BIM Titles and Job Descriptions: How Do They Fit in Your Organizational Structure?

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DL4436 With the upsurge of BIM requirements, human resource departments and hiring managers in the AEC industry are struggling to put together job titles and descriptions for their BIM staff hiring. In this class, a leading design/build firm will showcase how BIM positions fit in their architecture, engineering, and construction organizational structure. We will break down each role’s job description, key responsibilities, expectations, and technology tools. Finally, we will address the organizational placement of BIM project versus corporate support staff and how they are budgeted and paid for.

About the Speaker:
Joseph Joseph attended the Lebanese American University where he studied Architecture. In 1997, he came to the United States to complete his studies in Architecture as well as complete a two-year degree program specializing in CAD/Technology Management. Joseph has over 16 years of direct industry exposure from Job Captain/Project Architect to Managing Director of Information/CAD/BIM Technologies. He has served as a strategic and tactical partner to many architectural/engineering organizations (50–3000 employees) spearheading CAD/BIM planning, deployment, implementation, and training strategies. In addition, he has taught/supported multiple Autodesk® products at the higher education level. Joseph Joseph joined SAIC early in 2010 as the company’s Managing Director overseeing all BIM/CAD Technologies aspects and focusing on revamping the firms BIM/CAD initiatives from the ground-up, including strategizing, standards, and implementation of BIM in a true design/build environment.

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Overview

This session is designed for principals, owners, business developers, project managers and BIM directors to look at building information modeling (BIM) from a human resources lens. We will address the common challenges of dealing with the BIM bubble from a recruiting perspective. This hand-out will have in-depth information on this topic and will mainly be used to keep up with the presenter.

LEARNING OBJECTIVES

- Discover new BIM Position titles and their specific Job Descriptions.
- How BIM Staff fit in an organizational structure for projects.
- The importance of BIM corporate support staff in your organization.
- How to drive the change in your organization and educate your HR department to help you recruit these positions.

EXPECTATIONS

The focus is not technical: we will not be getting into BIM software bells, whistles or clicks. As BIM continues to penetrate the market and emerge as the trendiest process chosen by owners, designers and contractors, we observe very little effort spent on integrating it with human development strategies and the exhausting efforts it takes to recruit and maintain BIM-focused Staff in companies.

CONSIDERATION

The content in this hand-out is based on professional experience and personal point of view of the individual presenting the class and material and should be used as a reference only. SAIC and its subsidiaries are not responsible for any of this content or the consequences of adopting them.

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BIM | A Human Resources Challenge

As the demand on Building Information Modeling technology continues to upsurge throughout the design and construction industries for consultants, contractors and even owners, the business continues to deal with multiple HR (Human Resources) and organizational development challenges as it relates to understanding the need for BIM talent, finding it and then placing employees properly within the existing system. Through this section, we will explore the industry challenges, beyond technology focusing on how BIM affects the way we do business from a human interaction level and what are the typical issues that companies are dealing with due to lack of oversight and management of such important challenges.

IT IS NOT IN THE PLAN
Organizations that have adopted BIM, are adopting BIM and/or about to adopt BIM don’t know or can’t afford to spend the financial resources to lead an initiative of understanding the after-effect of implementing BIM on their culture from a human-resources and employee-structure perspective. For the most part it is thought that this is a phenomenon that will take care of itself over time.

Too Focused on Technology – While the industry is broadcasting that BIM is a new process and technology that redefines the way we do business. In general most of the focus has been on software procurement, training, content development, technology collaboration with other team players and other technology implementation aspects of adopting BIM relating to WAN-LAN-Clouds and hardware.

BIM & REVIT® are not Interchangeable – It is clear that more and more organizations and professionals are using the technology and process terms interchangeably, confusing one with the other. BIM is the process and REVIT® is the technology. One should not assume that in-order to have worked in a true-BIM environment that you should have REVIT® listed on your resume. In other terms, BIM experience comes from taking-part on BIM related projects in several other avenues other than modeling inside of the REVIT® platform and/or conducting clash-detection in Navisworks®. Of course, that’s all depending on project roles.

Expectations – AEC companies are not prepared for compensation expectations of professionals with a BIM portfolio, neither are these firms providing top notch internal BIM corporate support to resolve challenges.

LACK OF UNDERSTANDING

When it comes to making the necessary changes inside of organizations based on the evolution of BIM, a lack of understanding governs multiple human and practice-methods surrounding the ability of dealing with this transformation and how to react in each of the specialty areas in-order to retool and support a BIM process and technology based environment.

Profession’s Tools – With the new BIM era, the design and construction industry is dealing with an explosion of software technologies made available under the umbrella of “BIM”. As a result, approaching the design, engineering and construction of buildings is changing exponentially from design story-telling to engineering calculation and delivery of a finished building. That’s if you want to call yourself on the cusp of technology and utilizing the proper tools available to you through this so called BIM. This means professionals have a different demand and new workflow of performing their daily workload tasks.

Balancing Technology & People Skills – Collaboration is the magic word, BIM demands more than ever, a high level of people-skills in the form of communication, collaboration and proactive approach. More directly, what is being suggested here is that BIM requires the recruitment of professionals with better people skills or addressing those as a priority for your BIM investment to actually work. Balancing professionals career technical skills, coupled with BIM and communication is a dream come true and a difficult one to achieve when bringing architects, engineers and contractors together.
BIM | A Human Resources Challenge

LACK OF UNDERSTANDING – CONTINUED

Hiring Authority – One of the major contributing factors to the challenges set forth is the lack of understanding from hiring managers, upper management, project managers and human resources as to how important it is to look for the right BIM caliber when hiring any role. Unlike the legacy days “CAD People” had to know CAD and the rest didn’t matter. Failure to focus on proper positions with lack of BIM exposure and understanding may put a warm body on your project but not necessarily fulfill the requirements of a BIM workflow required by your organization or clients.

<table>
<thead>
<tr>
<th>Position</th>
<th>BIM Impediment</th>
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<td>Project Manager</td>
<td>RFP, Managing Resources &amp; Deliverables</td>
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<td>Design Team</td>
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<td>Estimators</td>
<td>Depending on Legacy Methodologies</td>
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<td>Project Job Captain</td>
<td>BIM Overall Supervision A-Z on Project</td>
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<td>Renderers &amp; Visualization</td>
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<td>Leveraging BIM Model for Clash-Detection</td>
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<td>Business Development</td>
<td>RFP, Not selling, or appearing unknowledgeable</td>
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<td>Legal</td>
<td>Potential Law-suits</td>
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Definition of Roles & Responsibilities – AEC firms, over the years, have developed job-descriptions, roles and responsibilities for project team-members and corporate support staff that are mainly defined by a legacy CAD environment. A temporary fix of adding a list of software to an existing R&R is no longer enough as it is critical to help prospective employees understand your BIM vision and how they would fit in the organization.

LEADERS DRIVING THE CHANGE

Resellers Driving Change – Aligning your firm with the proper reseller is the most important of all. There are channel-partners that employ registered architects and engineers with a significant appetite to implementing technology and new BIM workflows within organizations. The dangerous part is aligning your company with the wrong partner that will help you focus on software pieces but not really plan and/or guide you to navigate through things based on new job descriptions, roles and responsibilities.

It is very critical to find a partner with both technical implementation skills as well as the ability to look at the strategy from a human resources and 40,000 FT level to help you understand how to steer your organization in the proper path depending on your culture and cliental needs.

Absence of BIM Executives – Unfortunately everyone has their urgent tasks of balancing billings, utilization, P&L and making sure accounting and projects are running smoothly. HR is busy recruiting and responding to the frustration of not finding talent quickly, while project managers are panicking about not making deadlines and promises to clients.

From experience, I find a huge difference between BIM Managers that are tasked with technology implementations and their counter parts that are focused on creating a new epoch for fellow-employees to adopt into and follow. It is critical that we understand that someone must take ownership of the HR-aspects of growing a new community in the AEC industry, and for the most part I see this to be the person in-charge of the implementation. Simply at the end, it could mean the difference of a successful BIM community or one that causes us to polish our resumes.
How BIM Staff Fit in Your Organizational Structure

Before jumping ahead to defining BIM related job titles and descriptions, it is critical that you take a holistic look at several key areas to understand how you will place BIM capable staff within your organization. Specifically, we promote that BIM is not one size fits all. One would need to make careful consideration when making decisions that impact the human culture of how employees are managed.

BIM VISION

You should establish a solid BIM Vision and mission that's not only used externally with your clients, but also leveraged internally with all the hiring decision makers and organization developers. An overall strategic BIM Vision plan will set the course of your path and start showcasing to methodical and graphical individuals the major differences between BIM and legacy structures.

- Organizational culture towards BIM philosophy
- Role and place in the marketplace as it relates to BIM
- Your BIM path and vision that you plan to lead moving forward

BIM SERVICES

The second strategic aspect is to define BIM internally to your organization and employees equally to that of your external focus. Deciding how you will engage your organization with BIM is the easiest way to set your path to understanding how BIM staff will fit within your organization.

Part of a Service – this method will incorporate BIM as part of a major service offered to your clients “sub-service”. You are utilizing it as a process and tool to accomplish and/or adhere to your client's requirements. This service mainly leverages BIM as a technology & process during Design & Construction.

A Line of Business – through this model, you are offering BIM to be an independent line of service within your organization. It will continue to be interwoven within your projects; however, you are able to offer pieces of it as a specific scope depending on the needs of clients. Review: BO4449 BIM A Marketing Effort

- 3D: modeling & documentation
- 4D: integration for construction
- 5D: COST estimation
- 6D: Building Lifecycle Integration
- BIM Specialty Services: Implementation, Content Development, Prototype Creation
How BIM Staff Fit in Your Organizational Structure

DESIGN & CONSTRUCTION WORKFLOW – DELIVERABLES

When we address BIM workflow, we always make a strong mention of the way it redefines approaching projects. Studying how BIM will affect your design workflow cycle, project deliverables and internal quality will not only allow your organization to retool the project approach, but more importantly how to obtain resources, staff projects and make deliverables.

A workflow plan will define project programming, design-development through construction management and hand-over to the client. The workflow will showcase how BIM requires a totally new approach to design tools from documentation, visualization and engineering calculations.

- Workflow of Process
- The role of technology within workflow
- Roles and responsibilities of designers
- Collaboration and Integration of individuals
- Interoperability of software

PLACEMENT OF BIM POSITIONS

Once an organization explores the ins and outs of what BIM involves, it quickly becomes clear that BIM placement is needed throughout an organization within all of its layers. Not just in defining new positions, but actually redefining some of the traditional key-project leadership positions to create a full integrated BIM environment to work within from marketing to project close-out.

When we start breaking BIM down, we arrive at three major buckets:

- Knowledge Based
- Skill / Project Based
- Corporate Support & Services Based

These major buckets of mixed BIM educational knowledge and skilled positions will help you break down further the categories of which you need to tackle each area within your firm to bring them up to speed. The following model is one that would work for a Design and DesignBuild organization focused on leveraging BIM throughout its entire project life cycle: Strategic BIM, Design BIM, Construction BIM and finally the entity that supports it all, Corporate Support. In this section we will cover all but Corporate Staff.
How BIM Staff Fit in Your Organizational Structure

PLACEMENT OF BIM POSITIONS – CONTINUED

**Strategic BIM Staff** – The strategic BIM placement within your firm can be a potent and critical item that would mean the difference between securing work or not, having all of your bases covered or potentially being involved in legal proceedings. All depending on how your strategic bucket team is well versed with the BIM term.

**Client Facing Staff & Business Developers:** In our business, client facing staff, such as senior managees and business developers, spend a great deal of effort establishing and fostering relationships with new / existing clients. They need to stay on top of new trends within the industry and understand BIM in order to speak the language, share the company’s future vision and make achievable promises.

**Legal Team:** In writing your BIM scope, there are several legal considerations. You should guide your legal team to update contracts and create content that deals with BIM scope, otherwise you are not protected. This includes roles & responsibilities, BIM process & collaboration management, data-release-forms and proprietary data protection. Finally defining BIM on a project and aligning expectations with client and team all the way to the finest details such as model detail granularity.

**Design BIM Staff** – People = employees, want to know what their expectations are and their involvement on projects. In addition – if you want them accountable, you must give them the proper tools and define their roles to achieve success. **Design BIM** placement comes in three major areas on a project:

**Initial Design** – during initial design, senior project architects and their junior staff will have BIM hands-on experience with a platform like REVIT® to handle design from initial stages. The team will head over to design collaboration meetings such as “Charrettes” with the client to initiate the design within a BIM environment. Training for this type of team encompasses:

- Basic understanding of BIM workflow
- Basic REVIT® platform usage to initiate design of buildings
- Integration between REVIT®, Sketch-up and other applications necessary
- Some staff that will carry over to design documentation will have skills that are further expanded than other design staff within the software.

<table>
<thead>
<tr>
<th>Initial Design BIM Tools</th>
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</thead>
<tbody>
<tr>
<td>Programming Tools</td>
</tr>
<tr>
<td>Design Charrette</td>
</tr>
<tr>
<td>Design Development</td>
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</tbody>
</table>

**Project Production Staff** – This is the group of employees that are producing the bread and butter of the business. Detailing and materializing conceptual design ideas into what is supposed to be BIM Models, designs, engineering and documentation that contractors can build from. BIM placement in this “core of the business” is critical and must be based on your firm culture.

Due to technology advancement, the largest gap is the lack of understanding design and construction. BIM today forces us to engage project-production-staff with a solid understanding of how a building is supposed to come together. This changes the roles, responsibilities and placement of such staff on your projects, as well as the mentoring approach from senior to junior staff.
### How BIM Staff Fit in Your Organizational Structure

**PLACEMENT OF BIM POSITIONS – CONTINUED**

**Design BIM Staff – Continued**

**Project Production Staff – Continued**

<table>
<thead>
<tr>
<th>Position</th>
<th>Key-Element</th>
<th>Billable / OH</th>
<th>Tools</th>
</tr>
</thead>
</table>
| BIM Job Captain (Model Manager) | • Model Management (All Disciplines)  
• Modeling multiple disciplines  
• Drawing Set Ownership  
• BIM Content Development  
• Liaison with Corporate Support  
• BIM Collaboration / Coordination  
• May preform Clash-Detection | 100% Billable  
**Potentially 20% G&A Corporate Assistance** | ![Image](image1) |
| BIM Coordinator            | • Modeling one to multiple disciplines  
• BIM Content Development  
• Liaison with Corporate Support  
• Coordination / Collaboration  
• Introductory drawing coordination | 100% Billable  
**Potentially 20% G&A Corporate Assistance** | ![Image](image2) |
| BIM Technician             | • BIM Modeling – Single Discipline  
• Potential → BIM Coordination  
• Report to BIM Job Captain | 100% Billable | ![Image](image3) |
| Junior Design (AMEP)       | • Between BIM Technician & Coordinator  
• Ingrate BIM with Design Tools – if trained | 100% Billable | ![Image](image4) |
| PA / PE                   | • Leverages interoperability with design tools – STAAD / TEKLA / ECOTECT  
• Use Design Review – for viewing, commenting and keeping up with modeling  
• Modeling if trained – depends on role | 100% Billable | ![Image](image5) |

**Construction BIM Staff** – The promise of BIM certainly transitions over to the construction side. There is a key-critical aspect of BIM and Construction that must be decided on when creating new position placement for BIM knowledge and key-positions on the construction side. To make that decision, you would have to answer the following strategic question: Will your firm develop construction models or not?

When design teams are modeling, it is done from a design aspect. What may have to be modeled in several wall panels will wind-up being built in one long piece. What this does is affects your quantity and construction sequencing simulation processes. There isn’t a rigid answer – what we find, it all depends on the project complexity and what we are getting out of it to set resources aside for construction modeling.

<table>
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<tr>
<th>Position</th>
<th>Key-Element</th>
<th>Billable / OH</th>
<th>Tools</th>
</tr>
</thead>
</table>
| BIM Coordinator  | • Clash-Detection/Communicating to Design  
• Multiple Design Models Coordination  
• Managing BIM Construction Process  
• iPad Integration with BIM / Construction | 100% Billable | ![Image](image6) |
| Estimators       | Integrating with BIM Model – Estimation                                       | 100% Billable | ![Image](image7) |
| GC Modeler       | BIM Construction Modeling – Scratch / from Design                             | 100% Billable | ![Image](image8) |
How BIM Staff Fit in Your Organizational Structure

PROJECT ROLES & RESPONSIBILITIES

**BIM Job Captain** – *Model Manager*

From a personal perspective, I don't agree with the term “BIM Coordinator” to be at the top of a project team executing with BIM. For the most part, the term BIM coordinator is what we think is an advancement of a CAD Coordinator role back from the CAD days. A role, at large, not widely understood and leverages properly in the pre-BIM-era. CAD Coordinators for the most part set-up project templates, sheet-set-managers, took care of line-weights, ran plots and performed CAD Drafting for one-discipline.

Because BIM forces the issue of higher level of understanding as to how a building comes together, we revive the vintage project role: “Job Captain” and this is how we arrive at a **BIM Job Captain**.

**Job Description:** BIM Job Captains must understand the business thoroughly, their primary function is to manage the process of virtually constructing a building and documenting the design contract documents accurately. This would encompass managing a team of production professionals, designers and technicians of multiple disciplines and own the construction-documents set through as-built submittals. It is also critical for them to lead model management and BIM planning, collaboration and coordination on projects they are leading. The position becomes the go-to person on the project for modeling, documentation and verifying design intent during CD phase.

**Roles & Responsibilities of a BIM Job Captain:**

- Produce construction documents for one or more disciplines
- Lead the effort of putting together a set of construction documents
- Model Management and administration ensuring a health BIM database
- Coach, mentor and supervise the process of virtually constructing a building by production (modeling and documentation tasks)
- Lead BIM Coordination Meetings: Spatial Coordination of Disciplines, gathering all disciplines BIM models including civil and preforming coordination tasks.
- Conducting Clash-detection and conflict resolution. Coaching each discipline on leveraging Clash-detection tools on their own discipline to proactively build and design in a smart fashion.
- Assist BIM Corporate staff in deploying project-templates on specific projects and ensuring team adherence to them.
- BIM Content Development approvals for the project.
- Coordinating with professional staff on reviewing models and comments via Design-Review.
- High level of communication and fostering teamwork to assemble a work environment for different individuals representing multiple disciplines to achieve optimum BIM performance.

If the Role Doesn’t Exist: This is a key-role that is required to liaison with project teams as well as corporate technology and implementation teams. Failure to fill this role would create significant challenges for a BIM workflow on projects.
How BIM Staff Fit in Your Organizational Structure

PROJECT ROLES & RESPONSIBILITIES

BIM Technician – {REVIT® Modeler, Mechanical BIM Designer}

CAD drafting positions evolved to BIM Technicians or what many call “modelers”, the only difference is that this role requires much more than just the ability of picking up redlines from a designer or a professional.

This role represents a skilled BIM software modeling expert with solid understanding of their specific design discipline such as a Mechanical BIM Technician focusing on the mechanical systems of a building design and leveraging REVIT® MEP. This role can also be represented by junior professional architects and/or engineers depending on their training, role in the firm and technology appetite to execute design utilizing BIM.

Roles & Responsibilities of a BIM Technician:

- BIM Modeling for specific design discipline.
- Work under direction of design professional and BIM Job Captain.
- Ensure construction documents accuracy based on discipline BIM Modeling.
- Collaborate and Coordinate with other disciplines design-changes and model challenges.
- Adhere to BIM Execution Plan and BIM project workflow criteria.
- Follow BIM content standards and development procedures.
- May take the lead on developing some discipline specific BIM modeling content for project.
- Print drawing sets for professional team and participate in discipline reviews.
- Prepare own discipline model and/or content for BIM Coordination Meetings.
- Ability to export DWF and other formats for collaboration internally and externally.
- High level of communication and good writing skills.
- Leveraging BIM software and tools as a methodology to coordinate design documentation.

Software Expectations

- One flavor of BIM platform such as REVIT® Architecture.
- AutoCAD – for drawing linkage and cleanup.
- Design Review – for collaboration with professional staff.
- Engineering Design Calculation and/or Analysis software depending on specific discipline.
- General understanding of interoperability between software used to accomplish own discipline tasks.

This role provides a healthy medium for non-graduate professionals that are very skilled with understanding the technical aspects of their disciplines and/or junior graduate professionals that are gaining experience. There are multiple career paths that could be taken from this role from a growth perspective, most likely one that would head in the BIM Job Captain direction.
How BIM Staff Fit in Your Organizational Structure

PROJECT ROLES & RESPONSIBILITIES

BIM Coordinator Role – This is merely a philosophical point of view and there is no right or wrong on this position. My take on this topic is that the term “Coordinator” puts too much focus on the coordination aspects and subtracts the importance of the discipline(s) technical expertise required. As a result, my focus is always one of three areas and as mentioned above: BIM Job Captain “Leadership” | BIM Technicians “Professional or non-professional staff” | A mix of Junior and Senior PA / PE that are capable of adopting and utilizing BIM software and processes in their day-to-day process without reflecting “BIM” in the job titles.

As to those whom were in a legacy CAD Coordinator role, we’ve moved them in a BIM Coordinator role to create minimal disruption in the day-to-day function for now. Specifically in the CAD world a Coordinator is a prestigious promotion from a technician. Our long-term goal is to help coordinators achieve enough expertise with disciplines and BIM to move into a true BIM Leadership role of a Job Captain.

BIM Project Staff Org. Chart – (Design Projects)
How BIM Staff Fit in Your Organizational Structure

ROLES & RESPONSIBILITIES

(Example Job Description)

**BIM Job Captain**

*Company XXX* is looking for a dynamic person to join the firm’s Architecture and Engineering group as a BIM Job Captain in their XXX office. The ideal candidate will be an intern architect and will be responsible for providing the office production staff with REVIT® leadership on a wide range of projects. The position entails the production of construction documents for government, commercial and institutional projects. Solid sustainable design practices are inherent in every project designed by Company XXX, and we use BIM/REVIT® to leverage those practices for the benefit of our clients.

This candidate will function within the Architectural staff and will be providing top notch production leadership, technical support, documentation, training and development to all the design staff in the AE group, which encompasses Architecture, Interiors, Electrical, HVAC, Plumbing, Fire Protection, Structural and other disciplines. The candidate will also work very closely with company-wide Resource Team in leading BIM transformation.

**Job Responsibilities:**

**BIM Support Tasks**

- Create initial REVIT® Project setup with workflow documents.
- Initiate Model for each project and prepare for production team.
- Provide BIM/REVIT® project kick-off information.
- Work as part of a BIM/CAD support team to achieve consistent results.
- Daily model management administration and maintenance.
- Provide REVIT® Architecture, Structure and MEP desktop support.
- Over-the-shoulder training, developing and shadowing to staff.
- Content creation: Families such as parametric, formula, nested and type catalogs.
- Work with all disciplines vendors on content download and update to Company XXX Standards.
- Support linked views and others in multiple models situation.
- Integration of REVIT® products with other applications (Autodesk, Construction, Cost Estimation).

**Job Requirements:**

- Architectural Degree plus 4+ years of experience in professional environment.
- 4 years experience will be substituted for a degree.
- Eager to support staff with positive attitude, passion and patience.
- Ability to uphold the use of standards and escalate issues in a timely fashion.
- Utilize skills to fit Company XXX’s IT infrastructure and standards as necessary.
- A minimum of 4 years of professional Autodesk products use and support:
  - REVIT® Architecture 2012
  - REVIT® MEP 2012
  - REVIT® Structure 2012
  - AutoCAD 2012
  - AutoCAD Architecture 2012
  - Navisworks®: Manage and Review
- Working knowledge of design industry workflows, production cycle and priorities.
- Experience with multiple BIM/CAD roles: training and support mentor, project team member and strategic leader.
The Importance of BIM Corporate Support Staff

BIM POSITIONS IN CORPORATE STRUCTURE

In a competitive age, where organizations in the AEC industry are being asked to do more for less, driving utilization up and G&A costs down, overhead positions are scrutinized more than ever. With that being said, these overhead positions are a little more than just the overhead spending evil. Organizations can't afford not to have in place a solid BIM corporate support team that leads many of the overhead initiatives and caters to their internal client: the strategic and project teams that we discussed above in the previous section.

Corporate BIM Staff – The placement of corporate staff is most critical for the success of BIM Implementation across the organization that includes the cultural and human resource shift. BIM corporate staff are responsible for the education, deployment and standards of a solid BIM strategy. Their skills are in place to expand the services the firm offers and will touch all of the areas in a firm including: overhead, marketing material and billable project aspects of the business.

The ratio of a team-size and hierarchy is critical to the size of your firm and the functions they will be supporting. Bringing balance between human, project and marketing perspective is key and would lead to carrying a significant amount of overhead costs. Costs that will only be realized with the existence of such team.

ROLES & RESPONSIBILITIES

BIM Managing Director – This leadership role assumes the overall vision responsibility of working with stakeholders within the firm to oversee the planning, strategizing and deployment of a healthy cultural and technology driven BIM implementation. The role requires a specific four-way set skills in order to run that side of the business properly.

Leadership & Sales: This position requires continuous internal and external sales of Building Information Modeling. As a result, the individual must be able to speak the language of people and computers explaining BIM both upward to client and client – facing staff as well as downward to Project Managers and project staff members.

Technology Skills: Don't be surprised if we made the statement that this position does not require REVIT® skills, however, a solid technology foundation is critical to project manage the deployment and manage BIM Manager level staff across the enterprise. Another component to technology is the ability to collaborate with Information Technology staff laying the groundwork for a strong BIM technical environment.

Understanding Business: Solid understanding of fellow managing directors, studio leaders and those who are continuously pressured to make numbers, achieve productivity and financial commitment to their superiors and the ability to reason with them could mean the difference between succeeding or failing at this role. Must understand the project lifecycle and what is at stake when making decisions.
The Importance of BIM Corporate Support Staff

ROLES & RESPONSIBILITIES – CONTINUED

BIM Managing Director – Continued

The Art of Innovative Persuasion: BIM Directors can be told “no” a lot. Individuals with this role should always be willing to take an innovative risk in coming up with solutions and strategies to address challenges. Persuading counter-parts in adopting technologies, while balancing that with findings of meaningful project and client benefits of such innovative solutions is vital.

Essential Responsibilities:

- Drive Standards, processes & procedures
- Oversee integration of BIM and Information Technology
- R&D Innovative solutions to stay on cusp of technology
- Present BIM Capabilities to Clients (Proactive)
- Persuade upward and downward to adopt advanced vision
- Create internal on-site consultant approach to serve project teams
- Integration of BIM and Sustainable Design
- Propose pilot initiatives and manage: technical & financially
- Ensure project BIM execution plans adherence and success
- Take the lead in educating business development and organization
- Manage the production of BIM marketing material
- Build a BIM marketing strategy: website & cut-sheets
- Strategic on-going relationship with the BIM and software industries

BIM Manager – Depending on the organization size, sometimes merging BIM Management and Director roles into one position. However, it is worth mentioning that irrelevant of the firm size, it is rather difficult to manage the daily BIM Management duties while preforming the responsibilities of a managing director responsible for growing a line-of-service extension and educating an entire firm. Balancing that with having to create parametric REVIT® families isn’t really realistic.

Project Template Set-up: Setting up projects from scratch with company BIM standards, making early decisions on how to break-up the models and distribute them based on design and construction team needs, geographical location and collaboration requirements. Finally lead BIM Kick-off meetings.

Model Management: Rotate through projects to police standards, ensure that modeling is done properly and model sizes are kept at a minimum. Fluency in all REVIT® flavors is critical to ensure interoperability between the modeling products and to pass on critical information to BIM Applications Specialists and the Job Captains.

Coaching and Developing: establishing training material under the direction of BIM Director and conducting software training with own BIM Applications Specialists team to grow skills as well as project teams. Performing on-site real project shadowing to staff of all disciplines to help them execute skills from training sessions.

Essential Responsibilities:

- Developing Marketing BIM Material: Images, Animations
- BIM Content Management, Creation, Approval and Procedures
- Establish documented processes, procedures and workflows
- Interoperability Management of BIM and design / engineering tools
- Proactive approach and learning of new technology software
The Importance of BIM Corporate Support Staff

ROLES & RESPONSIBILITIES – CONTINUED

BIM Application Specialists I & II –

BIM Support Tasks:
- Create initial REVIT® Project setup with workflow documents.
- Initiate Model for each project and prepare for production team.
- Provide BIM/REVIT® project kick-off information.
- Work as part of a BIM/CAD support team to achieve consistent results.
- Daily model management administration and maintenance.
- Provide REVIT® Architecture, Structure and MEP desktop support.
- Over the shoulder training, developing and shadowing to staff.
- Content creation: Families such as parametric, formula, nested and type catalogs.
- Work with all disciplines vendors on content download and update to Company XXX Standards.
- Support linked views and others in multiple models situations.
- Integration of REVIT® products with other applications (Autodesk, Construction, Cost Estimation).

Information Technology Tasks: -- (Highly Desired)
- Perform hardware testing to ensure best REVIT® / CAD performance results on WAN/LAN.
- .NET / VB / VSTA and Robo-Copy.
- AutoCAD CUI Customization, configuration and deployment.
- Autodesk products installation images creation.
- Log-on scripts, environment variables set-up and group policies.
- Software installation: Autodesk products.
- Rendering Farm Implementations: Back-Burner, VRAY, Accurender and 3D Max.
- Autodesk License Manager set-up, administration and management in LAN/WAN environments.

<table>
<thead>
<tr>
<th>Position</th>
<th>Key-Element</th>
<th>Who Pays For It?</th>
<th>Salary</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM Director / Executive</td>
<td>Leadership – Internal / External Sales</td>
<td>Overhead – G&amp;A</td>
<td>$110K - $140K</td>
<td>15+ YRS</td>
</tr>
<tr>
<td>Corporate BIM Manager</td>
<td>Driving Initiatives &amp; Overall Leadership</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BIM Interoperability Specialist</td>
<td>Software Interoperability – BIM &amp; Design</td>
<td>Overhead – G&amp;A</td>
<td>$80K - $90K</td>
<td>7-10 YRS</td>
</tr>
<tr>
<td>BIM Applications Specialist I</td>
<td>Software, Training, Content, Project Police</td>
<td>60% Overhead</td>
<td>$68K - $80K</td>
<td>5-7 YRS</td>
</tr>
<tr>
<td>BIM Applications Specialist II</td>
<td>Software, Content Development</td>
<td>75% Billable</td>
<td>$55K - $65K</td>
<td>3-5 YRS</td>
</tr>
</tbody>
</table>
Driving Change & Educating Human Resources

You defined your vision, process, workflow and even the positioning of such roles within your organizational structure. But none of that means much till you drive this change with professionals in your firm that oversee the hiring, placement and organic growth of your firm.

EDUCATING HR DEPARTMENT

The first part of this process is to simply approach the Human Resources team. Host a seminar, lead meetings to help them understand the evolution of the industry from a CAD environment to a BIM intensive process and why this change is critical to your organization.

- Use established graphics
- Define BIM in human language
- Consequences of not leading a cultural shift
- Suggest a process to making those changes
- Solicit the feedback or HR and organizational developers in charge of growing your organization.

Revamp Existing Roles – remember that this involved more than just the BIM-roles. The new roles and responsibilities are strategic, project and corporate support involved.

- Put together new Job Descriptions for new roles.
- Look at existing positions' job descriptions and lead the necessary changes to reflect BIM expertise depending on the project role. (soft or technical expectations).
- Diagram team relationships to help all stakeholders understand your agenda to revamp the hiring process within your firm.

Involve Hiring Managers – while you can leverage the HR team to liaison the revamped process, it is important to reach out to hiring managers throughout your organization to express interest in assisting them in their areas. The ultimate goal is helping a smooth BIM transition within your firm.

Balancing | New Hires vs Organic Growth – one of the most challenging steps to deal with is striking a balance between hiring new employees with the proper BIM talent and growing your internal resources organically to understand the new role and responsibility fitting into this new BIM culture. One can't be neglected over the other.
Conclusion

Why is this important? Understanding what impact BIM will reflect on your employees’ positions and their project involvement is important to the success of your investment in this BIM implementation. Failure to pay attention will lead to a number of human, financial and project failures:

- Project challenges through lack of communication and confusion of responsibilities
- Frustration among staff and negative moral impact
- Intimidation by the “unknown BIM factor” causing a push back on implementation

Finally, it is critical to understand that educational institutions are becoming more serious of supplying the industry with new blood that is very technologically inclined – graduates that never saw AutoCAD in their school time and the only world they know is that of BIM – REVIT® and Navisworks®. In addition, the current successful generation of professionals in the industry forced organizations to put in place a buttoned-up strategy for BIM to attract the proper talent. If your organization intends to hire top notch professionals, there needs to be a realization that prospective employees are working on building their technology resume as well as their design and construction professional expertise and portfolio.