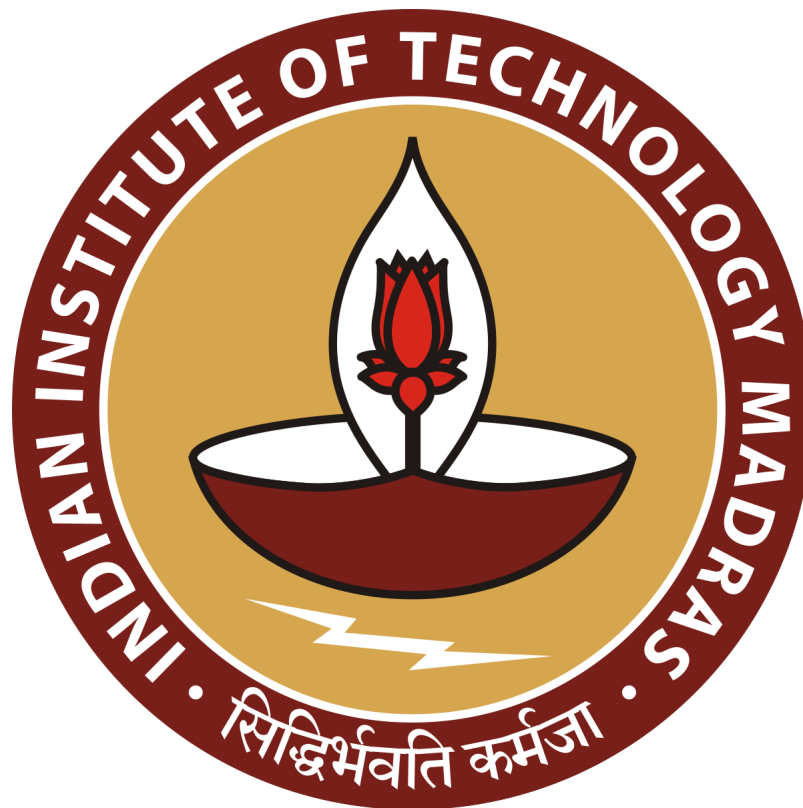


**Workforce Planning for Customized Architecture Construction: Employment  
vs. Contractual Approach**

**Final Submission report for the BDM capstone Project**

**Submitted by**

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# 1 Declaration Statement

I am working on a Project titled “**Workforce Planning for Customized Architecture Construction: Employment vs. Contractual Approach**”. I extend my appreciation to **Eco Smarte Homes**, for providing the necessary resources that enabled me to conduct my project.

I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the principles of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project’s completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I understand that all recommendations made in this project report are within the context of the academic project taken up towards course fulfillment in the BS Degree Program offered by IIT Madras. The institution does not endorse any of the claims or comments.

A handwritten signature in black ink, reading "P. Saranath" with a stylized flourish at the end.

**Saranath P**

November 13, 2023

## 2 Executive Summary

This report outlines our analytical methodology and provides actionable insights to address the organization's key challenges as discussed in the proposal.

**Workforce Planning: Employee vs. Contract Labor** To resolve the workforce planning dilemma of employing workers versus utilizing contract labor, an extensive cost analysis was conducted. Qualitative input from daily laborers and contractors were also gathered to inform our decision-making. This comprehensive approach offers valuable guidance for optimizing our workforce strategy.

**Change Request Management** Managing client change requests was the second challenge. The historical project data, collaborating with project teams to estimate project costs and change request expenses were properly examined. Using simple regression analysis, a predictive was built model to anticipate the additional costs associated with change requests. This model ensures project profitability while retaining clients.

In conclusion, this report provides a road-map for addressing critical organizational challenges. By combining quantitative analysis, qualitative insights, and predictive modeling, we are well-equipped to enhance workforce planning and excel in change request management. These insights, rooted in rigorous analysis and collaboration, will empower us to thrive in the dynamic construction industry.

## **3 Exploring Analytical Strategies**

### **3.1 Workforce Planning : Contracting vs Employment**

In exploring contracting options and solutions for construction project selection, we initiated a comparative study. Our research shows that, quantitatively, contracting reduces costs and turnover, and makes an attractive option for the company. The challenge, however, was the lack of skilled workers who could do the main construction work.

We recognized the need for in-depth qualitative data to address this important issue. Our quantitative survey could not adequately capture the capabilities, interests and capabilities of staff to contribute to specific construction programs such as specific construction projects. So we started doing qualitative research. Through professional interactions, surveys, and in-depth interviews, this qualitative approach sought to understand if their skills, motivations, and abilities to engage in unique design projects.

This two-pronged approach, informed by quantitative and qualitative analysis, represents our comprehensive strategy for managing a strong workforce and improving operational efficiency.

### **3.2 Client Request Management**

In our pursuit of an effective solution for managing client change requests, we embarked on a journey of data-driven analysis and prediction. We recognized the challenge of presenting clients with unexpected costs during the project due to change requests, which often led to dissatisfaction and project setbacks.

To overcome this challenge, we harnessed the power of regression analysis, using historical data as our guiding light. By leveraging this data, we aimed to develop a predictive model that could estimate the potential cost of client change requests. This predictive approach allowed us to proactively allocate a percentage of the project budget to account for expected change request costs.

This proactive budget allocation strategy is intended to bring predictability and transparency to our financial planning. It offers the potential to manage financial risks and maintain client satisfaction by ensuring clients are aware of potential additional costs early in the project, reducing surprises and delays.

To develop this predictive model, we meticulously collected and analyzed historical project data, including project costs and change request expenses. This data was crucial in training our model and allowing it to make accurate cost predictions for future change requests. Our analysis not only involves quantitative data but also incorporates the qualitative aspects of client interactions and project dynamics. This holistic approach to change request management combines the strengths of data-driven analysis and client-focused communication, ensuring a more balanced and effective solution.

## 4 Results and Findings

### 4.1 Cost Analysis on Employment vs Contracting

Now that the widespread availability of the internet makes it possible to collect and aggregate data related to the income of individuals working in construction sites, this data can be systematically extracted, organized and made available for production comparative analysis, in addition to the wage information already contained in our project records for construction contractors.

Using this data, we can draw meaningful conclusions about the potential costs of the company.

So, after look at this table we see that average salary of the workers in the construction site turns out to be ₹29,694. So for a single person the firm have to spend a total of ₹30,000 on an average.

For completing a project, if we assume that we need at least 30 people to work and if the duration of the project is about 1 year, then the cost seems to sky rocket so easily.

Quarters	Average Salary of workers (in ₹)
2019Q4	30106.3
2020Q1	29337.52
2020Q2	22192.06
2020Q3	26028.74
2020Q4	31414.23
2021Q1	27529.45
2021Q2	26402.47
2021Q3	30793.69
2021Q4	41190.95
2022Q1	31872.41
2022Q2	29766.09
Average Cost on all quarters	29693.99

Table 3.1 Mean nominal monthly earnings of employees and economic activity (local currency)

So if we perform a basic math then,

$$1 \text{ worker for 1 Quarter (4 Months)} = ₹30,000$$

$$30 \text{ workers for 1 month} = \frac{₹30,000}{4} \times 30 = \frac{₹9,00,000}{4}$$

$$30 \text{ workers for 1 year} = \frac{₹9,00,000}{4} \times 12 = ₹27,00,000$$

So even for 1 project if we try to employee people rather than contracting them, it could go up from ₹9,00,000 to ₹27,00,000 which is going to give a huge loss to the firm.

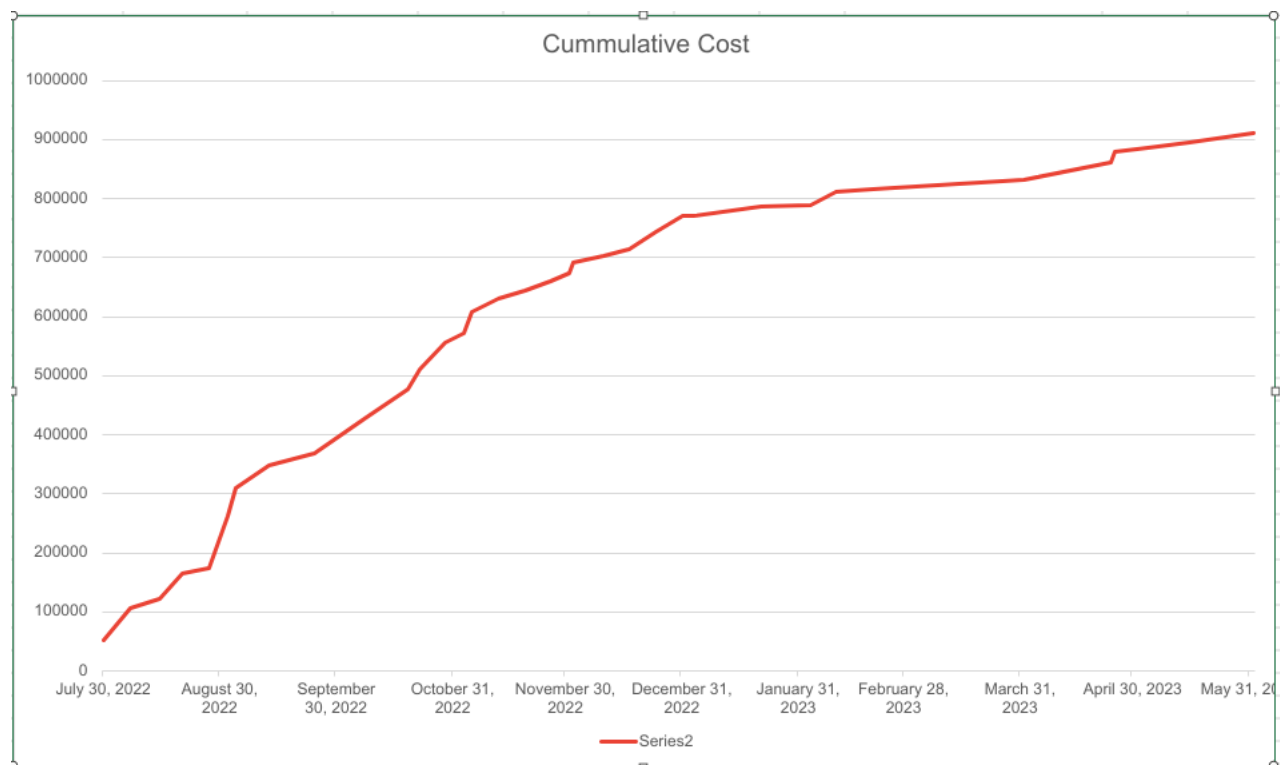


Fig 3.1.1 Cumulative cost for the workers by contract in the current project.

However, it's important to keep in mind that jumping to the conclusion that a contract is the immediate best option may not be the most practical option. The reality is that finding skilled contractors who are skilled in the construction of large, custom-made Roman-style apartments is a big challenge. So, group of 30 employees were surveyed that included 25 daily wage employees and 10 supervisors. This interaction game me some valuable insights on what suggestions can be made and suggested to the firm.

### 4.1.1 Qualitative Data from Survey

Since our quantitative data did not give us with a comprehensive understanding of the situation, we have decided to take a more qualitative approach. Our plan is to gather qualitative data and decide implicit results from it. To negotiate this, we conducted checks involving 25 workers, with a breakdown of 15 being diurnal pay envelope workers and 10 being constricting workers.

This qualitative data collection phase is vital because it allows us to claw deeper into the gestures, opinions, and perceptivity of our pool. By doing so, we hope to gain a further nuanced perspective on the challenges and openings they face. This, in turn, will enable us to develop more customized and effective results to address any issues that may have been overlooked by purely quantitative analysis. If we could spend even ₹7,000 - ₹8000 per person for each month, it would not

In my interactions with both groups of workers - the daily wage laborers, I noticed a notable divergence among them, which I can broadly classify into three distinct clusters.

Firstly, there is a subset of individuals who rely exclusively on their daily wage construction work as their sole means of income. They do not engage in any other employment activities.

The second cluster encompasses workers who, in addition to their construction labor, hold more stable and relatively decent jobs, such as farming or working as food delivery drivers. These supplementary income sources provide them with a degree of financial stability alongside their construction work.

Lastly, there is a particularly challenging group involved in what can only be described as the most distressing activities, including begging and waste collection. For these workers, their earnings from construction labor often fall short of sustaining their livelihoods, and they heavily rely on meager secondary income sources.

During my interviews with these workers, I posed several thought-provoking questions to gain deeper insights into their circumstances. These questions included inquiries into the number of days they typically work in a year, their average daily wage, their willingness to transition to full-time employment with a formal employer, and an intriguing query about whether they have ever been engaged in construction projects requiring unique construction styles, reminiscent of Roman architecture, for instance.

By delving into these aspects, our aim was to collect comprehensive and empathetic insights into their lives, financial challenges, and potential aspirations within the construction industry. This nuanced data will serve as a valuable foundation for tailoring effective solutions to address the specific challenges faced by these unique clusters of daily wage workers.

Examining the pie chart (3.1.2) mentioned earlier, it is clear that professional workers earn more compared to their daily wage counterparts. Although this should not have happened, this is surprising, though it should be noted that it is not the primary purpose of our



### Average Wage / Day

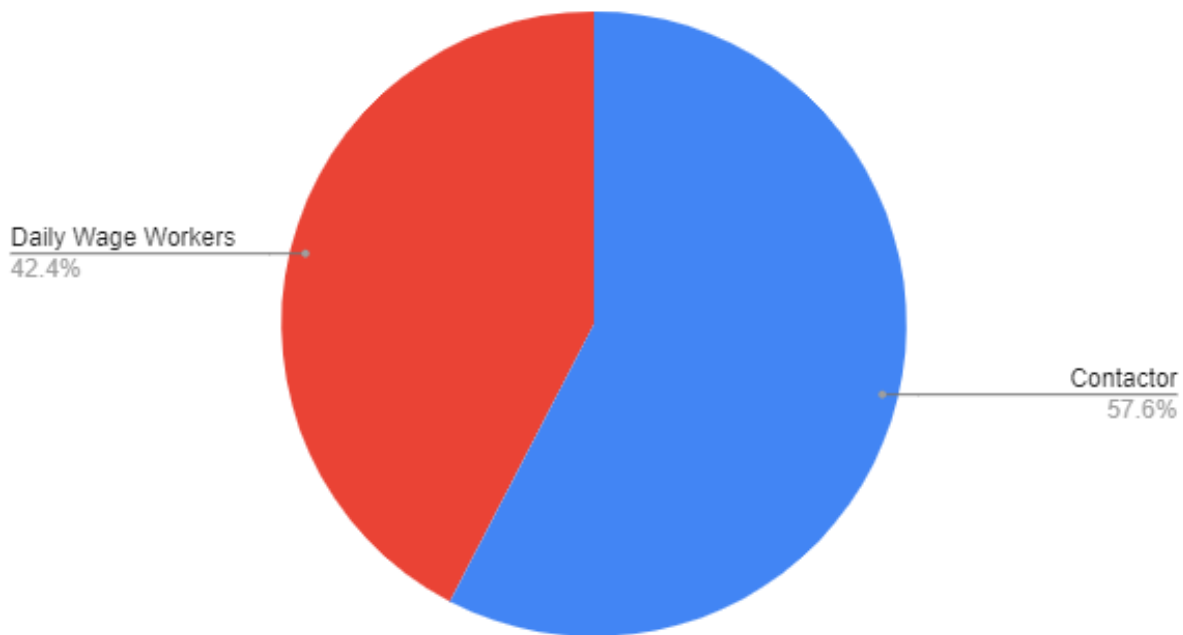


Figure 3.1.2 Illustrates the Percentage Contribution of the Average Daily Wage

data to compare these two groups especially employees. Instead, our goal is to categorize individuals and based on specific criteria, with the goal of identifying promising avenues for investment and profitability.

Here's how this process works: We collected data from a variety of pillars, including their daily wage income, their interest in formal employment, and their skills in construction in customized work. Our policy is to identify individuals who meet certain criteria: those who have worked at a minimum wage, are highly interested in formal employment, and have previous experience or skills in building specialized projects. By targeting individuals who meet these specific criteria, we aim to maximize our investments and increase our chances of gaining employees. This strategic approach allows us to focus on individuals with the greatest potential to develop and contribute to our businesses.

Based on the data presented in Table 3.1.1, it is clear that Contractor 8 stands out as an outstanding candidate. This finding suggests that individuals with similar demand characteristics may be more useful to our organization. By choosing such individuals, we can keep our costs low as they already have experience in building large custom buildings.

A valuable suggestion would therefore be to actively seek out and recruit individuals with names such as Contractor 8. It would also be prudent for such contractors to have a team of experienced professionals available for support and cooperation to oversee have seen the

	Average Wage / Day	Full time*	Skilled workers	Rank after normalizing
Contractor 1	900	1	1	2
Contractor 2	1200	0	0	8
Contractor 3	1500	0	1	7
Contractor 4	800	1	0	3
Contractor 5	900	1	1	2
Contractor 6	1200	0	1	6
Contractor 7	1000	0	1	4
Contractor 8	800	1	1	1
Contractor 9	1100	1	0	5
Contractor 10	800	1	0	3

Table 3.1.1 Tabulated Qualitative data about Contractors

\* Interested in working full time

success of the project and are immediately ready to do the work . This approach ensures that the organization can handle any urgent tasks quickly and without unnecessary delay.

#### 4.1.2 Unlocking Potential: Skill Development Workshops for Daily Wage Workers

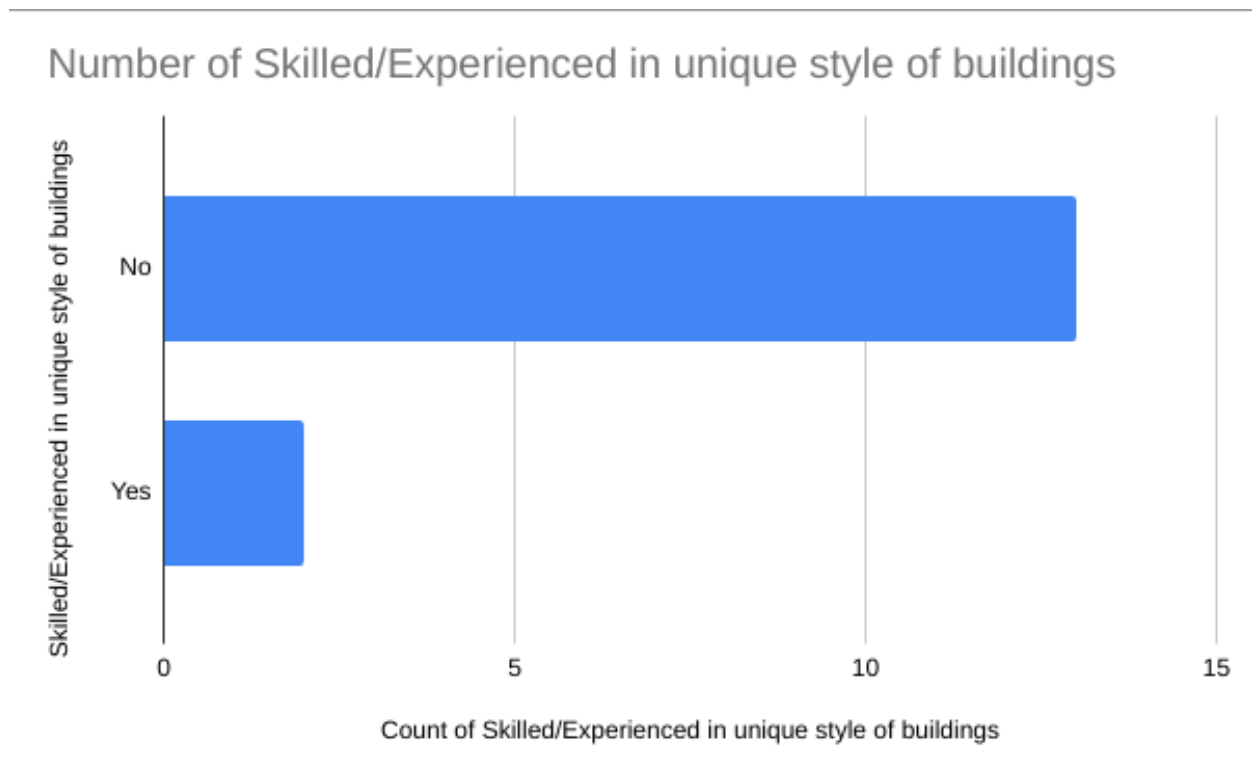


Fig 3.1.2 Distribution of workers who are skilled.

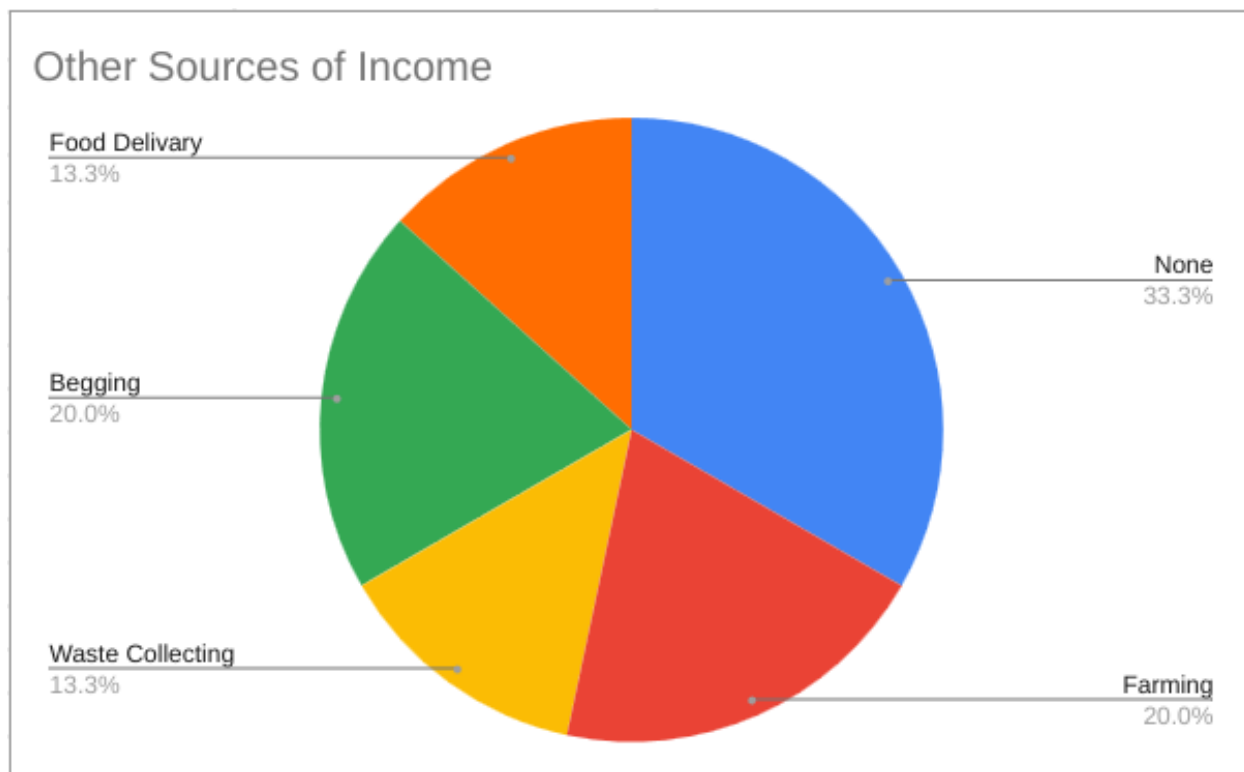


Fig 3.1.2.1 Other Sources of income - Daily wage workers

Looking at Figure 3.1.2.1 which highlights the alternatives available to daily wage workers, it is important to note that about 20% of them rely on begging as a means of survival and this fact poses a great challenge. One way to address this issue is to introduce skills development workshops designed specifically for these individuals. Moreover, from participating workplaces we can identify the best and extend employment opportunities to them. This dual approach not only helps us to internalize skilled workers but reduces their financial burden as well.

It is a win-win policy that empowers individuals to take advantage of our employees. Looking at Figure 3.1.2.1 which highlights the innovations enjoyed by daily wage earners, it should be noted that almost 20% of them rely on begging as a means of survival and this fact poses a serious challenge.

Let us try to compare how skilled workers can be better than unskilled workers with the data provided.

Sno	Education	Work Experience	Skilled	Potential	Profits
1	MBA	10	Yes	Yes	25%
2	BBA	15	Yes	Yes	35%
3	None	20	Yes	Yes	28%
4	None	5	No	No	20%
5	B Tech (IT)	2	No	No	18%
6	Class 12	25	Yes	Yes	23%
7	Class 10	10	Yes	Yes	26%
8	MBA	15	Yes	Yes	20%
9	B E (Civil)	7	No	Yes	15%
10	None	20	Yes	Yes	25%
11	None	5	No	No	18%
12	None	7	No	No	20%
13	BBA	3	No	No	26%
14	B E (Mechanical)	2	No	Yes	17%
15	None	9	No	Yes	9%

Table 3.1.2: Contractor Categories and Associated Profit Generation

Given the data at hand, we can employ a  $t$ -test to ascertain whether there is a statistically significant difference in the proportion of contractors who are skilled. This analysis will provide insights into the influence of factors such as education and work experience on the skill level of contractors. The results could potentially guide future hiring decisions and strategies. It's important to note that the  $t$ -test assumes that the data is normally distributed, so we should first verify this assumption before proceeding with the test.

#### 4.1.3 Hypothesis Testing: Comparing Profits Between Skilled and Unskilled Labor

Let's conduct a hypothesis test to determine whether employing skilled labor is associated with increased profitability.

**Null Hypothesis ( $H_0$ )** : There is no significant difference in profits between skilled and unskilled labor.

**Alternative Hypothesis ( $H_1$ )** : There is a significant difference in profits between skilled and unskilled labor.

So let us perform Two way  $t$ -test on this data and compare. Let the  $\alpha = 0.05$  be the

level confidence.

Mean of profits of skilled labors = 0.26

Mean of profits of unskilled labors = 0.178

Standard Deviation of profits of skilled labors = 0.043

Standard Deviation of profits of unskilled labors = 0.045

Group	Mean $\bar{X}_i$	Standard Deviation ( $\sigma_i$ )	Sample Size ( $n_i$ )
Skilled Labor Profits	0.26	0.043	7
Unskilled Labor Profits	0.178	0.045	8

The formula to calculate the t-statistic for a two-sample independent t-test is as follows:

$$\begin{aligned}
 t &= \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}} \\
 &= \frac{0.26 - 0.178}{\sqrt{\frac{0.043^2}{7} + \frac{0.045^2}{8}}} \\
 &= 3.2962
 \end{aligned}$$

Degrees of freedom =  $n_1 + n_2 - 2 = 13$

So, finally our  $p$ -value from the table should be = 0.005788

The significance level, also known as alpha  $\alpha$ , is the probability of rejecting the null hypothesis when it is true. It is usually set at 0.05, which means that there is a 5% chance of making a type I error (rejecting the null hypothesis when it is true). The significance level is used to determine the critical value of the test statistic, which is the value that separates the rejection region from the acceptance region.

The p-value, also known as the observed significance level, is the probability of obtaining a test statistic at least as extreme as the one observed, assuming that the null hypothesis is true. It is used to compare with the significance level to decide whether to reject or fail to reject the null hypothesis. If the p-value is less than or equal to the significance level, then we reject the null hypothesis and conclude that there is a significant difference between the groups. If the p-value is greater than the significance level, then we fail to reject the null hypothesis and conclude that there is no significant difference between the groups.

We set the significance level ( $\alpha$ ) at 0.05 for our two-sample independent  $t$ -test. Using a  $t$ -table, we found that the critical value of  $t$  for 13 degrees of freedom and a two-tailed test was 2.1604. This means that if our calculated  $t$ -statistic falls outside of the range (-2.1604, 2.1604), we can reject the null hypothesis at the 0.05 level.

We calculated the  $t$ -statistic as 3.2962, which is greater than 2.1604. This means that our  $t$ -statistic falls in the rejection region, and we can reject the null hypothesis. We also calculated the  $p$ -value as 0.005788, which is less than 0.05. This means that there is a very low probability of obtaining a  $t$ -statistic as extreme as 3.2962 or more, assuming that there is no difference in profits between skilled and unskilled labor.

Therefore, both the  $t$ -statistic and the  $p$ -value indicate that we can reject the null hypothesis and conclude that there is a significant difference in profits between skilled and unskilled labor.

So, we reject our Null Hypothesis which means there is a significant difference between skilled and unskilled labor.

Now, with concrete evidence supporting a significant difference in profits between skilled and unskilled labor, a strategic shift is warranted. Instead of employing a large number of unskilled laborers, an investment in training workshops presents a viable alternative. While these workshops may entail some initial costs, they hold the promise of producing a skilled workforce capable of handling specialized construction projects, such as Roman or Italian-style villas.

By reallocating resources towards training, we can not only reduce the costs associated with unskilled labor but also nurture a workforce that aligns with the previously identified ranking criteria. This approach ensures that the skilled labor pool is not only maintained but can be expanded as necessary, facilitating the successful execution of distinctive construction projects.

## 4.2 Change Request Analysis: Assessing Impact and Feasibility

In the midst of analyzing the mid-semester report, a noteworthy observation emerged – there was a noticeable spike in activity during September, a mere three months after we commenced the project. This occurrence raised suspicions that a change request from the client might be in the offing. To validate this hypothesis, I felt it imperative to engage in a dialogue with the firm itself. In response, I formulated three distinct analytical approaches,

each aimed at addressing the potential issue at hand.

### **4.2.1 Shifting the Cost Burden to the Client**

Instead of bearing the financial burden, an alternative is to enter into a contract between the company and the client. This Agreement may specify that all change requests on behalf of the Customer are managed and funded solely by the Customer.

However, it is important to note that this shift in responsibility may not be a direct transfer to the client. They would need to be prepared to take on these additional responsibilities. This may require internal consolidation, increased workload, and potential additional costs.

The downside for our organization is that such thinking may not be without consequences. In an increasingly competitive environment, customers often look for partners who can also be flexible when it comes to handling change requests. Some of our competitors have demonstrated their resilience by accepting multiple change requests, sometimes up to three or four, and delivering exceptional results

Thus, while shifting the cost burden to the acquirer may have its advantages, there is a careful consideration of the potential consequences, including the risk of losing business to more favorable competitors is needed to make informed decisions about this method.

### **4.2.2 Emulating Competitive Strategies**

Checking with competitors like Cassagrand, I found an interesting strategy. They have a written policy, which means that after a certain requirement, usually about 3 or 4 request changes by the customer, reimbursement for the associated costs goes to the customer. This is an interesting option, but we between may not translate well conditions.

The main challenge here is that we are working in a new environment. Unlike larger companies like Casagrande, our organization may not have the elite management skills. As a result, we are less likely to implement policies that impose additional financial obligations on our customers, which could deter potential customers and jeopardize our contracts

Due to these limitations, it is important to find alternative ways to address the issue of managing customer change requests. We have to balance adapting to the needs of our customers and maintaining our competitiveness without feeling the same impact as our larger players. This requires a thoughtful and nuanced approach tailored to our specific business environment.

### **4.2.3 Estimating and Integrating Costs**

Because of the limitations of previous methods, I tried to find solutions-based machine learning as a machine learning student looking for an effective way rather than paying clients

additional fees when they request changes, which is often possible has led to dissatisfaction and reluctance to advance in a career

The idea was to use the power of machine learning to predict the potential costs of change requests. Using historical project data, we can calculate and allocate the expected change request costs to the project budget even before the project starts. The advantage of this approach is that we manage the possibility of financial loss, as clients can request changes anyway, but it also allows us to be a bit more predictable for our budgets

To realize this perspective, I began working on a detailed project profile, with details of a careful deletion of all project costs and estimated costs due to change requests at 145 projects involving approximately 81 of the change requests we were able to collect These data formed the basis of our analysis.

We took this data and plotted it using a scatter plot (Fig 3.2.3.1), giving us insight into the relationship between total project costs and change request costs This exploratory data analysis is an important step in our journey if we use a methodology it uses data and predicts more will use the project Budgeting.

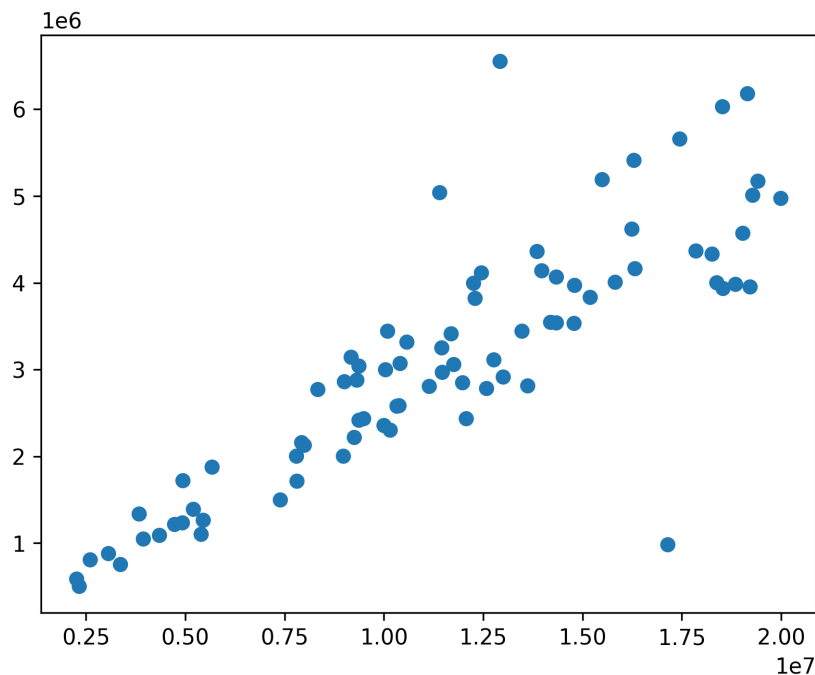


Fig 3.2.3.1 Scatter Plot on Total Cost (X axis) vs Change Request Cost(Y axis)

Now, let's venture into the practical aspect of our solution. Our aim was to utilize Linear Regression in Python to model the dataset effectively. With this approach, we could establish a regression line that not only fits the historical data but also equips us with the capability to predict the potential cost of change requests for future projects. This predictive



model holds the promise of mitigating unexpected costs and enhancing our client retention.

To put this plan into action, we needed a substantial dataset. We meticulously gathered project details from approximately 81 historical projects and employed Linear Regression to create our initial predictive model. However, our strategy didn't stop there. We recognized the opportunity to further enhance the model by incorporating data from other companies in the industry. This collaborative approach could lead to a more robust and accurate predictive model, which could be beneficial for the firm and other stakeholders.

By forecasting change request costs and integrating them into the project budget proactively, we are not only striving to reduce financial losses but also aiming to foster client satisfaction and trust. Clients will have a clearer understanding of the potential costs and won't be caught off guard by unexpected budgetary adjustments. This dual benefit of cost management and client retention underscores the value of our approach.

Let us try to mathematically model Linear Regression for this.

#### 4.2.4 Performing Linear Regression

We're working with two key components in our analysis: the feature vector, denoted as  $X$ , and the target variable, referred to as  $y$ . Let's break down what each of these elements represents:

$X$  (**Feature Vector**): This vector contains data related to the total cost amount of our projects. It essentially serves as the set of attributes or characteristics that we're using to make predictions.

$y$  (**Target Variable**): This is our primary focus, as it holds the crucial information about the change request cost. We're aiming to understand and predict the change request cost based on the information in our feature vector.

In simpler terms, we're using the details of the project's total cost (found in  $X$ ) to figure out and estimate the change request cost ( $y$ ). By analyzing these aspects, we're working towards gaining valuable insights that will aid us in better managing our projects and budgeting for

change requests. So we can write this as,

$$\begin{aligned} X^T w &= y \\ X X^T w &= X y \\ w &= (X X^T)^{-1} X y \end{aligned}$$

In our case,

$$X = \begin{bmatrix} 2320948 \\ 4726684 \\ \vdots \\ 9368875 \end{bmatrix} \quad y = \begin{bmatrix} 501157 \\ 1216601 \\ \vdots \\ 2420167 \end{bmatrix}$$

At the first step, we have to normalize this else we might not be able to process this as the numbers are too large.

After normalizing, we could apply the formula of Linear regression which gives us the optimal weight vector

$$w^* = [1.66125997e - 08 \quad 2.54769669e - 10]$$

Now if we try to fit this into the plane we get the below diagram.

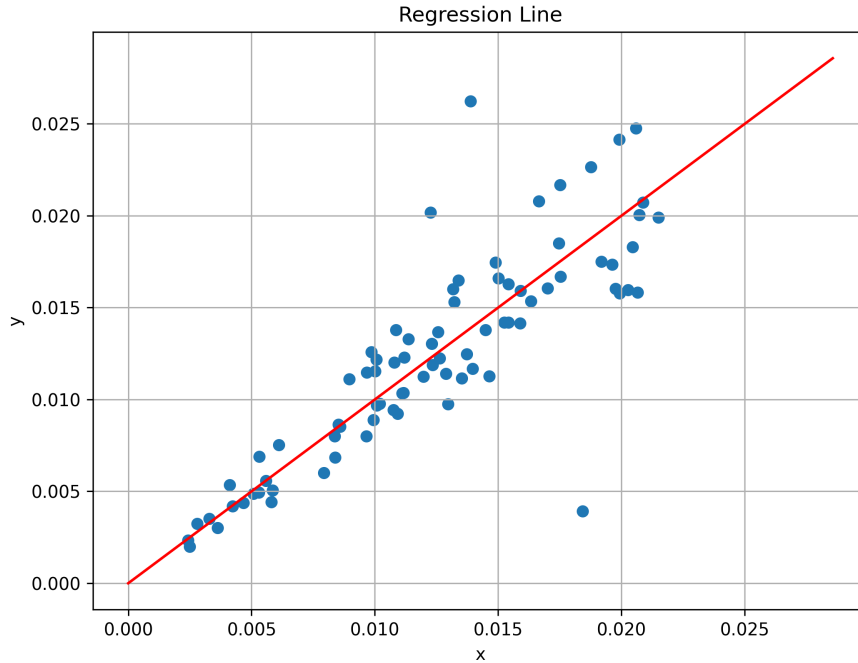


Fig 3.2.3.1 Regression Plot on Total Cost (X axis) vs Change Request Cost(Y axis)

Through this regression analysis, we've uncovered a valuable solution for enhancing our change request management. By predicting the change request cost for future projects and

incorporating it into our budget, we can effectively reduce potential profit losses. This strategy provides us with better financial control and helps ensure that unexpected expenses, stemming from client requests, don't catch us off guard.

Moreover, we can take this concept even further. By expanding our dataset and gathering more information about the total project cost and the specific client request amounts, we can refine our regression model. This optimization allows us to make more accurate predictions and ultimately increase the efficiency and effectiveness of our budgeting process. In the long run, this approach not only safeguards our profits but also enhances our overall project management and client satisfaction.

## 4.3 Limitations of Linear Regression model in our case

**Assumption of Independence:** Linear regression assumes that the independent variables are independent of each other. If there is multicollinearity (high correlation) among independent variables, it can lead to unstable coefficient estimates.

**Non-Constant Variance (Heteroscedasticity):** Linear regression assumes that the variance of the errors is constant. If the variance is not constant across the range of independent variables, it can result in biased standard errors and affect hypothesis tests and confidence intervals.

**Non-Normality of Residuals:** Linear regression assumes that the residuals (the differences between the observed and predicted values) are normally distributed. Deviations from normality can affect the validity of statistical inferences.

**Causation vs. Correlation:** Linear regression can identify associations between variables but does not establish causation. In this case, predicting the potential costs of change requests doesn't necessarily mean we can control or prevent those costs.

**Limited Predictive Power:** Linear regression models may not capture complex, nonlinear relationships, and they might have limited predictive power for certain types of data.

**Data Quality:** The accuracy and reliability of predictions heavily depend on the quality and representativeness of the historical data used to train the model.

**Changes Over Time:** Linear regression models assume that relationships between variables remain constant over time. In dynamic environments, this assumption may not hold.

## 5 Interpretation of Results and Recommendation

In this section we will frame some solutions from the analysis we made above. The research phase has explored challenges, issues and opportunities related to our problem or project. Then, our goal is to turn these insights into actionable steps and strategies that can create positive change, solve problems, or improve project outcomes.

### 5.1 Workforce Planning

We gained some valuable insights by carefully researching whether it would be more advantageous to hire full-time or contract workers. Our comparative analysis showed that the contract approach initially appeared to be more cost-effective. However, further investigation revealed a severe cash flow loss due to project losses of ₹1 crore, mainly due to availability issues.

To delve deeper into the issue, we conducted a qualitative study. In this phase, we collected data on contract labor and daily wage labour, focusing on factors such as wages and skill levels. We used this information to rank the individuals and identify the top performers, particularly those shown in Table 3.1.1.

Furthermore, our hypothesis testing reinforced the hypothesis that hiring skilled workers is a significantly better strategy compared to hiring unskilled workers. This empirical evidence strengthened our decision-making process.

The solution we are proposing for our organization is to hire a selected group of individuals with the same qualifications as the top person from Table 3.1.1. Approximately 5 people will be appointed, and their primary responsibility will be to provide administrative support as needed. While these individuals may not have the same level of skills as our professional staff, their role will include training and skills development. Our organization will closely monitor this team to ensure proper project management.

Despite an average monthly expenditure of ₹8000 per person, employing these 5 skilled workers is in line with our long-term and profitable strategy. This approach minimizes issues with staff availability and increases our ability to provide quality service.

$$\begin{aligned}\text{Expected money we would spend per month on employees} &= ₹8000 \times 5 \\ &= ₹40,000\end{aligned}$$

But the probability of having the labors will be pretty much higher than the previous setting.

## 5.2 Change Request Management

We have been checking the approaches of other firms like Cassagrand. They limit how many client requests they take, but that can mean losing out on projects. We brainstormed a unique solution instead – predicting the cost of change requests and including them in the budget. This way, we won't end up taking a big hit.

This cool model we've come up with can be handy down the road for planning budgets. It's all about making sure we don't end up in the red. With this strategy, we can look forward to making some sweet profits in our next project. It's a win-win!

## 5.3 Feasibility of the ideas proposed

Several of the standards mentioned in this report might also to start with appear impractical, such as organizing workshops for individuals. This is because of the significant studies and actual-world engagement required. However, both the organization and I are dedicatedly addressing those demanding situations. The owner, who is an MBA graduate from IIT Delhi with a profound expertise of the development industry won through continuing his father's commercial enterprise, performs a pivotal role on this enterprise.

Despite the perceived challenges, we are devoted to generating tangible results. Our goal is not most effective to compete with enterprise giants like Cassagrand but also to foster a harmonious surroundings that brings pride to each our clients and our workforce. The ongoing efforts reflect our determination to show apparently impractical thoughts into a hit ventures, demonstrating our dedication to innovation and excellence in the production commercial enterprise.