 

# Primary Attributes of Job Retainage for Architects

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The objective of this study was to identify the critical attributes architects must possess to retain their jobs during the recession period. The intended audience for this study was architects working for design firm professionals during the recession who were at risk of losing their jobs due to the economic environment. The primary aim of the study was to give architects knowledge of the attributes most valuable to employers so the architects could use this information to increase their chances of retaining their jobs. Background literature assisted in narrowing down attributes that employers would value, which could be used in survey questionnaires. Data was collected through organized interviews, targeted surveys, and random surveys with architects and their employers who were impacted by the recession. Analysis was performed on the data collected to identify the most important attributes that would enable an architect to be retained in a recession environment. The data collected for this study indicated architects' abilities to communicate clearly, in a professional manner, and to collaborate with others were the most critical attributes to possess for architects to retain their jobs.

**Key Words**: Job Retention, Architects, Design Firm, Job Performance Theory, Recession

## Introduction

The construction and building industry is one of the first industries always affected in an economic recession as the lack of funds (private and public) causes a decrease in the amount of new facilities being built. This affects the architectural profession as well. The recent recession has been no exception. Large numbers of architects and design professionals have been laid off. Due to this phenomenon, the overall intent of this research is to identify the critical attributes architects must possess to retain their jobs during the recession period.

Since layoffs are inevitable during a recession period and the job tasks of those laid off still need to be performed, it was assumed that architects' willingness to go beyond their job descriptions would prove to be the most critical attribute for architects to possess in order to retain their jobs during the recession. This hypothesis was based on an understanding that when personnel are let go those personnel remaining at all levels must diversify and work harder.

The study was relevant because architects can use the findings of the research to improve those attributes critical to employers in order to increase the architects' chances of retaining their jobs. In a recession where staff reduction is inevitable, the "firm leaders must develop a procedure for selecting the employees to be terminated. This can be done based on job function, seniority (last in, first out), or job performance. If performance is a selection criteria, the firm, must proceed cautiously to make sure all employees are compared equally. It is advisable to use documented performance appraisals or other evaluation criteria to make this determination. Using a specific procedure to select those to be terminated will aid the firm in the event of a wrongful-termination suit (Fiori, 2008)." Design employees need to know there is a procedure of rules that are in place when decisions are made as opposed to arbitrarily reducing personnel. This helps the firm to avoid undermining the remaining employee's moral and motivation.
Architects will use the study to improve the most important attributes that will help them retain their jobs. Employers and clients having a vested interest in the service of these architects will benefit, since the highest quality workforce will be maintained.

## Background

A literature review was performed in order to establish if prior studies had been conducted. While no studies were done specifically on architects retaining their jobs during an economic recession, some similar studies were found. The studies found included:

- Model for Predicting Performance of Architects and Engineers (Ling, 2002).
- Importance of Design Consultants' Soft Skills in Design-Build Projects (Ling, Ophori, and Low 2000).
- Sustaining Architects' and Engineers' Motivation in Design Firms: An Investigation of Critical Success Factors (Oyedele, 2010).

Another study was found on performance concepts and performance theories (Sonnentag, 2002) which helped to identify job performance abilities by classification. This study also assisted in forming an understanding of the architect's performance appraisal criteria that are generally used. And finally, the study assisted in analyzing architect's attributes specifically important in the changing world of the building and construction industry during the recession.

From a synthesis of the background studies which presented attributes found to be important for design professionals to possess in varying scenarios, as well as interviews with design firm principals facing newer global challenges, it was possible to derive architects' attributes by classification to create a list of attributes most likely to be considered important by architects' employers. Table 1 is a list of the important attributes used in the survey questionnaire. The following are the classifications of areas that architects' employers use to conduct performance appraisals of architects working under their supervision; as well as which attributes in the list were derived from each area.

## *Job Abilities - Task Performance*

Task Performance (Hunter, 1983) primarily deals with what are thought of as hard skills. Hard skill criteria in task performance evaluations are skills such as cognitive ability, job knowledge, task proficiency, and job experience (Ling, 2009; Schmidt et al 1986). Those Abilities in Table 1 which are derived from task performance hard skills criteria include Abilities no. 1, 2, 3, 8, and 12.

## *Job Abilities - Contextual Performance*

Contextual Performance primarily deals with soft skills and includes the following evaluation criteria: conscientiousness, initiative, social skills, control, and commitment (Borman & Motowildo, 1993; Ling 2002). In Table 1 the abilities derived from these performance criteria of soft skills for working architects that go beyond basic skills include Abilities no. 4, 7, 9, 10, and 11.

## *Job Performance in a Changing World of Construction and Design*

In the last few years, during the recession in our nation, organizations and work have continued to change dramatically. There are five major trends: importance of continuous learning, relevance of pro-activity, increase in teamwork, globalization, and technology (Sonnentag, 2001). It would be expected that some abilities relating specifically to these areas would be important to architects working in today's always changing work environment. These areas can be summarized in three categories: 1) Continuing Education and Pro-activity, 2) Teamwork and Globalization, and 3) Technology.

## *Continuing Education and Pro-activity*

"Because of technological innovations and changes in organizational structures and processes, individual work requirements are quickly changing. As a consequence, continuous learning and competence development become increasingly important. Individuals need to be willing and able to engage in continuous learning processes in order to accomplish their present and future tasks successfully (Sonnentag & Frese, 2002)." In Table 1 the ability derived from this category is Ability no. 7.

 

### *Teamwork and Globalization*

"Global communication systems have brought certain benefits to the industry, which include rapid transfer of information, access to previously unknown data and the availability of an enlarged body of knowledge (Hindle, 1998)." Today's architects need to be skilled in global communications, but even if only dealing in the local and regional markets, architects must be prepared for change and always willing to work as team members. "Both the profession and the industry continue to sustain damage that could be avoided if the fear of change could be overcome (Hindle, 1998)." In Table 1 the ability derived from this category is Ability no. 10.

### *Technology*

"Technology, particularly computer and information systems, play an important role in most work processes. In many jobs, individual work behavior, thus performance, is very closely linked to the use of technology-based systems (Sonnentag & Frese, 2002)." Today's design professionals must have the skills to deal effectively with many new technologies and delivery systems of projects that now present themselves. BIM (Building Information Modeling) is one such example of the new technology being used today in the design and construction industry. In Table 1 the abilities derived from this category include Abilities no. 5 and 6.

Table 1

**Important Attributes Architects Should Possess to Retain Jobs During Recession**

| Attribute no. | Attribute Description |
|---|---|
| 1 | Architects diversified project experience |
| 2 | Architects level of professionalism in dealing and communicating with clients, teams, and employers |
| 3 | Architects ability to manage projects well |
| 4 | Architects willingness to go beyond their job description and take on other necessary job tasks |
| 5 | Architects knowledge of sustainable design or LEED certification |
| 6 | Architects knowledge and experience using BIM technology and software |
| 7 | Architects willingness to learn new technologies, methods of delivery, or professional development in areas they are unfamiliar with |
| 8 | Architects no of certifications, licenses, etc |
| 9 | Architects willingness to be led, to allow governance from employers and supervisors |
| 10 | Architects willingness to collaborate with teams of consultants, owners, contractors, managers, vendors or a combination of the above |
| 11 | Architects ability to communicate clearly design intents with clients and supervisors |
| 12 | Architects ability to perform exceptional design |

### *Point of Departure from Past Studies*

This research study departs from the previous literature background studies in several ways. The study's subject group is architects employed by other architects, engineers, or design professionals. In addition, the architects are assumed to have the necessary basic skills and acceptable job performance to have retained their jobs before the critical condition of economic recession hit the industry. Only those architects' abilities that are most important are being considered for performance appraisals when lay-offs become inevitable due to the recession. There are new factors introduced in today's ever changing world which affect architects abilities to perform. Due to these new factors within a global and technologically savvy workplace some basic, but necessary, attributes have now become much more critical to the architects' success within their work.

## Research Methodology

Using the research principle of triangulation (Fellows & Liu, 2008) the research was carried out based on three data collection methods:

- Interview – an architect was interviewed in person regarding thoughts pertaining to architects retaining jobs during a recession. The interview was an informal interview as opposed to an interview with structured formatted questions.
- Structured targeted interview questionnaire – Specific architects within the state of Georgia were invited to participate in an email survey. The group targeted was those architects in a position to make decisions on firing and hiring personnel within their firms.
- Random questionnaire survey of architects from around the nation – various architects from firms around the nation were randomly chosen and invited by email to also participate in the study in order to give balance to the target group. These surveys and the answers to the qualifying questions were reviewed and weighted based on the design professional's level of personnel management.

Ninety-three (93) surveys were sent out to design professionals. Of those surveys sent out, seventy-two (72) surveys were sent out directly to Georgia AIA members, most of who were in a position to manage personnel. Another twenty-one (21) random surveys were sent out to design professionals around the nation. Nineteen (19) design professionals responded and one (1) direct interview with an architect was conducted, resulting in a response rate of twenty-two percent (22%).

Hypothesis, background literature, and an interview were used to complete the list of attributes to include in the survey questionnaire. An ordinal scale (Fellows & Liu, 2008) of measurement was used. A four point ordinal scale was used by the design professionals to choose the attributes considered most important. Those attributes with high ranks of 3 or 4 on the ordinal scale were then ranked on a second weighted scale by the design professional. This second weighted scale was limited from 5 (most critical attribute) to 1 (least critical attribute) for even more detailed analysis. Responses were filtered by the personnel management authority of the design professional. The first group consisted of only design professionals with the job authority to retain design professionals while the second group consisted of design professionals without such authority. Both groups were analyzed by a two step process. (See Appendix)

It was necessary to limit the study in order for attributes to be researched. In any economic recession staff reduction is inevitable due to financial reasons. If a firm is struggling financially, it is seeking to decrease its overhead and costs. This is the primary reason that firms will begin reducing personnel in the first place. Because this is almost always the first most critical rule in making staff reductions, it was necessary to put restrictions on the study and the data collected. Design professionals were asked to disregard any financial motivations. In addition; to better help decide between attributes design professionals were given a hypothetical example of two architects performing at the same salary range and having the same job position. Under this scenario design professionals were asked to judge which attributes would be most critical in deciding which architect to lay-off.

## Results

Figures 1 and 2 illustrate the classifications of survey respondents and the firms they work in or for. Respondent's job authority was included in normalization of the data. Other classifications were used to look for specific trends and correlations in the data. Seventy-nine percent (79%) of the design professionals were in a position of authority to manage personnel. Of those seventy-nine percent (79%) of design professionals, one hundred percent (100%) were Principals or Partners within the firm. Of those without the authority to manage personnel, seventy-five percent (75%) were licensed architects and twenty-five percent (25%) were architectural interns. Almost half of the design professionals were from incorporated firms with less than ten employees. However, another thirty-one percent (31%) were from firms with over 100 employees. The majority were from firms that were multi-discipline firms operating locally or statewide. Twenty-one percent (21%) were international firms.

 

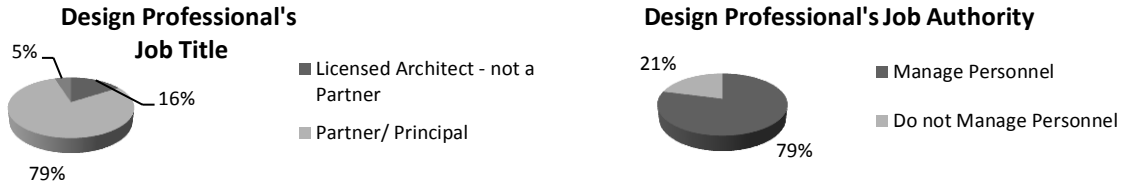


Figure 1: Design Professionals

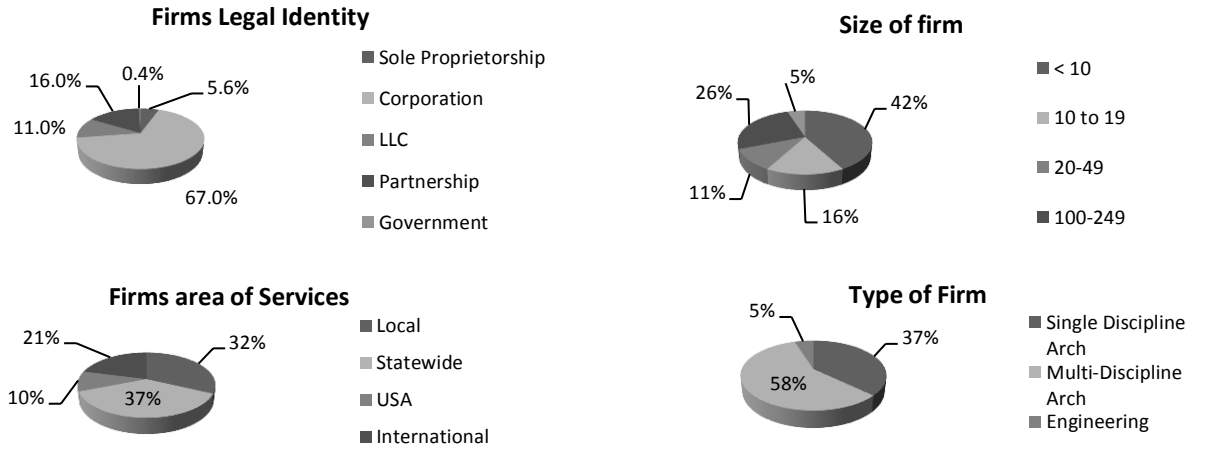


Figure 2: Design Professionals' Firm

Figure 3 is the percentages of each answer on the ordinal scale for each attribute factor. The following three attributes ranked as very important for over fifty percent (50%) of the design professionals surveyed: 1) architects level of professionalism in dealing and communicating with clients, teams, and employers, 2) architects ability to manage projects well, and 3) architects willingness to collaborate with teams of consultants, owners, contractors, managers, vendors or a combination of the above.

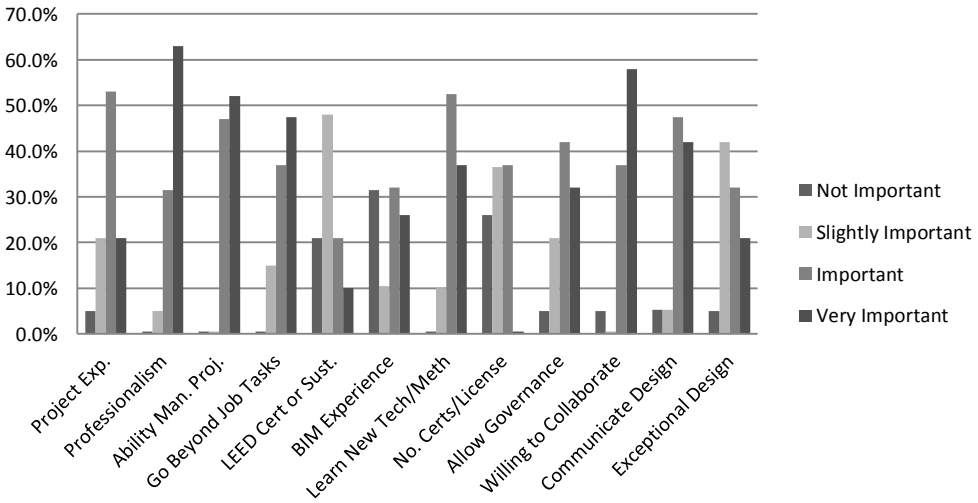


Figure 3: Ordinal Ranking of Attributes Studied

The analysis software built in with the survey software took the percentages and calculated an average rating for each attribute as it related to all the others. The higher the average rating the more important that attribute was

considered to be. All attributes considered to be the highest (with a 3.0 average rating or above) are listed in order in Table 2.

Table 2

**Attributes with Average Rating of 3.00 or Higher**

| Attribute no. | Attribute Description | AR |
|---|---|---|
| 2 | Architects level of professionalism in dealing and communicating with clients, teams, and employers | 3.58 |
| 3 | Architects ability to manage projects well | 3.53 |
| 4 | Architects willingness to go beyond their job description and take on other necessary job tasks | 3.32 |
| 7 | Architects willingness to learn new technologies, methods of delivery, or professional development in areas they are unfamiliar with | 3.26 |
| 9 | Architects willingness to be led, to allow governance from employers and supervisors | 3.00 |
| 10 | Architects willingness to collaborate with teams of consultants, owners, contractors, managers, vendors or a combination of the above | 3.47 |
| 11 | Architects ability to communicate clearly design intents with clients and supervisors | 3.26 |

The attributes listed in Table 2 are the only ones included by the design professionals in the weighted scale from 1 to 5, since the attributes represent only those on the ordinal scale that were the most important or very important. Next, the weighted scale answers of the design professionals were analyzed to determine which attribute was considered the most critical ability by the majority of design professionals with the job authority to manage personnel. This also revealed which other attributes were the most critical among design professionals with the authority to manage personnel. The same process was undertaken for those design professionals without the authority to manage personnel. The results can be seen in Tables 3 and 4.

Results of the study indicate that the initial hypothesis, architects' willingness to go beyond their job descriptions is the most critical attribute for them to possess in order to retain their jobs during the recession, held true among design professionals without the authority to manage personnel. However, the hypothesis was not true among the majority of design professionals, those with the authority to manage personnel. The most critical attribute to design professionals with the job authority to manage personnel was attribute no. 2, architects level of professionalism in dealing and communicating with clients, teams, and employers. Attributes no. 3 and no. 10 were considered as being among the most critical attributes by both groups of design professionals.

Table 3

**Most Important Attributes Architects Should Possess to Retain Their Jobs (Design professionals with authority to manage personnel – 15 of 19)**

| Attribute no. | Attribute Description | WR2 |
|---|---|---|
| 2 | Architects level of professionalism in dealing and communicating with clients, teams, and employers | 45 |
| 3 | Architects ability to manage projects well | 33 |
| 10 | Architects willingness to collaborate with teams of consultants, owners, contractors, managers, vendors or a combination of the above | 30 |
| 11 | Architects ability to communicate clearly design intents with clients and supervisors | 18 |
| 9 | Architects willingness to be led, to allow governance from employers and supervisors | 13 |

*The WR2 no. is derived from a two step process and formula (See Appendix)

Table 4

**Most Important Attributes Architects Should Possess to Retain Their Jobs (Design professionals without authority to manage personnel – 4 of 19)**

| Attribute no. | Attribute Description | WR2 |
|---|---|---|
| 4 | Architects willingness to go beyond their job description and take on other necessary job tasks | 13 |
| 3 | Architects ability to manage projects well | 9 |
| 6 | Architects knowledge and experience using BIM technology and software | 8 |
| 7 | Architects willingness to learn new technologies, methods of delivery, or professional development in areas they are unfamiliar with | 8 |
| 10 | Architects willingness to collaborate with teams of consultants, owners, contractors, managers, vendors or a combination of the above | 5 |

*The WR2 no. is derived from a two step process and formula (See Appendix)

## Conclusions and Recommendations

In each group (design professionals with the authority to manage personnel and design professionals without such authority) at least one of the five most important attributes pertained to collaboration with others. In the case of those with more authority within the firm (partners and principals) who had the authority to manage personnel and thereby retain architects within jobs, four of the five attributes were soft skills; with three attributes relating to communication and collaboration and one pertaining to the willingness of the architect to be supervised and governed. For those design professionals without the authority to manage personnel, hard skills were ranked higher with the exception of the one attribute pertaining to communication. In addition the ability to be willing to learn new technologies, as well as possess BIM capabilities, ranked higher among the design professionals without the authority to retain architects. Analyzing and concluding the results, as well as giving more weight to those in a position to retain architects jobs, the abilities to communicate clearly, in a professional manner, and to collaborate with others would be the most critical attributes to possess for an architect to retain their job. Secondly, would be the ability to manage projects well.

It is recommended that further studies be conducted with a larger sample size from a more diverse area around the nation. Additionally future studies could be performed adding the question of gender to see if there is a difference of opinion between male and female design professionals. Further studies could be conducted to investigate the correlation of design professional's years of experience to attributes chosen as most important to retain architects jobs.

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# Appendix

## *Formula for Data Analysis*

Process and formula for determining weighted ranking of factors considered most important and tthe order of rank.

*Step 1*

Three analyses are performed on the weighted scale:

- attributes's number of times ranked 5 (most critical) = a
- attribute's number of times ranked 4 (second most critical) = b
- total number of times the attribute was ranked at all in the weighted scale = c

*Step 2*

A calculation is performed based on the analysis in step 1: a + b + c = WR*

Attributes with the highest WR values are considered the most important factors used in performing an initial risk assessment.

*Some WR values are the same for more than one factor so a further calculation is performed.

5(n) + 4(m) + 3(p) + 2(q) + 1(x) = WR2

n = no of times factor is ranked most critical
m = no of times factor is ranked second most critical
p = no of times factor is ranked third most critical
q = no of times factor is ranked fourth most critical
x = no of times factor is ranked fifth most critical