Devcon's In-House Design Department Benefiting Their Construction Process: A Case Study

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Devcon Construction Inc. is a general contracting company that implements a design department in-house to aid them with their design-build projects. Since their doors opened in 1976, Devcon has imbedded an in-house design department that now delegates about twenty-five percent of their design-build projects, and acts as a resource center for their other construction projects. Having this unique design department benefits both the design and construction side of projects, because working for the same company motivates the teams to work together and solve problems faster. The design department is not for direct profit and only works with Devcon's contractors, mainly serving as a resource center for the company's projects. Working in the same building allows the team as a whole to save time and money because the architects ask questions directly to the contractors regarding functionality and price, while the contractors ask questions regarding design features. All in all, Devcon's unique in-house design firm is a smart strategy and saves Devcon time and money in their construction projects.

Key Words: General Contractor, In-house design, Design-build, cost, time

Introduction

Devcon's in-house design department has about 40 employees, ranging from architects, to architectural engineers, to BIM users, who all aid the design in Devcon's projects in different a variety ways.
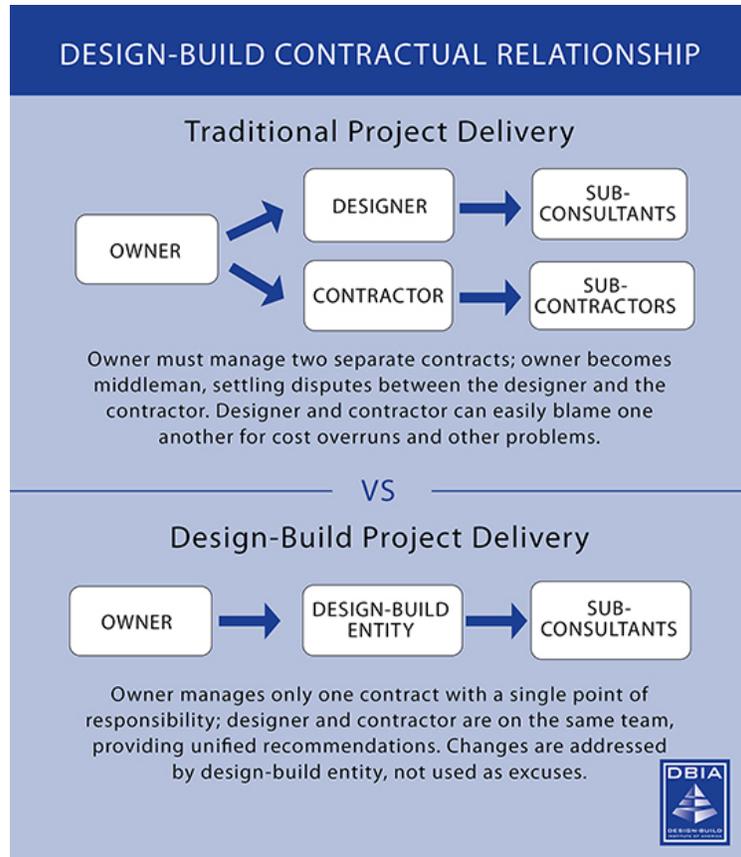
Devcon's in-house design department is used mostly as a resource center for Devcon's construction projects. They do about twenty-five percent of their design-build jobs which may not seem like a lot, however, they are a $1.7 billion-dollar company so the numbers add up. For a majority of projects, Devcon does work with outside architectural firms to structure the designs. The design department is still a huge resource center even for the projects they are not technically designing, because they are able to help the construction team understand designs if they have questions.

Design-Build

Design-build is a project delivery system that is one of the most significant trends in the construction industry today. This method delivers a single contract between the design-build entity and the owner of the project. This creates a unified work flow because there is only one entity and one contract between the owner, and the design-build team (DBIA 2014). Devcon is a unique general contracting company when it comes to design-build, because instead of outsourcing an architect to delegate the designs, they have an in-house design department within the company's building. This design team is a department within Devcon, not a separate company. This makes the design-build project delivery method very ideal when working with Devcon, because everyone on the team is working for the same company, and they all have the same end goals. When Devcon started as a company in 1976, they started as a design-build company and employed developers, architects and contractors. This is what makes Devcon unique from other General Contracting companies, because started this way and grew their company to be as large as it is today.

If a project manager, for example, is looking at the designs for a commercial building being constructed with another architectural firm, they might be able to get some of their questions clarified by the in-house design team which could end up saving a lot of time. Instead of a chain of e-mails being sent back and forth, they could walk across the building to the design department and ask questions there. The same idea goes for the design team if they

have questions. If Devcon's design department is to submit drawings for a design-build project, they are able to walk over to the construction team and ask them questions during the design phase of the building to see what materials and layout would work best for the construction team. Instead of a traditional architectural firm where drawings are submitted for a project, and then the contractor sees them for the first time. This eliminates any delays or disputes regarding over-priced material being used or layouts that might be difficult to construct.

Figure 1: Comparing Traditional Project Delivery vs. Design-Build Project Delivery.
Source of Information: Design-Build Institute of America, 2012

Devcon's Company Structure

Devcon is an innovative and creative product of Silicon Valley, combining its general contracting and design-build experience and capabilities to meet the needs of each unique project (Devcon). Devcon is widely known as a General Contracting company, but many people are not aware that they house a design department within the company. The design team only works with Devcon's projects, and does not work with any other General Contracting company. The design department is a resource center for Devcon, allowing the construction teams to ask the design department questions, and further clarify issues on the projects. Devcon is largely known for being one of the biggest, if not the biggest, General Contracting companies in the Bay Area, and this in-house design department gives them a great advantage. With roughly four hundred employees total in the entire company, forty of which are in the design department, Devcon is able to successfully implement a steady relationship throughout the company. Design members are learning more about the construction side of projects, as well as the construction team is learning more about how the design process works.

Methodology

The objectives of this case study are as follows:
- To report the advantages Devcon has by implementing an in-house design department within their company.
- To analyze how the in-house design department has allowed Devcon to strive over other General Contracting Companies.
- To provide direct information from Devcon's employees through a variety of interview discussions.
- To provide more information on Devcon's design-build strategy and if other companies should implement this.
- To create a final report outlining Devcon's success with the help of their design department.

The methodology chosen for this project was a quantitative case study. The project takes this path because most of the information gathered came directly from Devcon employees through a series of interviews. These employees came from both the design and the construction side after a series of questions, found in the Appendix, were given to them to answer as in depth as possible. The interview process was mostly in person, but also occurred over the phone over the span of Fall Quarter 2017. This type of case study really allowed for more detail to be given by each individual on how they felt the company's in-house design department has positively affected Devcon. The members that were interviewed for this study were the president of Devcon, two vice presidents of construction, one senior project designer and one architect/landscape architect. The results from the series of interview questions were then formatted by category of discussion, and will further be implemented throughout this report.

Case Study

This project takes the course of a qualitative case study as it relates to Devcon's in-house design construction process. Devcon's in-house design department is very unique to the company for being a general contracting company and most companies similar to Devcon work with outside Architectural firms for design-build projects. The goal of the interviews conducted with Devcon's employees was to discover new insight about the in-house design department and if other general contractors should also implement a similar layout into their company. One of the main goals was to focus on each employee and listen to what their day to day tasks are, and how their role benefits the company as a whole. Further, the objective was to learn more about the company as a whole from both the design point of view, as well as the construction point of view. Devcon is a large company that is able to successfully combine two important stages in a construction process and apply this new applicable knowledge to their projects.

In-House Design Advantages for Devcon

The following Devcon employees were interviewed in order to further increase my knowledge about Devcon's in-house design department:

- Sylvester Ramirez, *Senior Project Designer*
- Jonathan Harvey, *Vice President of Construction*
- Andy Schatzman, *Vice President of Construction*
- Jeff Berg, *Architect/Landscape Architect*

I spoke to a few of Devcon's employees to understand their first-hand experience with the in-house design department and to further increase my knowledge of how the company benefits from this department. Over the next few paragraphs I will summarize my interviews with the said employees, and you can get more information on these interviews in the Appendix section at the end of this paper.

While interviewing Sylvester Ramirez, we talked about many different topics when it came to the design department. Sylvester's role in the company as a senior project designer is to make sure the design phase in the project is going smoothly. After working for Devcon for about twenty-five years now, they have developed a strong relationship with the city department for regional planning, and has close relations with the permit division. If

Devcon is having trouble getting a permit for a project, when it comes to working with the in-house design team or even with outside architectural firms, Sylvester is able to handle the situation in an efficient way. Sylvester noted that the biggest advantage Devcon has due to this in-house design department, is saving time and money on projects. By working in the same building, and for the same company, everyone working for Devcon has the same end goal. Money is being saved when designers are able to ask questions during their sketching process, because they know what ideas are better to implement, and what ideas shouldn't be. This also saves the team a lot of time and energy, because there doesn't need to be multiple rounds of drafting and editing, the team can edit their sketches as they go with the construction team's comments throughout the whole process. Sylvester gave some eye-opening in-sight when it came to how helpful the design team is to Devcon's company structure, and how the role of senior project designer is the reason he's only worked for Devcon from the day he graduated college.

Next, I talked to Jonathan Harvey, a vice president of construction at Devcon, and gathered his thoughts on the design department Jonathan overall had great things to say about Devcon's structure and mostly talked about how even though they only work on 25% of Devcon's design-build projects, their greatest accomplishment for the design team is the fact that it is a resource center for Devcon to use. I focused on asking Harvey if he felt other construction companies similar to Devcon could, and should, implement an in-house design department. His first reaction was absolutely not, because this is a unique feature Devcon has to offer. After talking more about it, Harvey noted that even if other companies tried to start an in-house design department within their company, now, or in the future, it would be too difficult for them. Devcon started as a design-build company with developers, architectures and contractors, and later they naturally turned to do more construction projects with the help of their architectural design team. If companies were to try to replicate this structure now, Harvey feels they would fail because it would be too difficult when it comes to time and money. The resources it would take a large general contracting firm similar to Devcon to implement this structure wouldn't be worth it and would take too long to develop. Harvey believes these companies are better off working with outside architectural firms.

In-House Design Disadvantages for Devcon

After speaking to Harvey, I spoke to another vice president of construction at Devcon, Andy Schatzman. When talking to Andy, he did not seem as enthusiastic about the other employees when speaking about how the in-house design department benefits Devcon. After asking if he felt it really does benefit, he agreed that Devcon definitely has an advantage over other companies because of this, however, it also his it's disadvantages. Schatzman began to explain how because the design team and the construction team are all under the same company, this creates more liability for Devcon. Usually, if a design is faulty and change orders are needed to accommodate a change in the design, the architect is liable. However, if the architect on the project is Devcon, this puts the liability on the company as a whole. The only blame can be put on Devcon because they are the sole entity responsible for the project's design and construction.

Results and Discussion

Overall, the employees of Devcon spoke highly of their in-house design department and the advantages Devcon as a company has gained because of it. After interviewing each employee, I asked on a scale of one to ten, how they felt Devcon's in-house design department has helped Devcon become as successfully as it is today and four out of five of then voted 10/10 while one interviewee voted 9/10. The discussion I received from these employees was very beneficial when it came to understanding how the company works with an in-house design department. I interned for Devcon over the summer and during my internship, the project I was assigned to was a renovation of a historical building on Stanford University's campus that did not work with Devcon's architectural design department; instead we worked with an outside architectural firm. I did not fully understand why we had a design department and assumed it was mostly architectural engineers working on 3-D models and prototypes for our projects. It was not until the end of the summer after speaking to the President of Devcon, Gary Filizetti, did I fully realize the capabilities this in-house design department had.

Not only did it work on some design- build projects, but it was used as a resource center. This sparked something with me and as I will continue to work for Devcon after I graduate, I wanted to gain more knowledge on this unique feature Devcon has implemented into their company. I began doing research only to find that there are only a few

other companies who have a similar structure, but nothing compared to Devcon's 1.7-billion-dollars in revenue. After speaking to the fellow employees from both the design and construction departments of Devcon, I have come to realize how important it is that the company continues to grow this portion of their company, because the construction department now depends on it so much. I believe that Devcon will continue to be successful because of this in-house design implementation and it would not be the largest general contracting company in the bay area if it had not started as a design-build company.

Conclusion

The goal of this research was to find out how helpful this architectural design department has helped Devcon and the finals answer is very helpful. Not only does it fully operate the architectural work for 25% of Devcon's design build projects, but it also acts as an unlimited resource center for Devcon. After conducting my research, I believe that Devcon does have a major advantage over a lot of companies similar to its size and structure, because they have a diverse platform of projects to work on with their background. Devcon constructs small projects as well as multi-million dollar projects and through this range of work, their in-house design team benefits them in multiple ways. If a smaller project needs minor renovations, the design team can easily handle that and there is no need for an outside architectural firm to work on the project. This is what makes Devcon appealing to owners and is the reason ninety-five percent of their customers are returning customers. Devcon knows what they are capable of and uses its resources to its maximum benefits whenever they see fit.

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Appendix

Interviewees:

Sylvester Ramirez
- Title: Senior Project Designer
- Contact information: sramirez@devcon-const.com

Jonathan Harvey
- Title: Vice President of Construction
- Contact information: jharvey@devcon-const.com

Andy Schatzman
- Title: Vice President of Construction
- Contact information: aschatzman@devcon-const.com

Jeff Berg
- Title: Architect/Landscape Architect
- Contact information: jberg@devcon-const.com

Questions for Design Department:

1. What is your position in the design department?
2. What is your role in the design-build aspect?
3. Have you worked for an Architecture firm before? If so, how does working at Devcon compare to working in an all Architecture firm?
4. Do you think Devcon's in-house design department gives the company an advantage over other companies that work with outside Architecture firms? What are the advantages?
5. Do you see any disadvantages?
6. What benefits do you have working in the same building and for the same company as your construction team?
7. How have you seen the in-house design department to be helpful in a project's success?
8. Do you think general contracting companies similar to Devcon's size should implement an in-house design department?
9. Compared to other construction companies that work with separate Architecture firms for design-build projects, how much do you think this has helped Devcon become as successful as it is on a scale from 1-5?

Questions for Construction Department:

1. What is your position in the construction department?
2. What is your role in the design-build aspect?
3. Have you worked for other construction companies that worked with outside Architecture firms for design-build projects? If so, how does working at Devcon compare to working at those companies?
4. Do you think Devcon's in-house design department gives the company an advantage over other companies that work with outside Architecture firms? What are the advantages you see?
5. Do you see any disadvantages?
6. What percentage of Devcon's projects are worked with our in-house design department vs. outside Architectural companies?
7. What major benefits do you have working for the same company and in the same building as your design team?
8. How have you seen the in-house design department to be helpful in a project's success?
9. Do you think general contracting companies similar to Devcon's size should implement an in-house design department?
10. Compared to other construction companies that work with separate Architecture firms for design-build projects, how much do you think this has helped Devcon become as successful as it is on a scale from 1-5?

Notes After Talking with President of Devcon

Devcon President
Gary Filizetti, been with Devcon since 1980

How is an in-house firm an advantage to other large GCs in the area?
- Devcon started as a design build company in 1976, other GC companies want to incorporate the design build, but they partner with other design firms
- We make money off of our design and that sets us apart from other companies
- Other companies start as a construction company and its hard to bring it in house
- Advantage: cost predictability because you can control the details on how the job drawings get put together

Is it possible for me to talk to some PMs/estimators/designers in that section to get their thoughts on it as well?
- The whole team benefits from this, because starting from the design they can ask construction they can ask what details to bid to subs
- PM side benefits because they have input to design detail before it even goes out to the subs

- If you're an architect, and you don't have experience, you have experience with the construction side of employees