



# GOLDEN JOURNEY OF CONSTRUCTION MANAGEMENT



# Table Of Contents

● EXECUTIVE SUMMARY	02
● EMERGENCE OF DESIGN-AND-BUILD	03
● FUNDAMENTAL PROBLEM IN CONSTRUCTION	04
● GOLDEN JOURNEY OF A PROJECT	05
+ RECCE	06
+ DESIGN DEVELOPMENT	07
+ BILL OF QUANTITIES (BOQ)	08
+ ORDER	09
+ WORK PROGRESS	11
+ SNAGS/AUDITS	13
+ FINANCE	14
● A FOUNDER'S PERSPECTIVE	15
● CASE STUDY - WHITE HILLS	17
● CASE STUDY - HPV ELEVATE GROUP	19
● NOTE FOR THE READERS	21

## EXECUTIVE SUMMARY

Construction is a \$11 trillion global industry, contributing nearly 13% to the world's GDP and employing 7% of the global workforce. Despite its massive scale and economic importance, the sector remains one of the most inefficient. A 2015 McKinsey report on \*The Construction Productivity Imperative\* revealed that 98% of construction projects exceed their budgets by at least 30%—a staggering statistic that continues to hold true today.

While the industry is gradually embracing advanced technologies—such as robotics replacing manual labor on job sites, IoT-based progress and quality tracking, and Building Information Modeling (BIM) for clash detection and coordination—it has largely overlooked the creation of a standardized, universally accepted project management foundation.

The low capital barrier to entry has fueled rapid business formation in the space. There are 3Mn construction companies in the world. In India alone, over 5,800 new construction companies are registered each year, according to CEIC data. However, both emerging and established players consistently struggle to implement reliable, scalable project management systems. Without structured workflows and real-time controls, many firms face cash flow disruptions, profit margin erosion, and uncontrolled project delays.

This whitepaper is designed as a practical guide for construction leaders, particularly those overseeing projects, procurement, and finance. It breaks down common bottlenecks across the lifecycle of construction projects and provides a practical perspective on approaching technology adoption. Majority of the insights in this white paper are coming from my journey of trying to scale 91Squarefeet - a design+build company for commercial fitouts. We scaled 91Squarefeet to INR 100Cr (~\$12Mn) revenue and PAT profitability in 4 years in a hyper competitive space before sunsetting its operations. To anchor these insights, we shall reference RDash Screens, a modern, purpose-built ERP and project management tool for the construction sector. This platform offers real-world context and showcases how digital integration can resolve age-old industry challenges.

One of the core themes explored is the high-frequency coordination required between four critical departments—Design, Projects, Procurement, and Finance. The project manager, typically at the centre of this dynamic, often lacks the visibility or data synchronization needed to make informed decisions. When this coordination fails, it snowballs into severe issues like:

**70 %**

of construction firms reporting delayed customer payments within the last 12 months, limiting their ability to invest in new projects, modernize infrastructure, or upskill their workforce.

**82 %**

of builders facing stress, anxiety, and even depression—rooted in poor cash flow visibility and late payments.

This guide helps identify, diagnose, and resolve these systemic gaps. It offers actionable recommendations and a clear path toward financial stability, operational clarity, and sustainable growth through better project control and data-driven decision-making.



# Emergence of Design-and-Build

Two decades ago, architects (or engineering design firms) and contractors played clearly defined roles in the construction industry. Architects focused on conceptualizing and designing spaces, while contractors were responsible for executing the physical construction on-site. Clients often relied on project management consultants to bridge the communication and execution gap between the two.



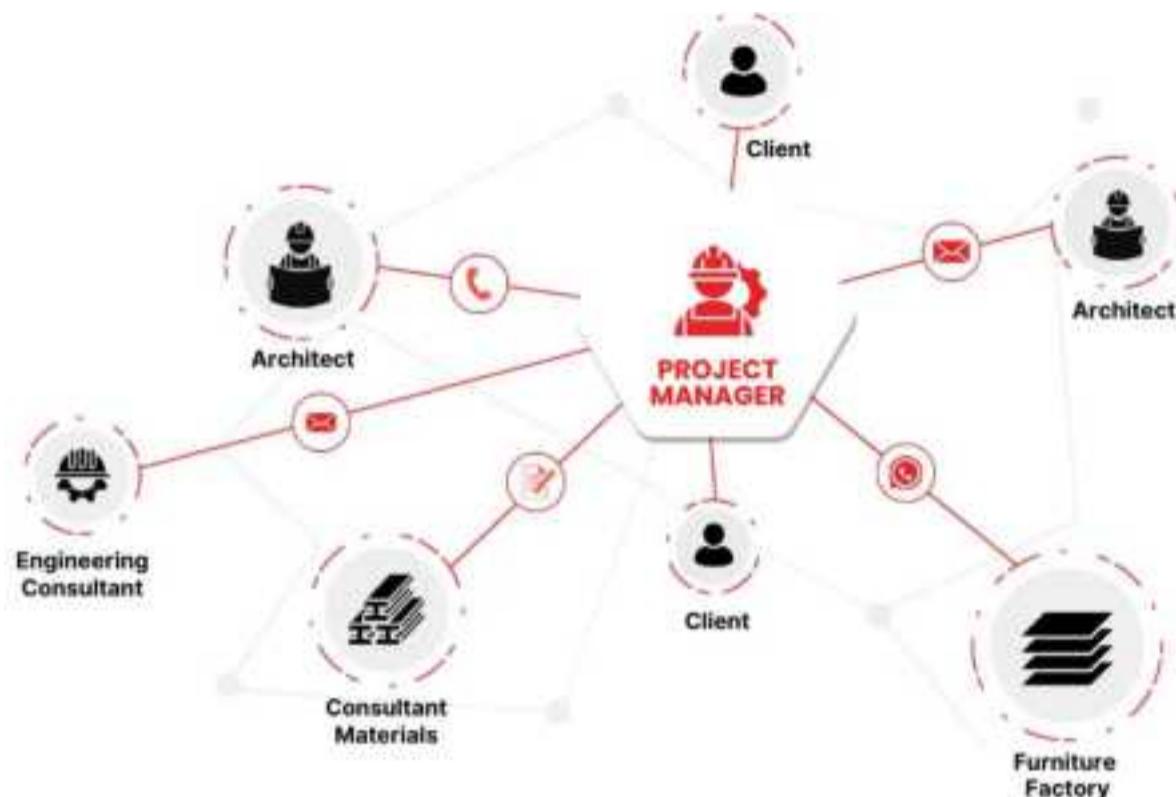
★ *The early 2000s marked a turning point. Economic reforms around the globe triggered a surge in infrastructure investment, accelerating the evolution of the construction sector.*

Companies began to expand their capabilities to stay competitive. Construction firms ventured into design services, while design consultancies developed procurement and project management expertise. This convergence gave rise to the Design and Build model—a transformative shift where companies began offering integrated, end-to-end solutions for construction and interior fit-outs.

While this model delivers efficiency and accountability, it also brings operational complexity—requiring firms to balance creativity with execution precision. In this context, technology emerges as a critical enabler. Digital tools can streamline workflows, integrate teams, and reduce errors—unlocking new levels of productivity.

However, legacy firms often struggle to adapt quickly due to entrenched systems and slower decision-making processes. This presents a strategic window for growth-stage companies to leap ahead. By adopting agile, tech-enabled operations early, emerging players can outmaneuver incumbents, delivering superior outcomes with leaner teams and lower costs. In short, technology is not just a support function—it is the lever that can redefine industry leadership in the modern construction ecosystem.

# Fundamental problem in construction



Even in the simplest projects, over 20 stakeholders collaborate, which is where mistakes are frequently made. Consider a scenario where you're a project manager for an office fit-out project. During the project, a contractor identifies a discrepancy between the proposed plan and the actual site condition. An AC duct is cutting through a beam, prompting the contractor to alert the MEP consultant. This consultant must involve the architect, as the solution will affect other aspects such as ceiling design and available space height. The architect proposes using cassette ACs instead. As a project manager, you must coordinate this change with the procurement team, MEP contractor, civil vendor, AC vendor, and of course, the client. The procurement team need to act swiftly in making scope modification for the existing AC vendor and floating a new RFP. The Designer need to now actively sync-up with the client to get approval on the revised drawing. Even small changes can have a butterfly effect, creating a significant coordination workload for project managers, Designers, and Procurement teams. There is currently no standard method to manage this, and each project manager and organization handles it in their own way. The lack of a proper technology system to correct this coordination issue typically results in a 10% increase in project costs and a 20% delay. This is why organizations lose agility in project management, resulting in idle site labor, wasted materials, and piled-up overheads.

When we think about technology in construction, we often envision robots laying bricks, 360-degree cameras creating virtual walkthroughs, or site work quality analysis using smart devices. The construction sector will eventually adopt these emerging technologies, but first, we need to address more fundamental issues. Creating and adhering to a project management template which consolidates all information—such as site survey data, design files, project scope, procurement, site progress, material tracking, reimbursements, audits, and handovers—into one place is helpful as it will create a single source of truth for everyone involved. 95% of construction companies in the world do not have systems to clearly understand what percentage of profit margins they are finally making on their projects. When the industry is in such a state, fixing workflows to weed out day-to-day operating issues and induce professionalism in the workforce is the foundational work this industry needs before we are ready to consume advanced tech.

# Golden Journey Of A Project

The screenshot shows the RDASH project management software interface. At the top, it displays 'All Projects / 91 Springboard Vikhroli' and 'JOB ID: SPRGTMA3'. The 'Work Progress' tab is highlighted with a red border. The header also includes 'Project Status: Execution In Progress' and a user profile for 'Amit'. Below the header, there are tabs for 'Project Schedule', 'Progress Update', 'Progress Report', and 'Materials'. A message from 'Sanjay Patil' is shown, updated on 'Wednesday 22 2024 23:19:20 GMT'. The main content area features sections for 'Todays Updates' (listing tasks like Acoustic, Conference room, Painting, Lvt, and HVAC work), 'Todays Manpower' (listing Housekeeping, VTSoff Project Engineer, and HVAC staff), and a grid of six small images showing construction progress. A 'View all 8 Images' link is also present.

Every construction project follows these 7 steps across the pre-construction, construction, and delivery phases. Understanding these steps equips you with the knowledge to communicate effectively with your team and pinpoint where issues may arise. While most construction companies have established processes to navigate these steps, as a construction leader, your responsibility goes beyond simply creating workflows. You must also ensure inter-team visibility, allowing the entire system to function more smoothly. This transparency helps teams collaborate proactively, maintaining the project's momentum.

In the following sections, we will understand the typical mishaps around each of these 7 steps and ways to avoid them. For this demonstration, we'll use an office fit-out project as an example.



# Recce

The screenshot shows the R-DASH software interface for managing construction projects. The top navigation bar includes links for All Projects, Patel Infrastructure, Job ID PAFNFI3382, Project Status (Execution In Progress), User Akash, and Actions. A red box highlights the 'Recce' button in the top left of the main content area. The main content area displays a 'Recce' report for 'Recce 1 | Recce 1'. It includes sections for Property Information, Exterior Environment, Interior Environment, Building Type, Floor Condition, and Building MEP Info. The 'Exterior Environment' section contains a question about client requirements for external signage and a note from the client's branding. There is also a field for 'Other observations on the condition of the building exterior' which is currently empty. Below this are five thumbnail images of the building's exterior. On the right side of the report, there are buttons for 'Upload Files' and 'View all 12 Images'.

'Recce' is an industry term, short for 'reconnaissance,' which refers to a site survey. Before designing, an architect requires measurements of an area, capturing existing site conditions, structural components, and markers for electrical and plumbing services. However, project execution teams require clarity on a broader range of subjects than just space measurements. They need to know the material movement guidelines from the building's developer, material storage and handling areas, understanding work shift timings, and the structural layout of the floor, etc. Once these details are captured, they need to be organized into a report. This report becomes the first document for interacting with the client about their requirements.

## Typical Pain Points

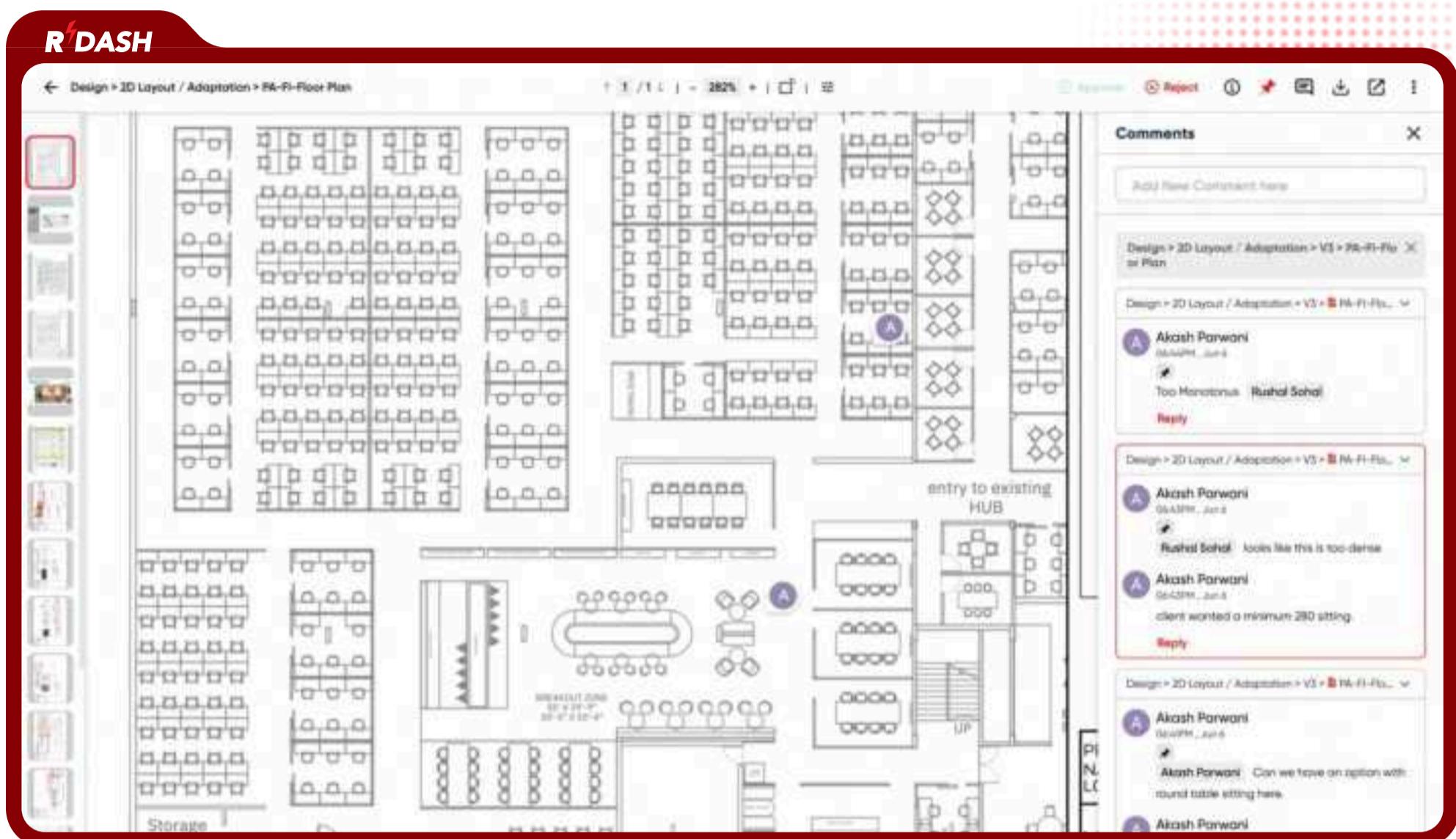
Often, the person conducting the recce doesn't have a complete list of necessary details to capture. This can result in multiple site visits and wasted time at the start of the project.

## Remedy

Create a site survey checklist, template reporting formats, and provide site survey training to the person going for recce, etc.



# Design Development



Design development typically utilizes software such as Autocad, Sketch-up, and Revit. The design process consists of two phases: Concept development and the creation of Good For Construction (GFC) drawings. From a project management perspective, challenges often arise during coordination around GFC drawings between the site team and the design team. Drawings serve as the primary mode of communication in projects. When coordination occurs through emails and WhatsApp, it increases the risk of different project participants referring to varying design versions, possibly leading to contractors working off outdated designs.

Despite the availability of advanced tools like BIM, Plangrid, and RDash for managing drawing versions and collaboration, the construction industry still grapples with establishing these basic necessities. Poor design coordination is a significant cause of rework, material waste, and idle labor at sites.

## Typical Pain Points

- Mismanagement of design file versions, leading to confusion and waste.
- The design process extending beyond the execution start date, which cuts into planning time and increases project coordination load.

## Remedy

- Develop a site mobilization checklist to ensure the availability of necessary GFC files at the project's outset.
- Implement a design management system for:
  1. Tracking design files, their versions, and approvals
  2. Creating a digital track for design reviews to create support for NT claims



# Bill of Quantities (BOQ)

The screenshot shows the R-DASH software interface for project management. The top navigation bar includes links for Recal, Design, BOQ, Orders, Work Progress, Snag, Finance, and Actions. The BOQ section is highlighted. The main content area displays a table of items categorized into sections like Unsectioned, C&I TOILET, and Modular furniture & fixture phase 02. Each item row includes details such as Element Name & Description, Code & Category, Order Status, Item Type, Source, Status, and Final Amount (₹). A sidebar on the left contains various project management icons.

A Bill of Quantities (BOQ) is a term used to define the scope of a project. It typically includes item names, descriptions, quantities, rates, and costs for each item. BOQ line items are usually grouped into sections such as Civil (Flooring, Partition, Glass, etc.), MEP (AC, HVAC, plumbing, etc.), loose furniture, white goods, and more.

Quantity surveying teams, also known as QS teams, create a BOQ by studying GFC drawings to quantify every cost item. However, it is impossible to create a perfect BOQ at the start of a project due to potential human errors, design changes proposed by clients during execution, or unexpected site conditions. Therefore, a responsible project manager's primary duty is to continuously update the BOQ and document changes with clients to prevent revenue leakage at the project's conclusion.

## Typical Pain Points

- Revenue leakages, which can amount to 2% of the project value, occur when a PM fails to document changes in scope with the client in a timely manner.
- An incomplete description of a scope element can lead to deviations in the quality of work executed on-site.
- Improper formatting of the BOQ increases the likelihood of human error.
- Without proper item-wise margin analysis, the Project Manager might pay more to the contractor than what is charged to the client.

## Remedy

- Maintain status against each BOQ line item to track what has been approved by the client and what is still pending.
- Create a predefined catalogue of items, known as an element library, to use when creating a BOQ. This will allow for better control over item descriptions.
- Develop a standard template for creating project BOQs that is to be followed across the company.
- Maintain a procurement tracker against BOQ line items with their procurement status and cost.



# Order

The screenshot shows the R-Dash software interface for managing vendor orders. At the top, there's a navigation bar with tabs for Recur, Design, BOQ, Orders (which is selected), Work Progress, Snag, and Finance. The main header displays "All Projects / Patel Infrastructure- Sarabhai Ca..." and "JOB ID: PAINF13382". The status is shown as "Project Status : Execution In Progress". On the left, there's a sidebar with various icons for proposals, vendor orders, invoices, and reports. The central area is titled "Order Details" and shows three progress boxes: "Order Progress" (Total Items 21, 0% complete), "Todays Progress" (0 items updated today, 0% complete), and "Time Status" (13 days remaining to complete, Execution Due Date: 20 Jun 2024). Below these are sections for "Element Name & Description", "Code & Category", "Item Type", "Quantity", and "Final Amount (₹)". A table lists several items with their descriptions, codes, categories, types, quantities, and amounts:

Element Name & Description	Code & Category	Item Type	Quantity	Final Amount (₹)
Fire Fighting (FF) Supply, installation, testing and commissioning.	Fire Fighting CXPAINF00108/2	Production	290890000	1245340
FIRE ALARM SYSTEM Addressable Fire Alarm System -Smoke Det...	Fire Fighting CXPAINF00109/2	Bought Out	290890000	15,70,806
ELECTRICAL WORK Floor and Ceiling Electrical Consulting and...	Electrical CXPAINFE00100/2	Site Works	11675.0000	5,36,250
ELECTRICAL, WORK Floor and Ceiling Electrical Consulting&...	Electrical CXPAINFE00099/2	Raw Material	9754.0000	1942,800
LED LIGHTS/HANGING CYL...	Electrical CXPAINFE00101/2	Raw Material	9754.0000	3,88,560

In our example of a typical office project, the project scope is usually divided among 3-4 major vendors (civil-interior, MEP, loose furniture) and several smaller vendors for specialty items like carpets, glass, blinds, and metal fabrications, etc. The procurement team typically runs the RFP (Request for Proposal) process with vendors specific to each category, negotiates, and releases orders. There may also be long lead items, such as custom furniture and workstations, which are make-to-order. The project manager must consistently urge procurement teams to place timely orders for these items. The scope of the order can change based on design iterations and site conditions, requiring a precise degree of reconciliation during vendor invoice processing. The project manager must validate changes in the originally proposed quantities while ensuring that extra cost items suggested by the vendor are also billed to the client as well.



## Typical Pain Points

Typically, the project manager or procurement team initiates an email thread containing an Excel sheet of items to be allocated to a vendor. After all the approvals, the finance team inputs the order in the ERP and shares the PO with the requester. The company does not create any digital record of items in this process, and this leads to about 2% margin leakage and poor cash flow management.

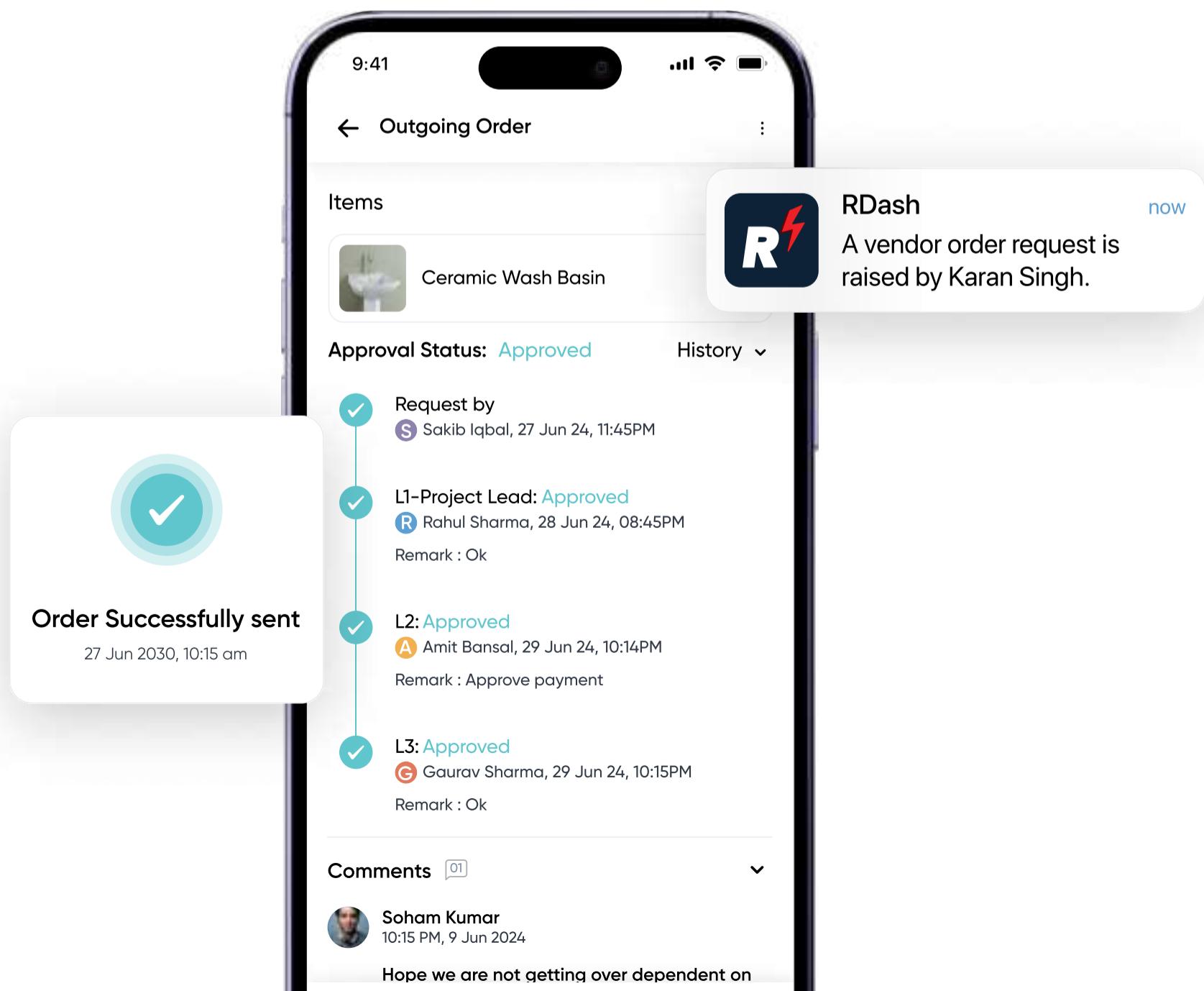


## Remedy

- Start by creating a digital record of the list of elements, quantities, and rates assigned to a vendor.
- Establish an approval hierarchy for releasing an order and accepting an invoice. Reviewing results in increased accountability!

- The final vendor invoice, ratified by the project manager, deviates from the original order. The company does not have any way to dissect the deviation in a systematic manner. Not only is this a breeding ground for malpractices, but also, there are extra billable quantities which are paid to the vendor but pass un-billed to the client. Having a digital record in the first place and matching that record to the vendor invoices **results in saving 2% of project value.**
- Most often, the imprest payments arise when the original vendor is not able to provide a fast response towards the delivery date. The imprest requests by site teams are generally booked through a different ERP. Not only does it increase the workload for the finance team to map these imprest requests to project IDs, but it also leads to margin erosion if the imprest expense is not properly mapped to the vendor order.
- Without a maker-checker system for orders, the project may experience cost overruns.
- Lack of visibility between procurement and project teams can lead to project delays.
- Companies lose agility and control by not digitizing this process. It becomes difficult to hold the supplier accountable for the originally promised performance. Also, the delay penalties and cash flow control (especially around back-to-back payments) are rarely enforceable when the order and reconciliation process is manual in companies.

- At the time of accepting the final vendor invoice, update the digital record created at the time of releasing the order so that you can track the deviations in rates and quantities on the payable side. This will help you claim these deviations with your clients as well and improve your margins.
- Provide an interface to your project managers to tag:
  - Imprest payments done directly by the company to a purchase order issued to the suppliers.
  - Create and assign snags to the suppliers.
- Give a checklist to finance to check tagged snags and payments to the suppliers and create debit notes along with accepting final invoices.
- Maintain a procurement tracker, especially for long lead items, to help the project manager and procurement teams stay synchronized.





# Work Progress

The screenshot shows the R-DASH software interface for project management. The top navigation bar includes 'All Projects / Patel Infrastructure- Sarabhai Ca...', 'JOB ID: PAINTI3382', 'Project Status: Execution In Progress', and user 'Akash'. Below the header are tabs for 'Receiv.', 'Design', 'BOQ', 'Orders', 'Work Progress' (which is selected), 'Snag', and 'Finance'. A sidebar on the left contains icons for 'Project Schedule', 'Progress Update', 'Progress Report', 'Materials', 'Akash Parwani' (last updated on Wed Jun 05 2014 17:13:31 GMT), and other project details. The main content area displays 'Todays Updates' with five listed items: 1. Glass partition frosting film applying work 50% done, 2. Debris removal 90% work done, 3. Breakout AC during modification work done, 4. All snag list work completion work progress, and 5. Plumbing fixture installation work progress. Below this are six thumbnail images of construction workers and site activity. A section for 'Todays Manpower : 26' lists: Civil Helper - 5, Civil Work Supervisor - 2, and Samarth Infracon Safety Officer - 1. A red border highlights the entire screenshot.

From the outside, it looks like project tracking is all about creating Gantt charts and tracking activities. But in reality, there are 4 levels of progress tracking in construction projects.

1. First and foremost is Installed Work Tracking. Any company that wants to scale professionally must establish a mechanism to capture the installed percentage of their BOQ at a weekly or monthly frequency to stay on top of their invoicing, collection, and monthly P&L. L&T has been doing this for the last 30 years without fail, where every month, the installed progress of all their sites is reviewed by top management.
2. The second progress is Activity Tracking. This is where you create a Gantt chart of ongoing activities, for planning work sequences and labor movement on-site.
3. The third is Daily Progress Reporting (DPR), which is ad-hoc reporting that people mostly do via WhatsApp or video calls. The PM sends the pictures from the site along with manpower reports, action plans for the day, and the key blockers.
4. Other Updates: Material Movement, Snag Closures, Design Changes, etc.



## Typical Pain Points

Not having a mechanism to separately track installed work progress leads to delays in invoicing and increases risk exposure to the project. The finance team remains blindfolded and does not have the necessary intervention points to safeguard the project cash flows.

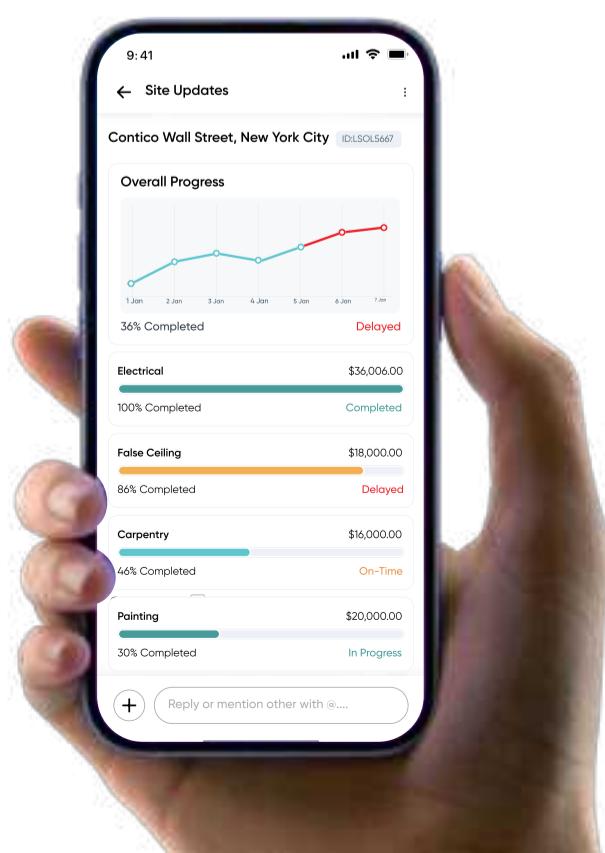


## Remedy

- Build systems to track installed work progress at a weekly or monthly frequency and tie the invoice-raising process with installed progress. Ideally, there should be a system for finance to have an alert when the site hits an invoicing milestone.

- The activity tracking file generally lies on the local computer of the project managers and is not handy for the leadership to review. The whole point of managing the activity schedule is to improve coordination between projects, procurement, design, and finance teams. Doing it in silo doesn't meet the objective.
- The project managers tend to report the progress ahead of the real work by manipulating camera angles or simply providing an incomplete update. The manipulation in DPR is a common reason for project escalations.
- The sites generally have mismanaged site material store operations in the absence of a GRN (Goods Receipt Note) process. The material GRN milestone for accepting materials at site not only prevents material leakage but also serves as a quality checkpoint for inwarding material at the site. Also, when providing the installed work update to the client, the available inventory of materials present at the site goes unreported, which negatively affects the cash flows released by the client.

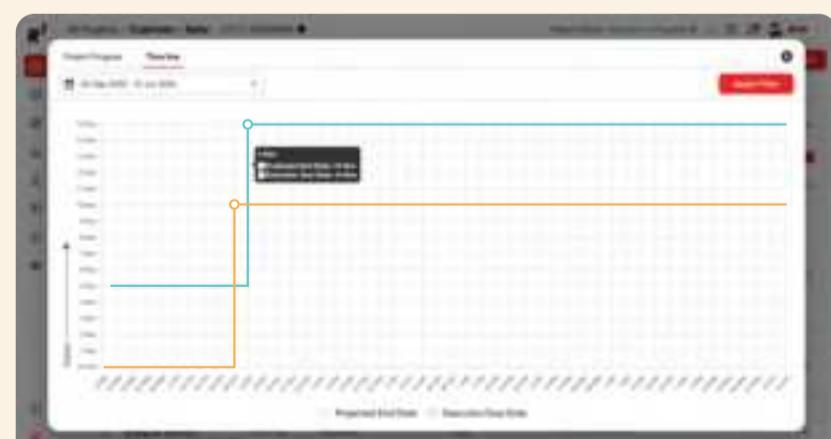
Construction companies are typically troubled by having multiple versions of the truth. DPR is the cornerstone and primary frontier to fix that problem. Capturing the update of the site on all four fronts and automatically sending a PDF report of the same to the client goes a long way in winning a client's confidence. This may seem counterproductive on the surface, but doing it creates an impression in the customer's mind that the construction company is truly transparent in their approach. So, when a problem arises, instead of fighting with the management of the construction company, the client tends to work shoulder-to-shoulder with the management once they trust that you are transparent in reporting.



- The activity tracking should be done on a cloud application so that everyone can stay on top of what's happening at the site and plan their deliverables according to the site rhythm. Doing this reduces coordination noise and fosters trust among colleagues from different teams.
- The Daily Progress Tracking ritual must have a standard template. Site supervisors should be trained to capture site photographs from consistent angles. The DPR template should have the necessary section for reporting manpower and site blockers.
- Create a DPR template along with a way to track when DPR is not submitted. Draw patterns like:
  - Daily reported percentage against dates - If your progress curve is following an S pattern, it means the project is largely going fine. If this curve has flat lines and steep jumps, it means either planning or accountability in the PM is broken. In any case, a bad pattern in project progress curve is an early indicator of poor project delivery.



- Projected End Date against committed dates - If there are no deviations in the projected end date, this graph will remain flat. Which means on-time delivery, difficult to happen. Eventually, there are some steps in this line graph but the number of steps and frequency of these steps matter. If there are more than 3 steps in the projected end date, it means multiple false commitments of delivery date have been made and customer experience has gone for a toss.



- The material GRN process should be put in place for being on top quality and real exposure to the project. Also, the consumed inventory should be updated at regular intervals for maintaining the hygiene in the material store at site.



# Snags/Audits

The screenshot shows a software interface titled 'R-DASH' for managing project snags. The top navigation bar includes tabs for 'Rece', 'Design', 'SOQ', 'Orders', 'Work Progress', 'Snag', and 'Finance'. The 'Snag' tab is active. The main area displays a table of snags with the following columns: Snag Title & Description, Snag Code, Location, Created By, Exp. Date Of Closure, Committed Date, Assign To, and Status. There are four entries listed:

Snag Title & Description	Snag Code	Location	Created By	Exp. Date Of Closure	Committed Date	Assign To	Status
Cover plate not fixed prop...	SNG004	Open workstation	Gaurav Sawal, 16-Jan-2024, 01:23 PM				Open Unresolved
Signage Alignment require...	SNG003	Open Workstation	Gaurav Sawal, 16-Jan-2024, 01:22 PM				Open Unresolved
Socket rectification	SNG002	Reception	Gaurav Sawal, 16-Jan-2024, 01:22 PM				Open Unresolved
Corner paint touch up	SNG001	Reception	Gaurav Sawal, 16-Jan-2024, 01:21 PM				Open Unresolved

At the bottom left, there is a button labeled '+ Add Snags'.

The standard protocol for project handover consists of two stages:

1. Date of Practical Handover - This is when all critical work is completed, though there may be finishing gaps and touch-up requirements in a few places. At this stage, the customer should be invited for a space inspection. Since labor is still on-site, it's important to gather final feedback about what's non-negotiable for customers before they take over the project. This is typically when the final invoices to the client are raised.
2. Date of Final Handover - This is when the site is snag-free and the customer has occupied the premises. The Defect Liability Period (DLP) starts at this point. The standard DLP is one year, during which the Design and Build (D&B) firm needs to correct minor snags resulting from space usage. Final invoices are generally settled after date of final handover.

Because customer involvement is at its peak from the practical handover to the final handover, how snags are recorded, addressed, and reported can affect reputation and repeat business from that customer.



## Typical Pain Points

Customer scrutiny is highest between practical and final handover. Poor snag resolution during this phase can damage your firm's reputation and cost you future business.



## Remedy

Maintain a digital snag list with status tracking. Stay in tight coordination with the client and site team to resolve issues quickly and professionally during this crucial window.



# Finance

You may be surprised to learn that 95% of contractors do not precisely know what percentage of gross margins they are truly making on projects. This is a problem we also grappled with for the first 12 months of starting 91Squarefeet. Let's take a moment to imagine what's going on in a project. You negotiated a rate assuming certain costs and noted down an expected margin on the project. During the execution of the project, there are changes in the scope itself, material prices change a bit, travel and lodging expenses of site teams and leadership remain unaccounted for in project costs, the site PM purchases some materials or settles labor in cash to deal with last-minute exigencies, some material gets wasted, labor remains idle for a few days, human errors lead to rework, you incur the cost of working capital, and so on.

Reconciling project expenditures and revenue is a significant task in itself where you need to lock the PM, supervisor, procurement, client account manager, and the architect in one room for a couple of days post-project completion in order to have precise reconciliation of project P&L. Obviously, this never happens, and reconciliation drags on for months. This creates an inherent risk in the system, especially if you are planning on scaling at a rapid pace.

## Typical Pain Points

- Cash flow control on projects is not put in place by most companies. You can't always tie your payments as back-to-back payouts to vendors when you receive money from the client. To gain efficiency, you need to break the project into multiple suppliers, many of whom would have executed their complete scope before you hit the first payment milestone with your customer.
- In the absence of a proper system around handling reimbursements and project expense limits, you lose agility around solving small blockers and exigencies. On one side, it creates unpredictability for the site team regarding how far they could go to solve the blockers, and on the other hand, poor handling of these issues breaks client relationships.
- Executive travel to the site is generally not tied to the project and accounted for as an admin expense. This creates a distorted picture around the margins you are actually making.
- Poor reconciliation creates dark spots in the system, leaving ground for cost overruns and breeding malpractices and corruption. Also, settling vendors in an uncontrolled manner creates a cash flow risk for the business.

## Remedy

- Re-engineer your terms of Purchase Order to have cash flow protection and DLP clauses like "Pay-when-Paid" and "5-10% retention for defect liability period."
- Assign every project a code, say JOB ID. Create a project wallet where you decide at the start of the project how much cash flow you are going to invest in the project as per the client's and suppliers' payment terms. If that cash flow wallet is breached, stop making further payments, and escalate to the client.
- Create a finance controller bandwidth and approval mechanism around project reimbursements. Do it in weekly cycles if possible.
- Tag all site-specific expenses to the JOB ID. Don't leave room for an expense to get approved without a JOB ID.
- Integrate ERP with your project management software.

# A Founder's perspective around adopting Technology in a construction business



When we started with 91Squarefeet, we were outsiders to the industry. We wanted to build the best construction company ever and dreamed about all the great things like robots doing the labor jobs, fully digitized material and production supply chains, fully automated project management, and whatnot. This lofty dream was the direction of the digital transformation we were driving in the early days. We were venture capital-backed, so we had to run fast. Within a year of the launch, we were managing 30+ projects in parallel, and the team size swelled to 150 people. But there were a couple of practical challenges. We were bleeding margins on projects, our working capital swelled to 90 days, and our customers were suffering. For all the tech differentiation we were trying to bring into the business, we weren't setting the right benchmarks.

We had come up with a very intuitive project management methodology that we refer to as the 7-step golden journey framework for construction project management, but we were struggling to drive its adoption in our team. After a couple of iterations, we realized our mistake. When we were pushing for the adoption of the technology, we were bent on getting the advanced workflows and features adopted without fixing the basics first. E.g., we were asking the team to do all the documentation around a lead on Rdash, create a master element catalog and rate contracts, conduct site surveys through the mobile app, and manage snags on Rdash. All this deprioritizes very quickly, even for senior leadership, when the margins start eroding and project cash flows go out of hand. After a couple of failed attempts, we took a value-centric approach to tech adoption. Anything we are making an effort to digitize must directly contribute to improving our margin or cash flows. So, we switched gears and said we shall first focus on tightening the flow of money by fixing workflows around raising vendor orders, accepting vendor invoicing, making modifications to vendor orders, managing site imprest claims, raising non-tendered item requests to clients, etc. In Rdash, from the Golden Journey Framework perspective, we've grouped these workflows under the "Order" and "BOQ" sections.

Digitizing "Order" and "BOQ" provided us the right grip over our day-to-day operations and became a stepping stone for us to digitize and fix "Work Progress" and other workflows of importance. The net impact of our efforts reflected in our business performance as well. In FY23, the gross margins for that year stood at 9.6%. Also, we had a working capital cycle of 90 days. However, a year later in FY24, gross margins improved to 20%, and working capital came down to 30 days.

In the following sections, we'll outline each step of the Golden Journey Framework, highlighting key pain points and solutions. However, keep in mind that implementing technology in your organization may not follow this exact sequence. It's more effective to focus on key workflows you want to digitize, as some may span multiple steps. We've found that Rdash customers achieve more success by prioritizing a few workflows each quarter, stabilizing digitization with a maker-checker process, and then moving to the next set. Below, we list 15 critical workflows across all 7 steps of the Golden Journey Framework that construction businesses should digitize to build a scalable foundation.

Process Category	Process	Maker	Checker	Typical Problems (AS IS System)	Solution through Rdash	Key Benefits
Cashflow Management	Vendor POs	Projects/ Procurement	Finance	<b>Not having a digital record makes suppliers payable a black box and compounds into margin erosion.</b> Multiple approval threads make PO process error prone for finance.	- Easy Approval flow on whatsapp - Configure PO template and Auto create PO at a click - Digital record of PO element sets the foundation for cashflow and margin control on supplier side	Business Cashflow control
Cashflow Management	Vendor Descoping and Change Orders	Projects/ Procurement	Finance	Lack of system to manage vendor scope on item level complicates vendor descoping. Projects team remains dependent on the first vendor and there is risk of double payment of work to existing vendor and new vendor.	- Change, add, delete items in vendor orders - Rdash auto-communicates the order modification with vendor - Flags modified items and maintains a history log	Better client experience
Cashflow Management	Final Vendor Invoice	Projects/ Procurement	Finance	<b>Missing proof of work, Margin Leakage, Change Order Management</b>	- Order element level qty and rate deviation tracking saves upto 2% in vendor cost - Invoice and supporting documents management with seamless approval flow - Other pending work signals in one place (by way of snags and tasks) safeguards cashflows	2% cost saving
Cashflow Management	Vendor Payments	Projects/ Procurement	Finance	Favouritism, risk of excess payment in absence of control mechanism	- Projects/procurement can raise payment request - Approval flow on payments improves cashflow control	Business Cashflow control
Cashflow Management	Site Imprest	Projects/ Procurement	Finance	Lack of accountability around petty cash spends, high turn-around for employee reimbursement reduces PM ownership around handover phase	- Raise expense tagged to a jobID againsts pre-configured expance head - Custom expance approval flow on every project - Maintain imprest wallet to keep a live track of advance issued vs expance approved - Faster turn-around on imprest payment improves ownership around handover.	1% cost saving
Cashflow Management	NT Approvals and Billing	Projects/ Procurement	Finance	Loss of revenue due to poor documentation around change requests. Extra qty and rates paid to vendors do not always reflect in client invoicing.	- Rdash auto documents scope changes with client on email with 1 click - Extra payout to vendors gets flagged in the BOQ	2% cost saving
Delivery Experience	DPR	Projects	<b>Sales</b>	<b>Adhoc communication via Whatsapp and Phonecall without a foolproof mechanism leads to mis-reporting.</b>	- Standard DPR template with site view point standardise reporting - Auto broadcast to subscribers in whatsapp curtails mis-reporting - Automatically fetches Schedule, Manpower, Material update to provide 360 degree visibility	Better client experience
Delivery Experience	Site Schedule	Projects	<b>Sales</b>	Lack of control around <b>shifting commitments</b> , missing out on <b>critical dependancies</b>	- Objective view of whats on track and what's delayed - Assign tasks on schedule activities for better coordination - Manage dependancies and critical path	Better client experience
Delivery Experience	Installed Work Progress	Projects	Finance	No mechanism to check installed work piles up the exposure risk to a project and limits finance team's ability to limit the damage	- Stay on top of real revenue - Improves Working capital by automating invoicing alerts	Business Cashflow control
Delivery Experience	Material Handling	Projects	Procurement	Not having a right material GRN process reduces margins as unused material gets wasted. GRN is also the foundation of the quality control over the delivered material.	- Track full material lifecycle i.e. Material Inward, Consumption, and surplus - Track surplus movement from one project to ware house or another project - Connected to DPR Module	1% cost saving
Delivery Experience	Design Management	Design	Projects	No place to manage versions, no standard method to review and approve design files, no standard protocol to distribute designs to Projects and Downstream vendors.	- Organise design files in sections, manage version - Review and approve designs - Version changes auto alerts all stakeholders involved in the project, including client and vendors	Better client experience
Delivery Experience	Snag Management	Projects/ Procurement	<b>Sales</b>	Lack of accountability around snag closure drags last leg of project cashflows and deteriorates margins	- Log snags, track SLA, make reports - Two level snag management: Snags by vendor and Snags by client	Better client experience
Delivery Experience	Site Survey	Projects/ Procurement	Design	Multiple visits and loss of time in the pre-construction phase due to non-standardised method of capturing site information	- Configure custom site survey workflows - Mark dimensions on images - Configurability around capturing photos, videos, drop down menu, text etc.	Better client experience
Procurement	Master BOQ	Design	Procurement	Non standardised quotations increases procurement and projects team effort, leads to poor experience for client	- Predefine routine purchased items at finer depth. Configure custom fields, add design reverences and QC guidelines against every element. - Vendors and client can access the details of the element by clicking on element name without login in Rdash.	Business Scalability
Procurement	Rate Contracts	Procurement	Finance	lack of control around project costs, delay in mobilisation	- Auto populate supplier rates and apply lump-sum discounts on top - Standardise payment terms	2% cost saving



# How White Hills Interior transformed project management?



Location: Pune, India



Industry: Commercial Fitout



Revenue: 500 Cr+

## About Whitehills interior

White Hills Interior, based in Pune with offices across India, has delivered 500+ projects over three years. Offering end-to-end interior solutions, they work with top corporates, blending design innovation with client needs and sustainability.



### Problem Statement

*\*White Hills was looking for a way out from its Manual processes*

Despite operating at scale, Whitehills relied on spreadsheets, WhatsApp, and email—causing coordination delays. Realizing the need for change, they decided to automate processes, document tasks, and improve collaboration through software.

## Challenges:

### 1. Inefficient BOQ Management

Inconsistencies in how BOQs were prepared, updated, and tracked, leading to miscommunication and delays in procurement and project execution.

### 3. Inability to Backtrack Finances

Financial tracking was fragmented, making it difficult to trace expenditures at project level or analyze cost overruns hindering budget management and financial decision-making.

### 5. Absence of a Unified Platform

In absence of a centralized platform, teams worked in silos, with crucial data scattered across multiple systems or spreadsheets, making collaboration and oversight cumbersome.

### 2. Disorganized Process Allocation

Tasks and responsibilities were not clearly defined or allocated among teams, resulting in overlapping efforts, missed deadlines, and a lack of accountability across projects.

### 4. Lack of Project Update Consistency

Updates on project progress from site lacked clarity & regularity creating gaps in reporting to customers and disrupted stakeholder confidence.

“

We were initially hesitant about switching to RDash, concerned about the potential disruptions to our workflow. However, the rollout was impressively smooth and well executed. The seamless integration and immediate improvements in our project management processes have thoroughly exceeded my expectations.



Vyenkatesh Shinde  
Purchase Head

## Solution:

For Whitehills, our customer success team rolled out a custom six-step process to ensure a smooth transition and get them the most out of the product.

### 1. Process Streamlining

We closely studied and understood White Hills' processes and, together with their team, finalized the ideal flow on RDash before initiating the configuration process.

### 2. Setting access control & enabling Dashboards

We configured user roles and access controls for project-level actions. We also set up real-time dashboards and performance metrics, offering clear insights into project status, delays, finances, and team adoption. This dashboard acts as MIS for the management team.

### 3. Data Import and Integration

We imported legacy project data and integrated RDash with tools like Slack, Jira, and email to ensure a smooth transition and uninterrupted workflows.

### 4. Training and Roll Out

We ran interactive training sessions with live demos and created tailored guides for different teams at White Hills. During the initial rollout, a dedicated helpdesk was setup to troubleshoot any issues.

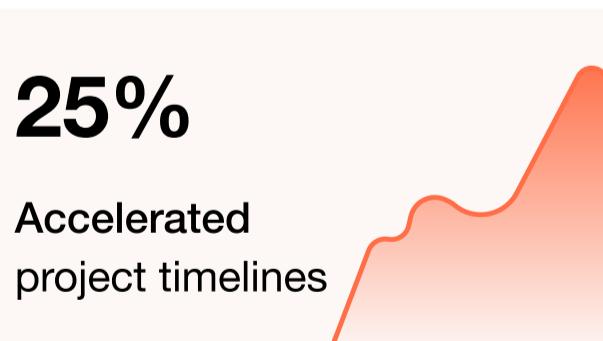
### 5. Performance Tracking and Analytics

We set up real-time monitoring for ongoing projects to ensure timely interventions when necessary and enabled trend analysis to assess performance over time by comparing historical data.

### 6. Feedback Loops

We held regular sessions with stakeholders to gather feedback and used it to continuously enhance the RDash platform experience.

## Results:



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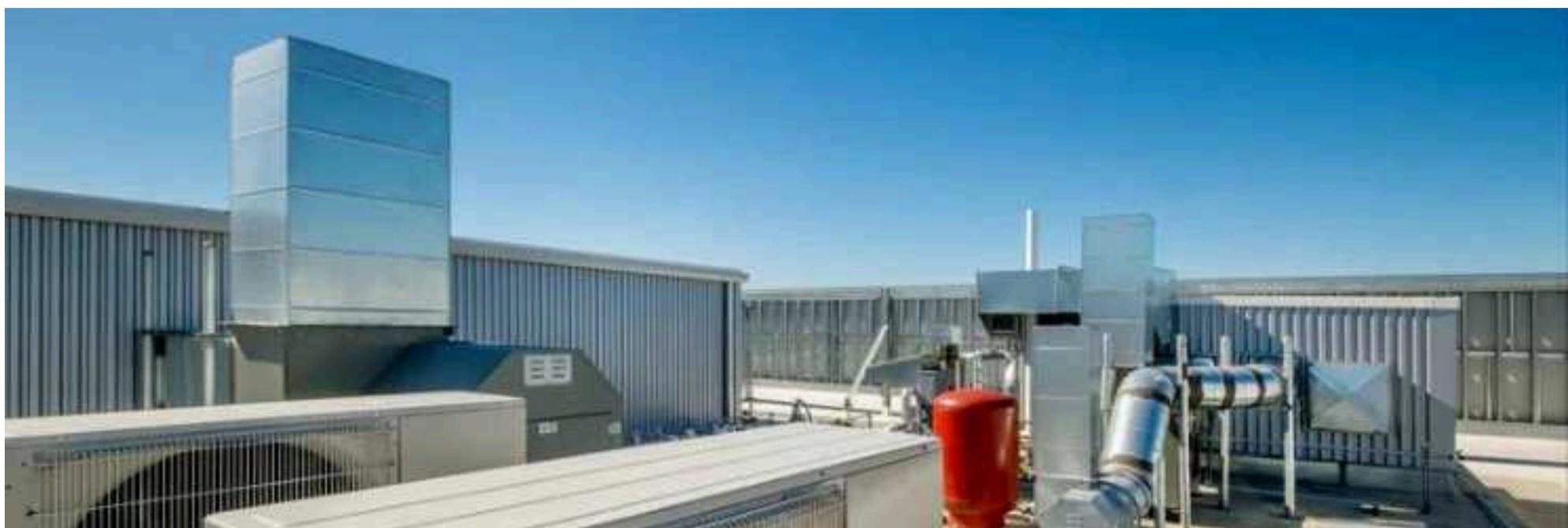
Since we switched to RDash, the team has really felt the difference. It's streamlined our work processes significantly, allowing us to manage projects more effectively and with less hassle. RDash has also been responsive to our feedback, continuously implementing changes that enhance system functionality and user experience to better meet our needs.



Abhishek Kumar  
Full time director, Whitehills Interior



## CASE STUDY



# How HPV Elevate Group Achieved 15% Faster Project Delivery?



Location: Mumbai, India



Industry: MEP



Revenue: 80 Cr+

## About HPV Elevate

HPV Elevate HVAC Engineers Pvt. Ltd., headquartered in Mumbai, with branch offices in Hyderabad, Bangalore, and Pune is operational since 2007. Elevate stands out as a leading HVAC and MEP contracting firm across India.



### Problem Statement

*\*Elevate was seeking a tailored project management platform*

As Elevate expanded, they encountered challenges with timely order placement and delivery, which impacted key project milestones, cost efficiency, and their reputation with clients.

Recognizing the need for change, they sought a tailored automation solution to better synchronize their projects and procurement teams. Many available solutions were either too generalized or too complex to meet their specific industry requirements.

*We struggled to find an automation solution that really fit our specific needs - most were too generic or complicated. With RDash, we finally found a system that gets it and meets our requirements.*

— Vishal Shah, Founder

## Challenges:

### 1. Manual Purchase Order Processes

Elevate's manual purchase order process lacked an approval hierarchy, causing delays in processing and difficulty tracking order status, which impacted project timelines.

### 2. Limited Project Insights & Tracking

Elevate lacked tools to monitor and analyze project performance, making it difficult to identify risks, optimize resources, and stay on target with budgets and timelines.

### 3. Disorganized Task Allocation

Scattered tasks across platforms like Excel, WhatsApp & Gmail, caused confusion over responsibilities. This lack of structure led to missed or delayed tasks, disrupting project timelines and reducing productivity.

### 4. BOQ and Order Discrepancies

Improper documentation caused discrepancies between the BOQ and actual orders, leading to overordering or underordering materials, which affected budgets and caused logistical issues.

### 5. Unreliable Site Progress Updates

Progress updates at Elevate were shared via WhatsApp, making it hard to track and document site progress. This led to vague updates, causing misunderstandings about project timelines and expectations.

## Solution:

For Elevate, the RDash customer success team rolled out the solution through a detailed process, designed to ensure a smooth adoption and immediate effectiveness of the RDash system.

### 1. Project Streamlining

RDash Customer Success team reviewed Elevate's operations and worked closely with them to customize platform settings and modules to meet their specific needs.

### 2. Custom Dashboards

Post knowing their needs & key metrics, we created customized dashboards that provided clear insights into project progress and finances to optimize costs and time.

### 3. Configuring of BOQ and Purchase Process

We configured their master BOQs and material libraries, streamlining BOQ prep and procurement. Now, order is placed in just a few clicks, with a ready-to-use material list.

### 4. Vendor Order Management

We created a custom PO format tailored to their needs, enabling direct vendor communication without emails or WhatsApp. Seamless version control helped streamline procurement & boosting efficiency.

### 5. Training and Roll Out

We conducted interactive sessions and live demos to train their team, along with customized user manuals and quick-start guides for different roles.

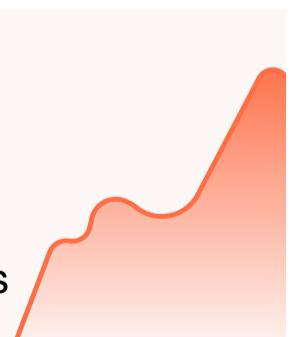
### 6. Feedback Loops

We held regular stakeholder meetings to gather feedback and identify improvement areas, using their input to continuously enhance the RDash platform experience.

## Results:

**15%**

Accelerated project timelines



**6%**

Cost Reduction



**27%**

Reduction in client escalations



*Adopting RDash has significantly streamlined our project management. The system is user-friendly, and the training sessions have been extremely helpful, allowing our team to quickly adapt and utilize its full capabilities. This has eliminated confusion and enhanced our efficiency and coherence. It's great to see our projects progressing more smoothly and quickly overall.*



Vishal Shah

Founder, HPV Elevate

# Note for the Readers

As you step forward into the world of construction, you'll encounter professionals who have become accustomed to the industry's challenges. They have adapted and found ways to work around these problems. It's essential to learn from their experiences, but also to bring your fresh perspective and open-mindedness to the table. This combination can help you unlock the potential of what is referred to as the 'golden journey' - seven key stages that encompass the life of a construction project : Recce, Design, BOQ, Order, Work Progress, Snags/Audits, and Finance.

Each of these steps are interconnected, and success in one area often depends on success in the others. Understanding these steps, the associated pain points and remedies is crucial to successfully steering your professional career in Construction and Design-Build companies. This fundamental understanding of the construction process can set you apart as a Next Gen Project Professional.

# 300+ Business Now Use R'DASH To Manage Their Construction Projects

INTERIOR/DESIGN & BUILD 180+

DEVELOPERS/  
CONTRACTORS 80+

MANAGED  
OFFICES 30+

CORPORATES 20+



DEVELOPERS/  
CONTRACTORS 80+



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OFFICES 30+



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