Introduction

01

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- The goal was to implement FAST II - an integrated MRP solution for All Auto's remote Uttar Pradesh factory.
- The secondary objective is to develop a customer/vendor portal to improve external partner engagement.

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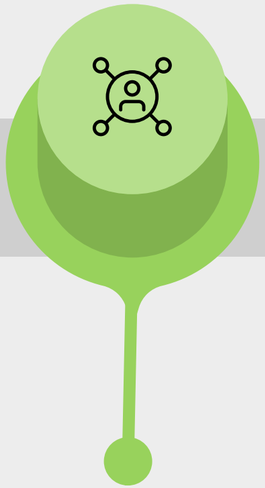
Problems with the Previous Plan:

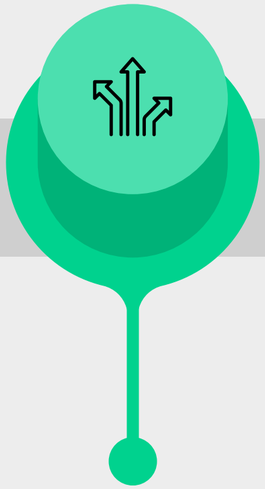
- Delays: Frequent user indecision delayed requirement finalization and signoffs, pushing design and coding milestones.
- Resource & Productivity Issues: Late hiring, poor training, low productivity, and underuse of reusable components slowed development. A hardware crash caused a week's loss.
- Quality Concerns: Major rework was needed due to defective components and weak development practices. QA processes were inconsistent.
- Budget & Timeline Overruns: Cost escalations and missed deadlines strained the client relationship, especially with delays in critical modules like Purchase and Stores.
- Heavy Senior Management Involvement: Frequent AVP intervention revealed gaps in planning, execution, and leadership capacity.

Assumptions



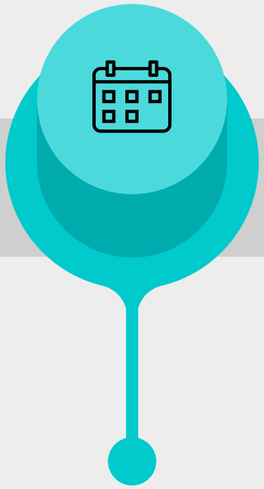
Agile Development (Scrum)

Iterative sprints with regular reviews and feedback to handle evolving requirements and avoid scope creep.



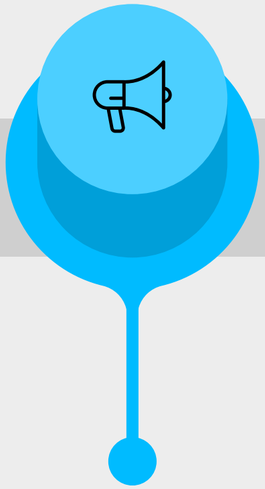
Strengthened Technical Leadership

- A Senior JSP Architect joins from Day 1 for reusable component design and code quality.
- Existing expert (e.g., Sandeep) to mentor and manage complex coding.



Dedicated PL for Critical Modules

New Project Leader will oversee Purchase & Stores modules, easing load on Gurudas and ensuring timely delivery.

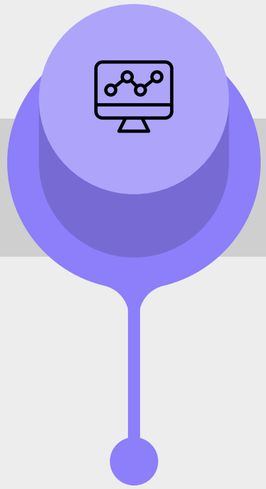


Early Infrastructure Readiness

All hardware and office setups (to support 13 team members) will be completed before coding starts - distributed between South and Suburban Mumbai as needed.

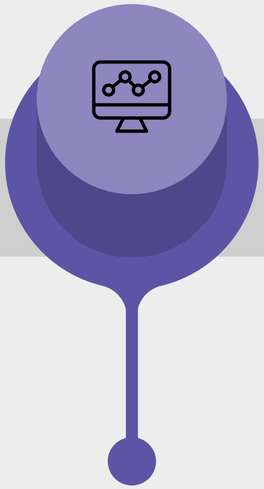
Active User Participation

A formal user liaison from All Auto ensures timely sprint participation, testing, and approvals



Defined Scope & Productivity:

The scope is fixed at 1057 Function Points. With our optimized plan, we will target a productivity that allows us to complete the project in a reduced timeline.



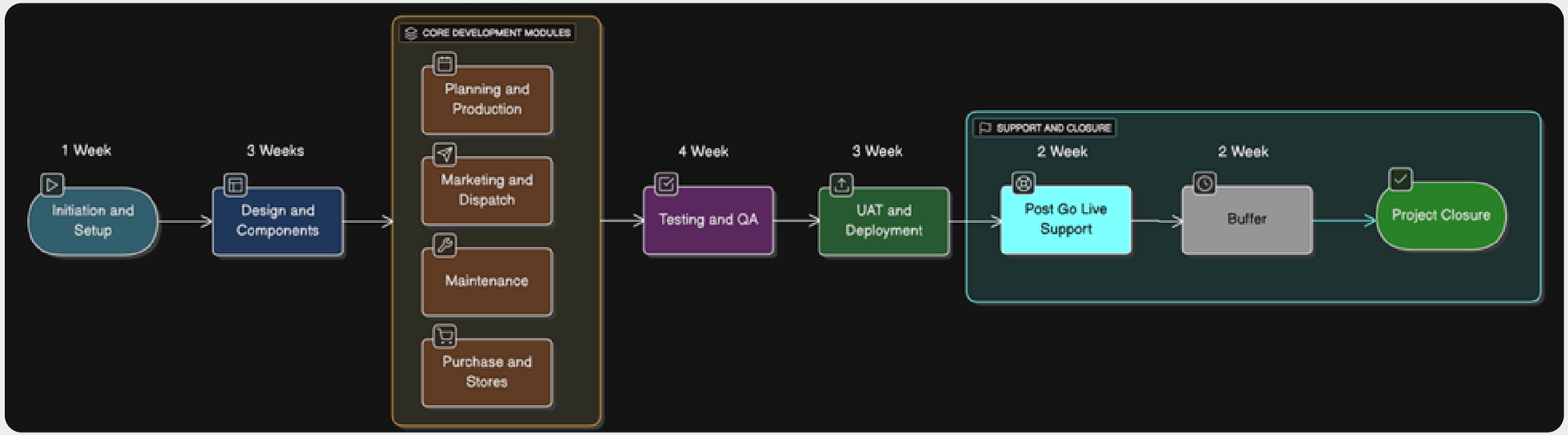
Optimized Timeline:

By **leveraging AI** and streamlining our processes, we aim for a core module delivery and UAT by early October 2024, which is ahead of the previous October-end target including the buffer.

Project Planning & Network Analysis

A-O-N Network & Critical Path:

Our plan uses an Activity-on-Node (A-O-N) network to map task dependencies and identify the Critical Path.
The longest path of dependent tasks, with zero float, determines the project's minimum duration of 23 weeks(without AI). This ensures a focused effort to meet the client's aggressive timeline.



Float Analysis:

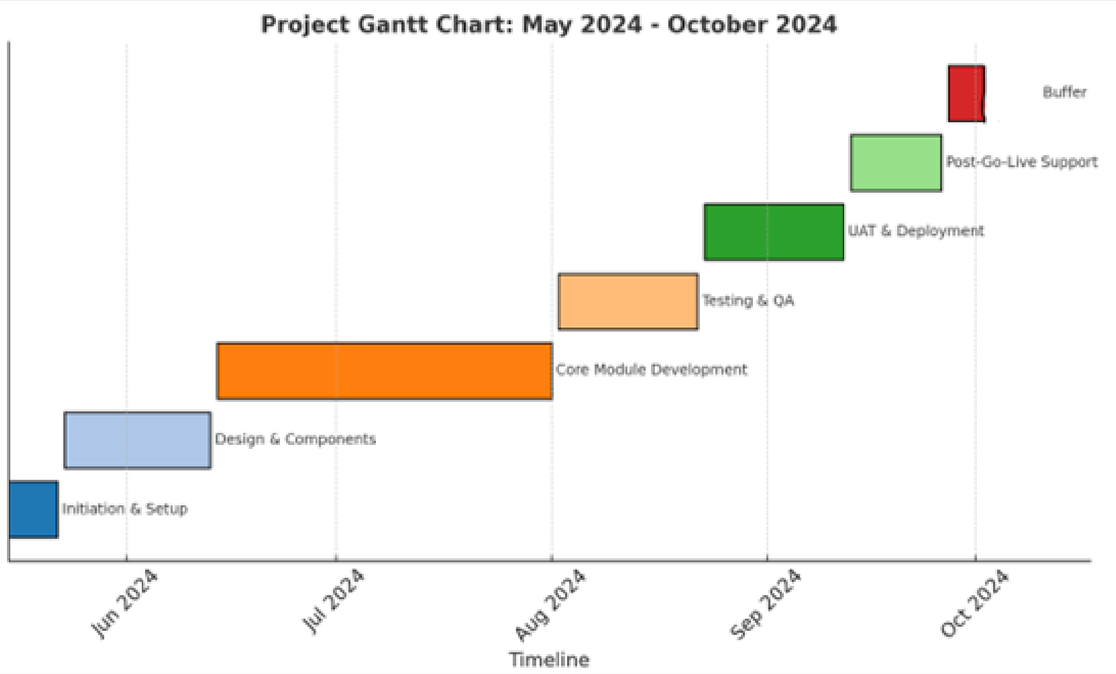
We will analyze float (schedule flexibility) for all activities to understand which tasks can be delayed without impacting the project deadline. This allows for flexible resource allocation and smoothing.

Probabilistic Estimation (PERT):

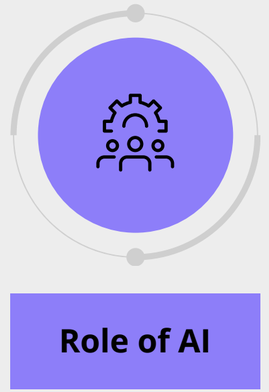
For **high-risk tasks**, especially those related to the new portal (e.g., UI/UX design, security implementation), we will use PERT to achieve a realistic timeline by considering optimistic, most likely, and pessimistic estimates.

Work Breakdown Structure & Project Timeline (Optimized)

Total Project Duration: The total project duration, including the buffer for knowledge management, lessons learned, and client sign-off, is 20 weeks, with an estimated end date of October 3, 2024



- **Initiation & Setup:** 1 week (May 15 – May 22)
- **Design & Components:** 3 weeks (May 23 – June 13)
- **Core Module Development:** 6 weeks (June 14 – July 25)
- **Testing & QA:** 3 weeks (July 26 – August 15)
- **UAT & Deployment:** 3 weeks (August 16 – September 5)
- **Post-Go-Live Support:** 2 weeks (September 6 – September 19)
- **Buffer:** 2 weeks (September 20 – October 3)



Role of AI

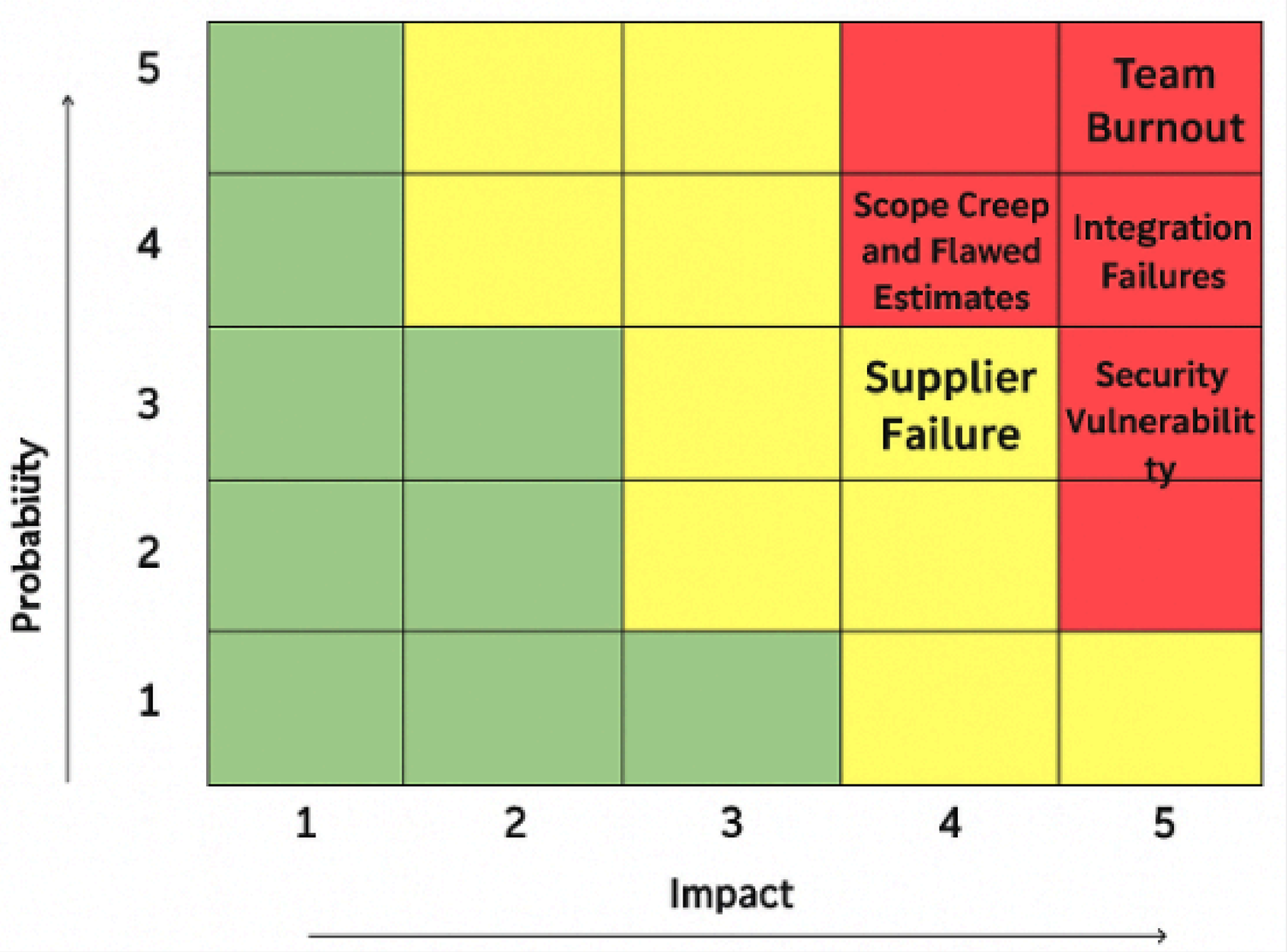
- **AI in Development (8 to 6):** We will integrate intelligent code assistants that automate common code blocks and perform automated code reviews. This reduces the time spent on manual coding and rework, directly improving the team's productivity.

- **AI in Testing & QA (4 to 3):** We will use AI to analyse bug reports and automatically assign them to the dedicated tester with the most relevant expertise. This reduces the time spent on bug triage and organisation, streamlining the testing process.

Estimated Monthly Resource Allocation (for 5 Months)

Subcategory/Role	Number of Resources	Total PMs (over 5 months)	Resource Monthly Cost (Rs.)	Total Salary Cost (Rs.)
Project Manager	1	5	100,000	500,000
Project Leaders	3	15	80,000	1,200,000
JSP Architect	1	5	100,000	500,000
Sr. Dev / JSP Expert	1	5	40,000	200,000
Developers	2	10	30,000	300,000
MCA Trainees	4	20	20,000	400,000
QA Tester	1	5	30,000	150,000
Total Human Resources	**13**	**65**	**---**	**3,250,000**

Comprehensive Risk Management



Comprehensive Risk Management

Mitigation Plan		Contingency Plan
• Proactively monitor team morale via regular 1-on-1s. • Actively protect the team's time from excessive overtime and implement small, milestone-based rewards.	**Team Burnout**	• Initiate immediate knowledge transfer. Halt and re-plan the current sprint, authorize an emergency hiring process, and accept a significant schedule delay.
• Mandatory peer code reviews for all MRP interactions. • Use a dedicated "Integration Sandbox" for testing. • Develop an automated regression test suite for the core MRP system.	**Integration & Regression Failures**	• Immediately halt Go-Live and form a "Red Alert Triage Team". Activate the 2-week project buffer for the fix and re-testing.
• Conduct a formal re-estimation workshop early in the project using real velocity data. • Enforce a strict change control process where every new request must be estimated and traded against existing scope or budget/timeline.	**Flawed Estimates & Uncontrolled Scope**	• Trigger a formal project renegotiation and present the client with a "cost of change" report to illustrate the impact of their requests.
• Conduct a formal re-estimation workshop early in the project using real velocity data. • Enforce a strict change control process where every new request must be estimated and traded against existing scope or budget/timeline.	**Security Vulnerability**	• Immediately take the portal offline and activate the Incident Response Team. • Utilize the management reserve fund for emergency costs.
• Actively monitor supplier status updates. • Conduct thorough due diligence before selection and require a strong Service Level Agreement (SLA) in the contract.	**Supplier Failure**	• Execute an emergency migration to a pre-identified backup provider.

Quality Management & Metrics

Quality Planning & Assurance:

We will define specific quality standards and implement mandatory code reviews led by the JSP Architect. We will also use static analysis tools to prevent defects early in the development cycle. This directly addresses the Quality Concerns from the previous plan.

Comprehensive Testing Strategy:

Our plan goes beyond basic QA to ensure high quality for all components, especially the new portal. We will implement:

- **Unit Testing:** To ensure reusable components (beans) are defect-free from the start.
- **Security & Performance Testing:** Crucial for the external-facing portal.
- **Automated Regression Testing:** To ensure new code doesn't break existing functionality.

Key Performance Indicators (KPIs):

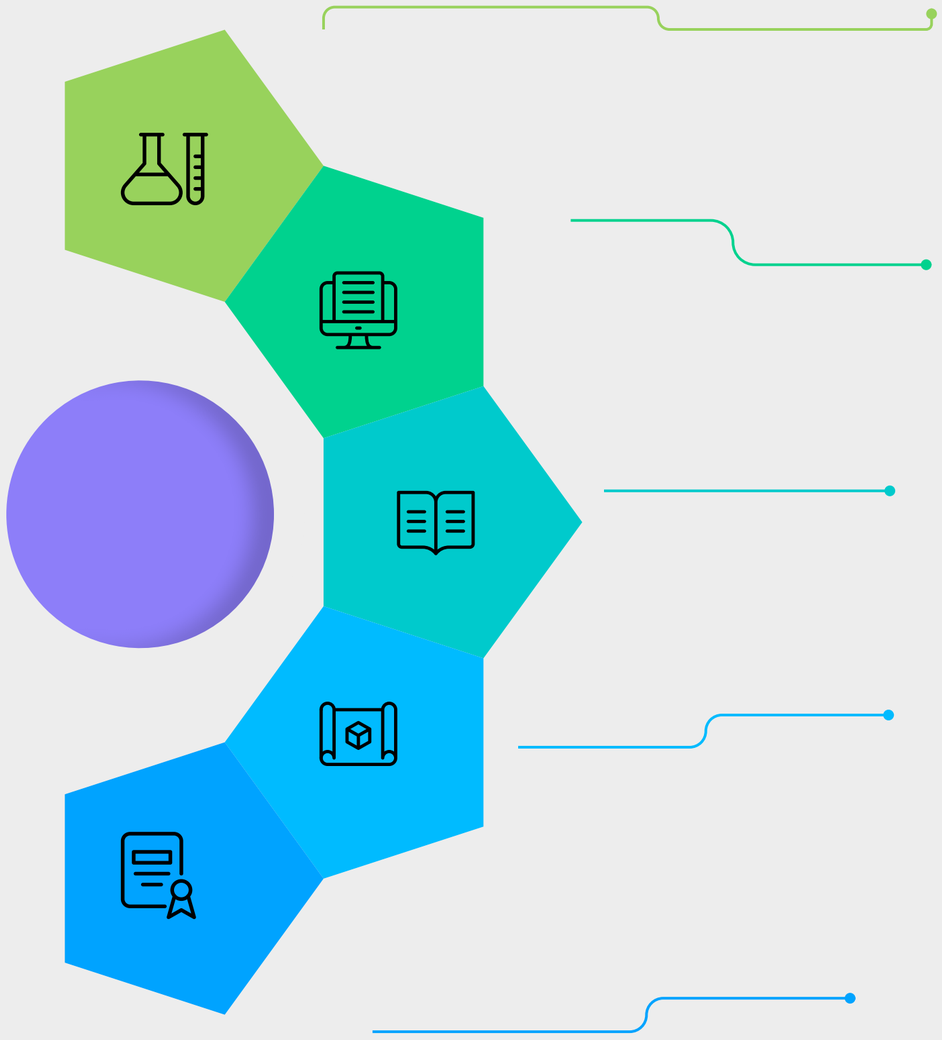
We will track a comprehensive set of KPIs to ensure we meet our goals and deliver a high-quality product.

- **Productivity**: The original plan targeted 0.7 FP/PD. We will track this weekly to ensure we stay on course. As of September 30, 2018, the project's actual productivity was **0.75** FP/PD (34 man-months of work completed with 45.5 man-months of actual effort).

- **Progress:** We can also use this data to calculate the **Schedule Performance Index (SPI):**
  - ***Calculation:*** (Work Completed in man-months / Work Planned in man-months) = (34 / 75.5) = **0.45**. An SPI of 0.45 means the project is performing at only **45% of the planned schedule efficiency**, indicating significant delays. This helps us communicate project status to stakeholders and take corrective actions.

- **Quality:** We must also measure Defect Density and Defect Resolution Time to know the spread of bugs across code or developers and the time to resolve them respectively.

Project Monitoring & Control with EVM



EVM Adoption:

We will adopt Earned Value Management (EVM) to provide an objective, integrated view of project performance against the baseline. This addresses the lack of a formal mechanism to track project health, which was a major weakness in the original plan.

Key Metrics:

For each reporting period, we will calculate:
Planned Value (PV): The budgeted cost of work scheduled.
Earned Value (EV): The budgeted cost of work actually completed.
Actual Cost (AC): The actual cost incurred.

Real-time Performance Analysis (as of Sep 30, 2018):

Actual Cost (AC): The project has expended 45.5 man-months of effort.
Earned Value (EV): Only 34 man-months of work have been completed.
Planned Value (PV): Based on a total planned effort of 75.5 man-months over an original 6-month period, the planned effort by Sep 30 (4.5 months) should have been 56.6 man-months (75.5 / 6 * 4.5).

Performance Indices:

Schedule Performance Index (SPI): EV / PV = 34 / 56.6 = 0.60. An SPI of 0.60 means the project is performing at 60% of the planned schedule efficiency, indicating significant delays.
Cost Performance Index (CPI): EV / AC = 34 / 45.5 = 0.75. A CPI of 0.75 means the project is getting only 75% of the value for every rupee spent, confirming the "budget strain" mentioned in the case study.

Forecasting & Corrective Actions:

Estimate at Completion (EAC): We can use the CPI to forecast the final cost. With a total Budget at Completion (BAC) of ₹5,381,200, the new EAC is: BAC / CPI = 5,381,200 / 0.75 = ₹7,174,933.
This data will inform timely corrective actions and allows us to objectively show the client that the project will require more time and money to complete.

Project Governance, Team & Closure

Project Governance, Team & Closure

- We will formalize a Project Steering Committee involving key internal and external stakeholders (e.g., **SSB**, the **Project Manager**, and **key All Auto Ltd. stakeholders**). This committee will provide strategic oversight, resolve escalated issues, and approve major changes, preventing the need for Heavy Senior Management Involvement that plagued the original plan.
- A **formal Communication Plan** will define who communicates what to whom, when, and how, ensuring all stakeholders, including the new portal users, are aligned and informed.

Formal Project Closure & Knowledge Management:

- Our plan includes a formal Project Closure phase after Go-Live to ensure all project documentation is archived, financial accounts are reconciled, and formal client sign-off is obtained
- A mandatory Lessons Learned session will be conducted to document successes and failures. This knowledge will be shared across EXP Comsys to improve future projects, ensuring that the company learns from this experience

Fostering Team Effectiveness:

- We will apply principles of team development (e.g., Tuckman's Model) to guide the team and foster a high-performing environment.
- Project Leaders will be formally empowered to mentor junior team members, and this will be a key performance indicator (KPI). This addresses the PL Resistance to Training MCAs and improves team cohesion and skill development.
- We will focus on providing clear vision, autonomy, and regular feedback to increase motivation and address productivity issues.

Profit and Loss Statement (Revised)

Category	Details	Amount (₹)
Project Revenue	Fixed Price Contract	**10,000,000**
Project Costs		
Human Resources Costs	PM, PLs, JSP Architect, Sr. Dev,	**3,250,000**
Infrastructure Costs	Machine Costs (15 machines x ₹2,000 x 5	**150,000**
Other Direct Costs	Travel & Communication,	**907,000**
Base Total	**(HR + Infra + Other)**	**4,307,000**
Contingency (18%)	**(0.18 x Base)**	**775,260**
Total Project Costs	**(Base + Contingency)**	**5,082,260**
Project Profit	**(Revenue - Total Costs)**	**4,917,740**

Key Point:

By **leveraging AI tools**, we have **reduced the project timeline to 5 months,** which significantly lowered our Human Resources costs. The project's **profit has increased to ₹4,917,740**, a more defensible and realistic projection while increasing the **contingency budget from 10 to 18%**, that reflects the strategic investment in efficiency and risk mitigation.

Reasoning:

This P&L statement has been revised to reflect the strategic changes in the project plan.

- The **Human Resources Costs** are reduced based on the shorter 5-month timeline.
- The **Other Direct Costs** are adjusted to include the strategic investment in AI tools based on industry benchmarks.
- The **Contingency** is calculated at a more realistic 18% of the new, lower base cost, aligning with best practices for a fixed-price contract with a troubled history.
- The combined effect of reduced project duration and strategic investment results in a higher final Project Profit, proving the financial viability of our revised plan.

THANK YOU!