Role of Key Performance Indicators (KPI's) in Project Management

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Abstract: *A project has many moving parts and it is critical that you measure the timeliness, budget, Quality and effectiveness of the Project along the way. There is need to execute these projects effectively with a limited budget. There are Key Performance Indicators (KPIs) i.e Planned Value, Actual Cost, Earned Value, Cost variance, Scheduled variance, Scheduled Performance Index, Cost Performance Index, Return on Investment. Every Project Manager can't afford to miss.To frame actionable project Key Performance Indicators (KPIs) that help to improve your team's performance. The following list of frequently used project KPIs and think how you could apply these metrics to track your own team's performance.*

Key Words: *Key Performance Indicators: Budget: Planned Value: Cost variance*

1. PLANNED VALUE (PV) PROJECT KPI
This metric is also referred to as Budgeted Cost of Work Scheduled (BCWS).The planned value is the estimated cost for your project activities planned/scheduled as of reporting date. Compare the Planned Value with other project KPIs to see whether you're running ahead of schedule or have already spent a bigger slice of your budget than scheduled to date.

- PV can be calculated by these two formulas:
- Planned value = (the hours left scheduled on the project) X (project worker's hourly rate)
- Planned Value = (Planned % of tasks left to complete) X (project budget)

For example, if you have a one-year project with a total planned budget of 10 ,00,000, the Planned Value after 9 months (if you're on schedule, you've completed 75% of the project activities and you've got 25% to go) is 25% of 10,00,000 which makes 2,50,000. Meaning that the project planned value at this point of the project is 2, 50,000.

If you've actually spent more to date, it means that your Actual Cost has been higher than the Planned Value.

2. ACTUAL COST (AC) PROJECT KPI
The Actual Cost KPI is also referred to as Actual Cost of Work Performed (ACWP).It indicates how much money you have spent on a project as to date. There's no formula for calculating the project's actual cost, you just have to add up all the project-related expenses you've used to date.

A project budget is calculated considering all the hours planned for the project, so use the time spent on tasks to calculate the Actual Cost spent on salaries, resources etc.

3. EARNED VALUE (EV) PROJECT KPI
This KPI is also referred to as Budgeted Cost of Work Performed (BCWP).This project KPI shows the approved budget for all the performed project activities by a specified date. It shows how much-planned work you have actually accomplished and what the budget for these accomplishments is.When managing multiple projects, it's best to create multiple KPI dashboards. For example one for each extensive project, one that summarizes all projects' performance and a team dashboard to keep everyone updated.Now that we're done with the

basics, let's move on to more complex project KPIs that give us a complete overview of the project and business performance and are a must-have on your project tracking dashboard.If you're still looking for a perfect tool for your project team, learn about the essential features of the best project management software.

4. RETURN ON INVESTMENT (ROI)

Project's ROI reflects on its profitability and shows whether the benefits of the project exceed its cost.Not all projects are destined to have a positive ROI in the first place. Sometimes, the ROI should be considered long-term as some projects take more time to grow profits.ROI metrics on the project KPI dashboard should be derived from measurable components like the project's Actual Cost and Earned Value.

5. COST VARIANCE (CV) (PLANNED BUDGET VS ACTUAL BUDGET)

Project's cost variance reflects the project expenses.It indicates whether the estimated cost of your project is below or above the planned baseline. To calculate the Cost Variance, compare the Planned Budget to Actual budget at a given time.When measuring the Cost Variance, you can easily notice whether you're beyond or above your approved budget.

6. COST PERFORMANCE INDEX (CPI)

This project KPI helps you approximate how much time you're behind or ahead of the approved project schedule. CPI is the ratio of the planned budget to what you've actually spent to accomplish these tasks.As The Cost Performance Index suggests the relative value of work done, it can be seen as the indicator of the project's cost efficiency.

7. COST OF MANAGING PROCESSES

Add this metric to your project dashboard to get an overview of time and resources spent on supervising and managing the project.If the cost of managing processes seems too high, it might indicate that your project manager's doing an inefficient job.On the other hand, if the management costs are too low, it means that your teamwork may be poorly organized. It's normal for the team to spend time on project meetings, making sure that everyone's on the same page.You can ease the project manager's workload by using automated invoicing and time billing software, saving hours every week.

8. PLANNED HOURS OF WORK VS ACTUAL SITUATION

Overseeing this project metric indicates how many working hours were planned for the project processes compared to the actual time spent. You can apply this metric to different time periods and compare multiple project phases. If the actual amount of hours spent highly exceeds the scheduled time, it's time to re-estimate the time scheduled for the project.To organize your projects and finish everything on time, consider using work scheduling and project planning software.

9. OVERDUE PROJECT TASKS / CROSSED DEADLINES

Add this metric to your project tracking dashboard to get an overview of how many project activities are overdue. This KPI is a calculated percentage of projects with crossed deadlines compared to all the completed project activities.If you have a high percentage of overdue tasks, it's time to think through the project schedule and bring in some new contributors.

10. SCHEDULE VARIANCE (SV)

Schedule Variance shows how much ahead or behind of planned budget (and scheduled work), your project is running.It can be calculated by subtracting the project's Planned Value of its Earned Value.In other words, you take the time and budget that you initially planned to spend up to date and subtract it from the actual budget spent to date. If the sum is negative, it means that you have managed to achieve more than planned and have a bigger budget left to spend on remaining tasks.

11. SCHEDULE PERFORMANCE INDEX (SPI)

This project management KPI will tell you whether you're ahead or behind the planned project schedule.It's similar to many previous KPIs, except that the value of this metric is always close to number one.To calculate Schedule Performance Index,

divide the project's Earned Value (EV) with the Planned Value (PV). If this metric is less than one, it indicates that the project is potentially behind schedule. If the SPI is greater than one, it indicates that the project is running ahead of schedule.

- Schedule Performance Index = (Earned Value) / (Planned Value)

12. MISSED MILESTONES

Similar to the number of missed deadlines, this KPI is widely used in project dashboards. It indicates whether you've overestimated your capacities and are running behind schedule or you're doing just fine, never missing a milestone.It's okay to miss a couple of milestones during a long-term project process, but if it's becoming a rule instead of the exception, it may be a sign that you need to review the whole project process.

13. PERCENTAGE OF TASKS COMPLETED

To get a really quick overview of your project's performance, create a KPI indicating the percentage of completed tasks. Enter the planned time for each project activity so that the KPI won't reflect the number of various-size tasks but the time spent. You'll get more accurate reporting and understand what phase your project actually stands.

14. RESOURCE UTILIZATION

While the majority of previously listed project management KPIs indicates how your project currently performs, resource utilization enables a quick glance at your team's work.Resource utilization measures how the time of team members is used while working on the project.It implies how much time people are working on billable activities compared to the time spent on non-billable tasks.This metric is specifically important when working with multiple customers, for example, various agencies need to watch this KPI. You'll notice how many hours are spent on meetings and scheduling instead of actually working on the billable project activities.

15. PERCENTAGE OF PROJECTS COMPLETED ON TIME

If you're frequently handling multiple projects, this KPI is a must-have on your project management dashboard.This project KPI indicates the number of projects completed on time compared to crossed deadlines.If you're not able to keep this percentage over 80%, it might be time to hire some new team members or accept fewer projects from customers.

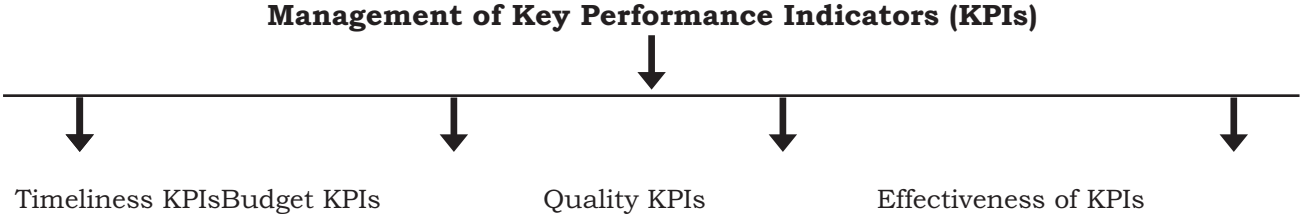
16. PERCENTAGE OF CANCELLED PROJECTS

Similarly to the previous project performance indicator, it's widely used by agencies that frequently take up new projects. But the number of cancelled projects also reflects on a company's capability to plan ahead. Foreseeing whether a project is going to be profitable and the team sufficiently qualified to achieve all the project goals.Perceive the percentage of cancelled projects as a reflection on the sustainability of your business decisions.Trying to take on fewer projects that are doomed to fail or simply cancelled because they're not imperative to your company's goals.

Management of Key Performance Indicators (KPIs)

To improve the performance of the project the management of KPIs is more important. The following lists show how to manage Key Performance Indicators (KPIs).

1. Cycle Time: The time needed to complete



a certain task or activity. This is helpful for repeated tasks in a project.

2. On-Time Completion Percentage: Whether or not an assignment or task is completed by a given deadline.

3. Time Spent: The amount of time that is spent on the project by all team members—or, if you like, by each team member individually.

4. Number of Adjustments tothe Schedule: How many times your team has made adjustments to the completion date of the project as a whole.

5. FTE Days vs. Calendar Days: How much time your team is spending on a project by calendar days, hours, and/or full-time equivalent work days.

II. Budget KPIs

1. Budget Variance: How much the actual budget varies from the projected budget? To track this KPI, measure how close the baseline amount of expenses or revenue is to the expected value.

2. Budget Creation (Or Revision) Cycle Time: The time needed to formulate an organization's budget. This includes the total duration of research, planning, and coming to a final agreement.

3. Line Items in Budget: Line items helps owners and managers keep track of individual expenditures—and provide a more detailed way to see how the budget was spent.

4. Number of Budget Iterations: The number of budget versions produced before its final approval. A higher number of budget iterations means more time is being spent planning and finalizing a budget.

III. Quality KPIs

1. Customer Satisfaction/Loyalty: Whether or not someone is satisfied and would come back again. This can be measured effectively by a survey. This comes more into play when the project deals directly with a client or customer.

2. Number of Errors: How often things need to be done during the project. This is the number of times you have to do and rework something, which affects budget revisions and calendar revisions as well.

3. Customer Complaints: Keep in mind that the "customer" of a project could be someone internal—does someone from your organization complain because someone else isn't getting things done?

IV. Effectiveness KPIs

1. Number Of Project Milestones Completed On Time With Sign Off: There are different parts within a project—are they being completed in a timely manner? Additionally, were the milestones completed and approved by the owner or buyer?

2. Number of Returns: If you have a capital project that requires many parts, you may track the return rate of those parts; this helps you see if you did a good job planning or adjusting to the project during implementation.

3. Training/Research Needed For Project: You may track this in hours, number of courses, or something similar. If you need to do a lot of this, your project might get started later than you hope. Another way of looking at this is asking, "What percent of resources did you have at the beginning of the project that was qualified to immediately begin working on the project?"

17. CONCLUSION

There is Key Performance Indicators (KPIs) i.e. Planned Value, Actual Cost, Earned Value, Cost variance, Scheduled variance, Scheduled Performance Index, Cost Performance Index, Return on Investment. Every Project Manager can't afford to miss. Management of Key Performance Indicators is vital to any project.

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