training objectives were achieved, and recommendations for improvement.

- **Learning Evaluation**

Learning evaluation is concerned with how well, the principles, facts and skills were understood and absorbed by the trainees. In order to obtain an accurate picture of what was learned, trainees should be tested both before and after the programme.

- **Behaviour Evaluation**

Behaviour evaluation is concerned with the changing in the job behaviour of the trainee. A systematic appraisal should be made on-the-job performance in a before and after basis.

- **Results Evaluation**

Results evaluation attempts to measure changes in variables such as reduced turnover, reduced costs, improved efficiency, reduction in grievance, and

increase in quantity and quality of production. Pre-tests, post-tests are required, as with behaviour evaluation, in performing an accurate results evaluation<sup>[19]</sup>.

**11. MOTIVATION OF THE ARCHITECTURAL TEAM MEMBERS**

Team building is essential for design firm's success, in terms of achieving client satisfaction, increasing productivity, greater competitiveness, and improving quality of products and services. Therefore, managers should learn to recognise what factors are important to increase team productivity. Team members who are treated with respect, encouraged to excel, and rewarded for their efforts are more likely to demonstrate motivated job performance. Highly motivated teams typically work hard and devote considerable energy to the attainment of their goals. More and more organisations are encouraging employees to become involved in problem solving, seeking their recommendations and loyalty, and granting them greater authority to make decisions. Many techniques are applied to motivate architectural teams in design firms.

**11.1 Self Motivation**

Team leaders who cannot motivate themselves are likely to have difficulty motivating their teams. Attitude is a major factor in self-motivation. Rather than looking for negative possibilities, a focus on positive outcomes helps overcoming obstacles and disappointments. Self-Motivation involves an examination of oneself in terms of needs, wants, and interests. Many people who excel appear to possess insight into their own behaviours<sup>[27]</sup>. Design firms have to help team members to build and enhance their self-motivation and encourage them to learn from their mistakes, and try to be persistent contributor to achieve both the organisational and personal goals.

**11.2 Establishing Positive Motivational Climate**

A powerful motivational mechanism is through including elements of challenge, achievement, and conveying the message that the team product is meaningful and makes positive contribution to the organisation success. Opportunities for participation and involvement in managerial and technical planning and decision-making are expected to enhance the architectural team member's productivity. Appropriate organisational climate, less formal structure, positive and enthusiastic responses to new ideas are essential elements for stimulating and reinforcing creative climate.

**11.3 Better Personnel Management Policy**

Architectural team members are more productive when they feel they are a valuable part of the design firm and that the firm cares about them. Designing

appropriate placement policies for architectural team members is a vital concern for personnel managers. In addition, the establishment of sound schemes of salaries increment, financial incentives and medical insurance are essential for motivating the organisation employees<sup>[28]</sup>.

## 12. FIELD STUDY

In order to investigate the perception and practical implementation of the team building process in design firms, a systematic sample was used to select 100 firms from a list of design firms in the United Arab Emirates<sup>[29]</sup>. Three different methods are used for data collection. These methods are: survey questionnaires, interviews and experts observations. These methods are used to:

- investigate the perception and adoption of the team building approach in design firms,
- investigate the recruitment and selection process of the architectural team members
- Identify the training programmes and motivation techniques applied in design firms.

The survey questionnaires were answered by team leaders, project leaders, architects and architectural technician. The interviews were conducted with principals, partners of design firms and human resources officers. Discussion and interaction with decision-makers and manager enriched the survey with new data, trends, and practical experience. Due to the difficulties confronted to fix appointments with principals and key people in design firm due to their work commitments, some of the interviews were conducted face to face where the rest was done by telephone. Experts' observations were collected from professional team leaders and project leaders who have wide experience in leading, managing, and controlling architectural teams. This method is distinguished from the other two methods because there are no structured questions, but the engaged parties are provided with main topics and left on their leisure to record what they noticed and observed from their experience.

### 12.1 Response Rate

Out of 100 questionnaires issued, 55 were completed and received. 38 questionnaires were collected from Abu Dhabi, 10 were received from Dubai, and the remaining 7 questionnaires were received from Sharjah. Out of 15 interviews planned to be conducted, 8 were achieved. 4 of them were done in Abu Dhabi, 2 in Dubai, and the other 2 in Sharjah. The interviews in Abu Dhabi were conducted face to face, where the other interviews were done by telephone. Out of the 20 experienced architectural team leaders and project leaders asked to write their observations and feed back, 10 responses were collected. 5 observations were collected from Abu Dhabi, 3 from Dubai, and 2 from Sharjah.

## 12.2 Data Analysis

Data collected from the field study were analysed under the following categories.

### The team building concepts

- Questionnaire respondents showed their understanding and perception of the team building concept and mentioned that it is adopted by their organisations to complete projects successfully.
- 50% of the questionnaire respondents stated that they were not involved in setting the goals of the team, which done by the team leader. 27.17% of them mentioned that they discuss the goals but the leader sets the final goals. 22.83% of the respondents agreed that the team members work together to arrive at consensus and agreed goals.
- 79.71% of the architectural team members confirmed that the team building process should be a continuous process through the project life cycle, where 20.29% of them agreed that the process should take place at the working drawing and the construction stages.
- 70% of the architectural team members pointed out that the team leader plays an important role as a figurehead, motivator, spokesman, liaison officer between them and the organisation management. 30% of the respondents stated that their team leaders lack management and leadership skills, which resulted in creating uncoordinated and unpleasant work environment.
- All management levels of the design firms agreed that they adopt the team building concept as an approach to complete projects successfully and achieve the organisation objectives.
- Observations of experienced team and project leaders emphasized the importance of adopting the team building concept as an approach to fulfil the client requirements and improve the organisation productivity. In addition, they emphasized the importance of sharing team members in establishing the architectural team goals. Furthermore, they confirmed the importance of dividing workloads between team members according to their abilities and skills.

### Recruitment and Selection of the Architectural Team Members

- 55% of the respondents agreed that they found their current jobs because they know key persons in the design firms, where the remaining 45% of the respondents confirmed that they found their current jobs at job centres and newspapers.
- 59% of the respondents mentioned that they did not fill an application form. 41% of them confirmed that they filled application forms.
- 75% of the architectural team members pointed out that they conducted two interviews, the first one was with the design firm management and the other one was with the head of the architectural section. 25% of them responded that they

- conducted one interview with the principal of the organisation.
- 89% of the architectural team members pointed out that the questions of the interview were about personality, qualifications, past experience and projects designed, presentation and computer skills, managing abilities, what the candidate can do for the design firm, the new ideas and suggestions he can bring to enhance and improve the organisation productivity, and the job salary and other benefits. 11% of them mentioned that they were asked why they left their previous jobs or planning to leave.
  - Personality and interest inventories test, job knowledge test, and job sample test were the answer of 84.96% of the respondents. 15.04% of them pointed out that they underwent cognitive tests.
  - 90% of principals, partners, and human resources officers confirmed that their organisations perform human resource planning before hiring new team members. This way helps design firms utilising available resources and reducing the cost of hiring new employees.
  - 87% of design firms management preferred to use overtime, make the job part-time' and sub-contract the work as an alternatives of recruiting.
  - 77% of the design firms use private employment agencies and executive search firms as sources for external recruiting, where 23% of the interviewees use their relations with external team members to recruit new employees.
  - All respondents agreed that they arrange for an initial interview of new employees and team members. 85.45% of the design firms concluded that they held one employment interview. 14.55% of them pointed out that they arrange for 2 interviews. In addition, all design firms agreed that they use employment tests.
  - 75% of the respondents responded that they use personality and interest inventories test, job knowledge test, and job sample test. 25% of them pointed out that they use cognitive ability test.
  - 60% of the respondents responded that they do not adopt checking references. 40% of the respondents pointed out that they adopt and apply checking references as a step in the selection process, and the most used way is checking by telephone.
  - The government of the United Arab Emirates asks all employees in any organisation to undergo a blood test in order to check if they have HIV/AIDS virus. Any person who has positive result will not be issued a residence in the UAE.
  - 75% of the design firms pointed out that the principals and partners take the final decision. 25% of them confirmed that the selection decision would be made by the principal, partners, head of human resources department and head of the architectural section.

- Observations of experienced team leaders stressed that most design firms face problems when their recruitment and selection processes are not based on job description and job specification. They added that many design firms do not arrange for enough interviews and tests in order to make sure that the candidate is competent for the vacant post.
- In addition, they mentioned that design firms prefer using recruiting alternative before recruiting new employees in order to minimize the recruiting cost and mentioned that external recruiting source is more desired than internal recruiting. They stated that the organisation has to promote its qualified employees and old team members to keep their loyalty to the design firm.

#### **Training and Motivation of the Architectural Team Members**

- All the architectural team members confirmed the important role of training programmes in enhancing their abilities and skills. 72% of the respondents confirmed that management training, technical training, and computer training are important programmes that can enhance their skills and abilities. 28% of them agreed that personality training and site training programmes have an imperative role in improving team members' skills in order to achieve the organisation objectives.
- 52% of the architectural team members pointed out that they did not participate in any training programmes or workshops during the last two years. 38% of them confirmed that they participated in one training programme, and 10% of the respondents stated that they attended two workshops last year.
- 75% of the respondents confirmed that salary increment, promotion and bounce are the most effective motivation techniques. 25% of them stated that recognition, praise, asking them to serve as a model to others, and asking them to teach their techniques to others are the best motivation techniques that encourage them to achieve the organisation objectives.
- The architectural team suggested to have (1) good working environment, (2) more collaboration and co-operation between team members and co-ordination between their team and other teams in the organisation , (3) new computer systems, design and presentation packages, (4) modern and up to date architectural libraries, (5) more training programmes and reward systems, (6) fair distribution of the workload, (7) participating in setting the goals and objectives of the team and (8) appreciation of old team members.
- The obstacles that constraints the team effectiveness are: (1) losing time in taking decisions, (2) no clear schedules for projects deliverables, (3) rewards are confined to some team members and are not based on performance, (4) some team leaders criticise architects or

- architectural technicians in front each others, (5) careless from some architectural team members, (6) some design firms delay paying the overtime even after the project is finished, this force team members not to work more than the official hours even when they are asked to work overtime, (7) some principals and partners are not architects and they interfere and change designs without proper architectural experience.
- 60% of the design firms confirmed that the principal with the collaboration of partners, and human resources officers identify the problems of the organisation and how training programmes can be applied to overcome these problems. In addition, team leaders held periodical meetings with the architectural team members to assign the obstacles that hinder the work progress and identify the skills and knowledge required to help team members perform their job effectively.
- Table 2 shows the adopted training programmes for the different team members.
- 72% of the respondents confirmed that reaction, learning, and behaviour evaluations are the most used criteria for training evaluation. 28% of them agreed that results evaluation is the criteria used to evaluate training programmes.
- All design firms confirmed the importance of motivating team members to achieve the organisation objectives. 828% of the interviewees pointed out that monetary incentives such as increasing salaries, promotions, and bounce are the most used and effective motivators. 18% of them confirmed that intangible rewards such as thanking letters and praising is the most effective motivators.
- Observations of the team leaders showed that many design firms although they perceive the importance of training, they do not wish to spend money in training employees. Some of the architectural team members arrange for training programmes on their own fees in order to enhance their skills and find better jobs.

Table 2. Adopted training programmes for the architectural team members

Team Members	Training Programmes Offered
Principal and partners	Managerial programmes.
Architectural team leader	Managerial and technical programmes.
Project leaders	Mainly: design, presentation, and technical programmes. Secondary: leading, managing, and planning programmes.
Architects	Design, presentation, technical information, computer skills, site supervision, and management abilities
Architectural technicians	Drawing, presentation, and computers skills as well as new techniques of construction

- They referred that design firms have to review periodically its motivation and rewarding system to stimulate team members to increase their productivity. Some of the team leaders mentioned that it is dangerous to promote and reward the same persons every time even if their effort is impressive. The design firm should change the people to be rewarded from time to time.

### 13. CONCLUSIONS AND RECOMMENDATIONS

The rapid political, economical, legal, technological and competitive changes in the business environment necessitated the importance of adopting the teamwork approach as a cornerstone for achieving client's and organisation's objectives. Because of the important role played by the architectural team as the first line of contact with clients in the construction industry, design firms have to focus on building effective architectural teams. Building such teams begins with choosing the right people who perceive that working together is the best way to achieve both the client's and the organisation 's objectives. This could be accomplished through the accurate planning, recruitment and selection of the team members needed. Training programmes play an important role in improving their skills and enhancing their abilities to adapt to these changes and deliver successful projects. Selecting and applying the appropriate motivation techniques have positive impacts on increasing the firm's productivity. Within this paper, results of an applied study on a selected sample of design firms in the United Arab Emirates are presented. The aim of this study was to investigate the perception of design firms regarding the team building approach and examine the practical implementation of recruiting, selecting, training and motivating the architectural teams in design firms. The research recommendation to the design firms could be summarized as:

- Adopt the team building approach as a continuous process and involve the team members in setting out the work goals.
- Select the team leader carefully and establish the team norms, roles, and effective communication systems as early as possible.
- Reduce recruitment costs and follow systematic steps for recruiting and selecting the architectural team members.
- Invest in training your team members and don't think that training is expensive or could be ignored.
- Select the appropriate motivation technique that stimulate and encourage your team members and increase the organisation productivity.

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