Impact of the BuilderTrend Project Management Software on a Small Scale Residential Building Firm

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For a smaller construction firm to maintain viability within the market place, it must adopt effective and more efficient means of promoting sales, managing subcontractors, and meeting increasingly short schedules in order to keep pace with competitors. The intent of this research is to compose a case study on a small-scale general contracting firm that is currently in the process of implementing the management software, BuilderTrend. It aims to conduct a preliminary evaluation of the firm's standard practices prior to implementation, followed by an analysis of the software's impact on key performance indicators including sales and project documentation. It will also address challenges faced during the product implementation process as well as potential barriers to the projected growth in the product's utility. The study will then proceed to predict key factors that may reduce or increase benefits over a projection of two years, establishing a qualitative range of plausible outcomes in relation to utility over time.

Key Words: Project Management Software, Electronic Documentation Management, Mobile Technology, Productivity, Software Implementation, Project Communication

Introduction and Background

Relative to other industries, the construction management field has long been perceived as slow to adopt new and innovative technology that others are capitalizing on to increase efficiency (Van Hampton 2011). Over the past decade, however, the construction industry has rapidly embraced the use of newly developed tools to streamline the process of project execution. The use of construction management software can significantly reduce errors while promoting ease of communication between the many stakeholders involved in any given project (Rankin, 2002). While larger firms have been at the forefront of embracing management software, smaller businesses have been more reluctant to implement new tools due to a lack of resources and the training required to properly utilize the technology. New management software may also face resistance from older generations of construction personnel who have grown accustom to conventional methods of project execution (Abaffy, 2011). The purpose of this study is to examine a small-scale residential construction firm during its implementation of project management software. Through the use of surveys and interviews conducted on industry professionals and practitioners, the utility of the program is assessed relative to its overall expense.

Up Construction is a relatively small firm of about ten employees based in Los Angeles that focuses primarily on remodels and one or two ground-up projects per year. Historically, Up Construction (henceforth referred to as UP) has, at most, three projects simultaneously with a reluctance to take on more work due to minimal staffing (Appendix A). For all intents and purposes, UP could be described as the typical turn-of-the-century builder who has adopted a limited selection of computer based tools such as email and excel, but has by and large stayed true to the conventional methods of project management associated with older generations.

The gravitation toward software implementation began with the primary goal of increasing office efficiency. Employees were spending a sizeable portion of their workdays focused on correcting mistakes associated with conventional project documentation that could otherwise have been spent out on the field or interfacing with clients. Additionally, these clerical errors and miscommunications

with subcontractors would often result in costly change orders, straining the company's limited resources (Fewings, 2005).

The firm also had a need to develop a more effective marketing plan to increase sales that had grown stagnant. Previously relying on word of mouth and repeat business, UP had virtually no online or mobile app presence, which is crucial in order to maintain viability in the marketplace. Furthermore, the firm was lacking in social media visibility, leaving a vast network of potential clients untapped.

To stimulate growth in sales and mitigate issues rooted in impractical project management, UP enlisted the help of a web-based program called BuilderTrend. At this point in time, UP has reached the nine-month mark in the implementation process of the new platform. Although there was an initial phase in which productivity actually decreased due to a learning curve, the firm has begun to experience some benefits to the integration of the new application.

About the Software

BuilderTrend is among the nation's most widely used and comprehensive cloud system in residential construction. It places emphasis on five categories including sales, project management, file sharing, messaging, and finances. Used in over 30 countries, BuilderTrend is also the only platform that provides a fully functioning mobile app, offering capability of every command in the field that would ordinarily be available only at a user's desktop. The platform streamlines the entire building process, from presale through project execution, and improves the overall client experience.

The price structure of the program is tiered so that it can be tailored to builders of any size. There is a monthly fee that ranges from a minimum of $99 to a maximum of $399 depending on the number of projects completed during each 12-month period (Appendix B). There are no contractual obligations, so users can opt out of the program at any time without penalty should they no longer wish to continue services.

As a free provision for all subscribers, BuilderTrend offers training seminars to an unlimited amount of internal users to familiarize them with the product capabilities. They estimate that after only three 45-minute sessions, users will be proficient in navigating the platform and applying its many functions to the job. Additionally, the service provides daily live "webinars", where an education coordinator hosts hour-long coverage on BuilderTrend features. As a supplement to the lectures, there is also technical support that can be reached via phone and email should a problem with the software ever arise.

Impact of Software on Sales

One of the primary factors driving UP's decision to implement BuilderTrend was to stimulate sales. Prior to implementing BuilderTrend, the firm completed an average of six projects per year. For three consecutive years, their revenue was relatively stagnant as rising costs of business chipped away at their profit. Their client base consisted primarily of local owners remodeling and sought new leads through the grassroots method of referrals. The firm lacked any web presence in terms of a website as well as social media visibility which thoroughly limited their ability to grow the business with respect to attracting potential clients.

Nine months into the implementation process, UP has completed two remodel projects that were conducted using the full range of BuilderTrend functions. Already, the firm has experienced growth in their potential client base, primarily as a result of the social media service that the software provides (Appendix C). Throughout the duration of each project, clients are granted access to a carefully moderated view of the platform, which is stamped with the UP construction logo. Clients are able to track progress on their homes in real time and can perform several functions directly in the app. Conveniently located in the platform is a "share" button that allows owners to easily and

seamlessly post photos of their homes to Twitter, Facebook, and Instagram. Along with the photos are the builder's contact information, effectively serving as a referral that spreads throughout each user's respective network of friends, family, and followers. Through this method of sharing photos to social media alone, UP has garnered several promising new leads and potential clients.

The BuilderTrend portal also maintains a database of leads that employees at UP can use to build a profile for prospective clients with details including personal information and the referral source. Users have the option of customizing notifications to alert sales associates when it is time to follow up on a lead to stay ahead of competitors. These profiles have been useful in fostering strong, personal interactions and a reputation of attention to detail among UP's potential clients. The BuilderTrend software has been effective in minimizing potential clients slipping through the cracks when the sales associate has been inundated with other work.

In regards to current clients, the BuilderTrend portal collects data on owner satisfaction through the use of surveys that indicate areas of strength and areas that need improvement. Clients can leave suggestions and notes directly in the app or on their desktop to help enhance the overall user experience with UP construction as a builder. Although these changes have not yet made a quantifiable difference in the firm's year-end numbers, internal employees believe that the program has raised the quality of their performance, which will benefit the company long term.
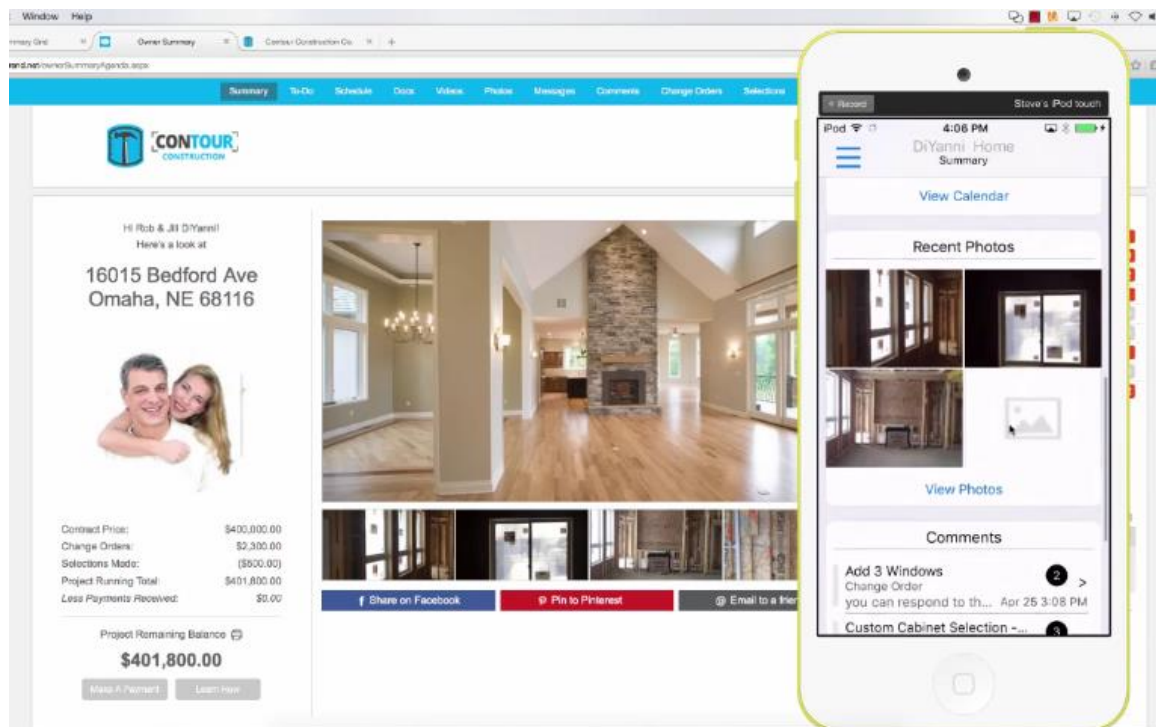

Figure 1: Example of client portal with seamless social media share function

Impact of Software on Project Management and Documentation

Another area that required attention in terms of increased efficiency was project management and documentation. Prior to software implementation, employees actually spent less time devoted to managing project documentation than they did once the BuilderTrend platform was introduced. The average employee who previously spent five hours or less weekly on project documentation is now doing so in upwards of 12 hours over the same number of working days (Appendix C). Although this information may seem counterintuitive to the notion of increasing efficiency, the added time and care to the task of documentation meant improved data in terms of accuracy, clarity, and organization.

Vanishing files and illegible paperwork experienced a sizeable decrease while easy access to logically stored documents in the cloud saved time and effort associated with outdated methods of sending physical paper documents. The decrease in mailing paper documents effectively reduced the firm's printing cost by nearly 25% in the eight months following the adoption of BuilderTrend (Appendix C).

Chief among the success of the management software is its significant impact on RFIs, change orders, and payment methods. BuilderTrend streamlined the process of gathering requests for information from the necessary agent by compiling a database of RFIs that clearly identifies when a response has been submitted and highlights those that have gone unanswered. Alerts are sent to both the sender and the recipient of the RFI when it has been neglected. While the amount of change orders reduced overall as a result of more precise documentation, in the event that a change order does occur, approval can be attained swiftly through the portal via electronic signature. The change order is then immediately saved to a file specific to the project in question to prevent confusion and disputes that may arise later during the building process.

The unlimited cloud-based storage of photos and videos was also beneficial in respect to saved cost and time. Using the BuilderTrend application, a project manager could walk through a jobsite, take photos of any items that need to be addressed, and mark the documents up with pertinent information all on a handheld device. The photo is then sent to any subcontractor or employee directly through the portal notifying them of the changes that need to be made on the job. Prior to the use of the software, an UP representative had to visit the jobsite with a camera to take photos, print them out attached to a word document that contained a description of the necessary changes, and physically mail them out.
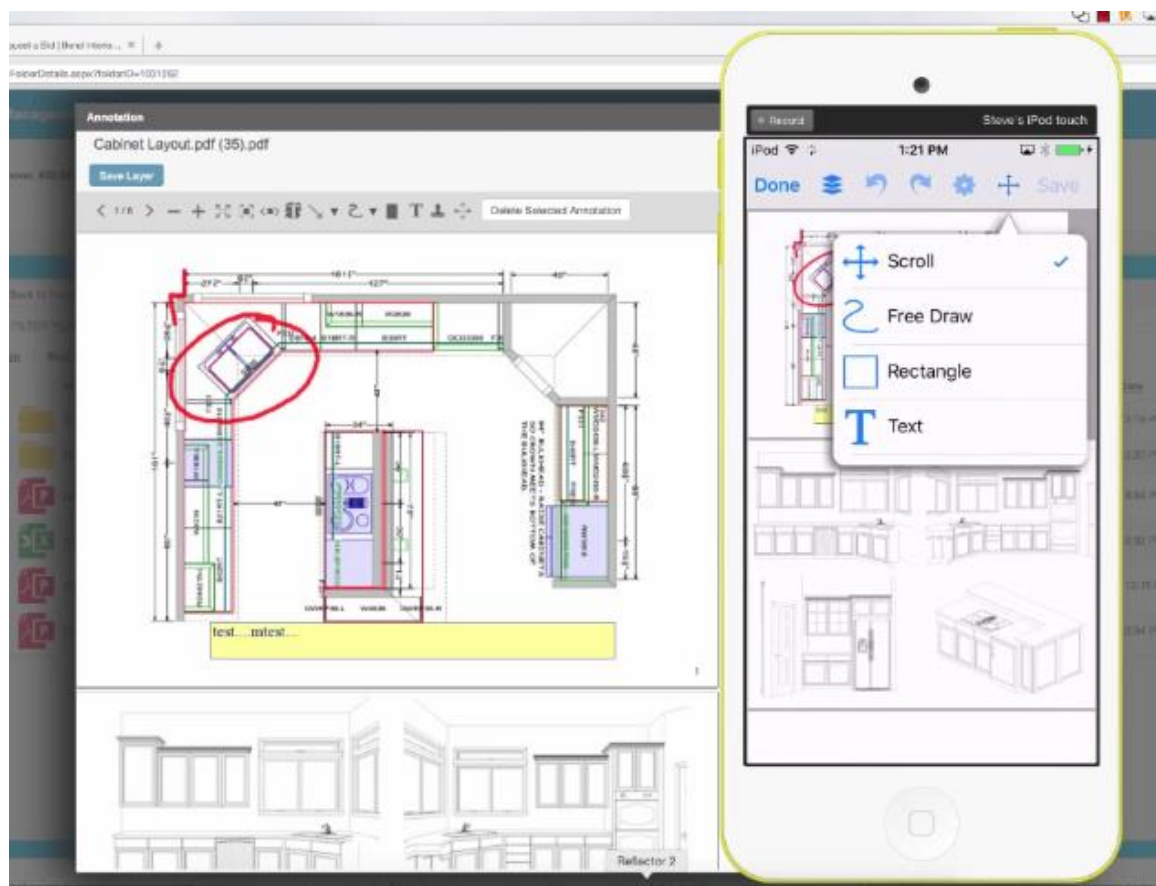

Figure 2: Example of document markup tool that is fully functional in the mobile app

Challenges to Implementation

There were several challenges faced during the implementation process, the first of which was learning how to use the new software. UP employees had to set aside valuable working hours to familiarize themselves with the new application and explore the program functions. Although BuilderTrend representatives claimed that users are generally proficient after participating in three 45-minute training sessions, it took about twice as long before employees felt comfortable with the new platform. Getting both internal and external parties to abandon old methods and adopt the new platform also posed a problem. Although the BuilderTrend software has a fully functioning portal dedicated to finances where payments can be made and received, employees initially continued their method of invoicing through the use of physical documents, which effectively amounted to doing the same work twice.

In addition to the expense associated with redundant clerical work is the cost of the program itself. At six projects per year, UP is performing the maximum number of jobs allowed per year in the price bracket that costs $199 per month. Expanding to execute any additional projects in the remaining portion of the year would push the company into the third tier in pricing which costs $269 per month totaling over $3,200 annually.

Without question, the most challenging task in the implementation process was getting external parties such as subcontractors and vendors to participate in the software adoption. Although the program bears no cost for external users who register with their affiliated subscriber, the use of the platform among these outside players was significantly lower than internal employees. The BuilderTrend software performs only as well as the data that is provided by its users allow. Without a collaborative effort in the part of vendors and subcontractors, the program functions cannot be utilized to their full capabilities thereby detracting from its value on the whole.

Analysis: Projection of Ongoing Utility

At the current stage in the implementation process, efficiency has risen to rebound from the initial decrease in performance that was associated with learning how to use the platform. Based on qualitative data sourced from employees, the platform has begun to introduce benefits but the software usage has yet to reach its full potential.

Factors that may increase the program's benefits over the next two years include growth in participation as well as well as the firm's workload. The increased number of leads that the firm has experienced may result in a greater number of projects performed. The platform facilitates the ease in running simultaneous projects and thus has potential to lead to an ongoing cycle of growth and expansion. As the business grows, the program can becomes more valuable because there will be an increase in the number of moving parts that must be managed. In terms of increased collaboration, If more subs and vendors start to contribute by using the program effectively, the value of the program will grow with the network of users.

One factor that may decrease BuilderTrend's utility is if the potential leads do not come to fruition. If the number of projects performed annually falls, the need for a system that allows for a greater number of projects executed simultaneously no longer exists. Similarly, if the business does not grow, the number of projects will be small and there wont be much in the way of a need for management software. It can be managed the conventional way so the cost of the program itself is no longer outweighed by its benefits. Additionally, if the company's workload expands and pushes them to the next tier in pricing, the extra jobs may not make up the added cost of $70 per month. The next tier allows for 25 jobs per year, which is far more than a firm of UP Construction's size needs. Included below is a qualitative graph illustrating the range of where UP Construction performance maybe over the course of the next two-years in addition to where the firm is currently in terms of

efficiency. Illustrated by the yellow lone is the optimistic approach of the forecast that is based upon qualitative data provided by BuilderTrend representatives. Their projection offers little in the way of acknowledging the implementation lull and is based on the assumption that users, both internal and external, will fully adopt the program while offering meaningful contribution in terms of data entry. This projection is highly unlikely but is effective from the BuilderTrend sales team perspective.

The black line indicates a more realistic projection of where the firm's actual performance may be. It depicts the initial decline in efficiency during the early adoption and familiarization phase and is based on the assumption that some, not all, vendors and subcontractors will willingly adopt the program and utilize its functions to their full capabilities. Both projections assume that the company workload will experience growth.
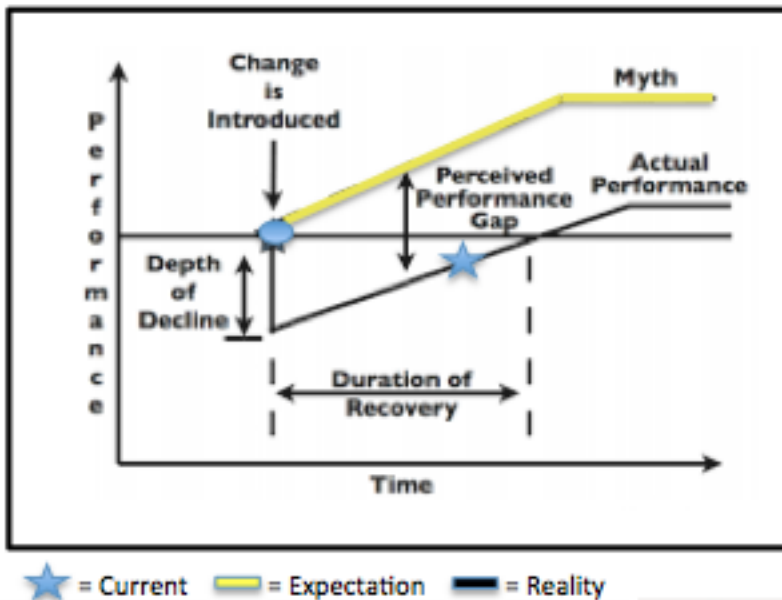
Figure 3: Qualitative Performance Projection

Discussion and Conclusions

The implementation of new technology is always an uphill climb. In addition to the expense of a program itself, the adoption of new methods is often met with resistance from users who have grown accustom to conventional practices. The BuilderTrend software implementation into UP Construction's management structure was no exception. Employees within the firm as well as external associates faced the challenge of learning to utilize all of the platforms functions while maintaining their day-to-day operations as seamlessly as possible.

Despite these challenges, based on qualitative assessments, employees have begun to embrace the new program and acknowledge the benefits it has introduced. Although, at this point in the implementation process, there is a lack of quantitative data to support the ongoing use of BuilderTrend, the firm seems optimistic about the future prospects in terms of increased efficiency. Once the program has been adopted for a full 12-month period, quantitative measurements of sales, RFIs, and change orders can be used to reassess the products overall utility.

Although the findings of this paper suggest that the product, BuilderTrend, has not lived up to its expectations, the software still holds great value for small-scale residential builders. Aside from reductions to change orders and improvements in communication, BuilderTrend lends to the firm a

sense of professionalism and technological savvy which clients are increasingly expectant of. As more and more builders move toward adopting new, efficient methods of project execution, holding true to outdated methods of previous generations is no longer a viable option for a firm that desires to be competitive in the marketplace. Not only is the use of management software like BuilderTrend useful for small-scale builders, it is inevitable for those that wish to maintain a competitive edge.

References

Abaffy, L. (2011). "iPads and Tablets: Time Saved Vs. Time Spent." *ENR: Engineering News Record.*

Fewings P. (2005) Construction Project Management-An Integrated Approach. Taylor & Francis

Kim, C., Park, T., Lim, H., and Kim, H. (2013) "On-site Construction Management Using Mobile Computing Technology" . *Automation in Construction.*

Rankin, J. (2002). Information Mobility for the Construction Industry, *Integrated Technologies for Construction,* Canadian Civil Engineering

Van Hampton, T. (2011). "Tablets Take Off." *ENR: Engineering News Record.*

Appendix

Appendix A: Telephone conference with UP Construction employee, Philip Hind. (310) 686-4734

Appendix B: Email with BuilderTrend representative Aaron Mosby regarding pricing structure.
Email address: amosby@buildertrend.com

Appendix C: Telephone conference with UP Construction employee, Uriel Perez regarding impact of
software implementation on company sales and overall productivity.
(310) 489-9713

Appendix D: BuilderTrend Brochure