

Applied Leadership and Management in the Workplace

Module Assignment Submission

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PROBLEM SOLVING

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1. Introduction - Defining a workplace problem, the scope and impact

In a demanding environment of a construction company, the availability of adequate resources is crucial for maintaining high levels of productivity, morale, and efficiency. However, our organization is currently facing a significant challenge in this area, with a notable inadequacy in resources leading to a substantial 40% decline in these critical performance indicators. This problem has manifested in delays, increased stress among workers, and a general decline in the quality of work, all of which are detrimental to both project outcomes and employee well-being. This assignment will explore the underlying causes of the resource shortfall, its impact on the company's operations, and potential strategies to mitigate these issues and restore optimal performance levels. (Goleman, D., 1998)

1a. The scope and impact of the problem

Inadequate resources within a construction company can have a wide-reaching scope, affecting multiple facets of the organization's operations. This issue encompasses:

1. **Manpower:** Insufficient staffing levels, lack of skilled workers, and high turnover rates create significant gaps in the workforce, leading to delays in project completion and increased workloads for remaining employees.
2. **Equipment:** Outdated, insufficient, or poorly maintained equipment can hinder productivity and increase the risk of breakdowns, leading to further delays and cost overruns.
3. **Materials:** Shortages or poor-quality materials disrupt the construction process, forcing work stoppages or the use of inferior substitutes, which can compromise the quality and safety of the projects.
4. **Financial Resources:** Limited financial resources restrict the company's ability to invest in necessary tools, materials, and personnel, exacerbating the cycle of inefficiency and reducing competitiveness in the market. (Dewar, C., Keller, S., & Malhotra, V., 2018)

Impact of the Problem

The impact of inadequate resources on the construction company is profound, leading to a substantial 40% loss in productivity, morale, and efficiency. These impacts manifest in several critical areas:

1. **Productivity Decline:**
 - **Delays in Project Completion:** With insufficient manpower and equipment, projects take longer to complete, leading to missed deadlines and potential penalties from clients.
 - **Reduced Output:** The company's ability to complete tasks on time and to the required standard is severely compromised, leading to a significant reduction in overall output.
2. **Lowered Morale:**
 - **Employee Burnout:** Overworked staff due to understaffing experience increased stress, leading to burnout, higher absenteeism, and a potential increase in turnover.
 - **Job Dissatisfaction:** Employees frustrated by the lack of resources may feel undervalued and disengaged, further reducing their motivation and productivity.
3. **Decreased Efficiency:**
 - **Increased Errors and Rework:** Resource constraints can lead to mistakes, which require rework and further drain resources, compounding the problem.
 - **Inefficient Use of Time:** Time that should be spent on productive work is instead wasted on finding workarounds for resource shortages, slowing down overall project progress.

4. Client and Stakeholder Impact:

- **Client Dissatisfaction:** Delays and quality issues due to resource inadequacies lead to client dissatisfaction, damaging the company's reputation and risking future business opportunities.
- **Financial Losses:** The cumulative effect of reduced productivity, increased errors, and delayed projects results in financial losses, affecting the company's profitability and long-term sustainability.

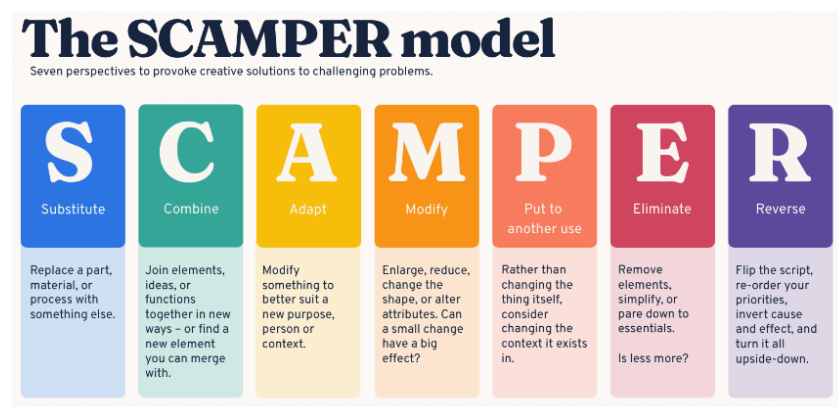
5. Safety Concerns:

- **Compromised Safety Standards:** Inadequate resources, especially in materials and equipment, can lead to cutting corners, which may compromise safety standards and increase the risk of accidents on-site.

The scope of the problem of inadequate resources within a construction company is broad, affecting manpower, equipment, materials, and finances. The impact is equally significant, leading to a 40% loss in productivity, morale, and efficiency, which threatens the company's ability to function effectively. Understanding these dimensions is crucial for developing targeted solutions to mitigate the issue and restore the organization's performance and competitiveness.

1b. Analysing the problem to help decision making solutions

Brain Storming Methods used to analyse problems and resolve issues:



The SCAMPER Technique (McLaughlin, 2015) is a team brainstorming technique used to develop or improve products or services.

Using this model I have found these solutions:

Substitute

Consider substituting existing resources with alternative ones that may be more readily available or cost-effective. If a specific material is in short supply, the company could explore using a substitute material that meets the same specifications but is more accessible. Alternatively, outsourcing certain tasks to external contractors can help manage workload during peak times.

Combine

Combining resources, processes, or tasks to maximize efficiency and reduce the strain on limited resources. The company might combine teams working on similar tasks to pool their resources and

expertise, enhancing overall productivity. Another approach could be combining different roles or responsibilities to optimize labor utilization.

Adapt

Adapt existing processes or resources to better fit the current needs of the company. Adapting to use smaller, more agile teams that can move between projects based on resource availability can ensure continuous workflow. Additionally, the company could adapt its project timelines and expectations to better align with current resource constraints.

Modify

Modify aspects of the work process, resources, or project scope to improve efficiency and reduce resource dependency. Modifying the project planning process to include more detailed resource allocation can help prevent shortages. Modifying equipment to be more versatile can also allow it to be used across different tasks, reducing the need for multiple specialized tools.

Put to Another Use

Consider how existing resources or processes could be repurposed to address the problem. The company could repurpose underutilized resources or tools for other projects or tasks. For example, equipment normally used for one specific purpose might be adapted for use in another area, thus maximizing resource use.

Eliminate

Eliminate unnecessary tasks, processes, or resources that do not add value or contribute to inefficiencies. Streamlining processes by eliminating redundant steps can free up resources for more critical tasks. For example, eliminating manual processes that can be automated will reduce the workload on staff and improve efficiency.

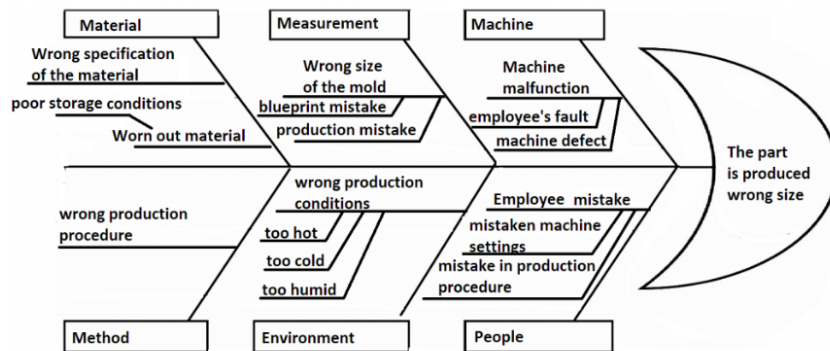
Reverse

Reverse or rearrange the order of processes or the way resources are allocated to identify new opportunities. Reversing the sequence of construction tasks might reveal more efficient workflows that reduce the dependency on scarce resources. Similarly, revisiting how resources are allocated at the beginning of a project might uncover more effective distribution strategies.

By applying the SCAMPER model, the construction company can systematically explore a range of creative solutions to the problem of inadequate resources. This approach encourages out-of-the-box thinking and can lead to innovative ways to improve resource utilization, enhance productivity, boost morale, and restore efficiency. Whether it's through substitution, combination, adaptation, modification, repurposing, elimination, or reversal, SCAMPER provides a structured framework for generating practical and actionable ideas to address complex workplace challenges.

Another method analysing cause and effect techniques such as Ishikawa (Fishbone) analysis to identify possible causes of the problem

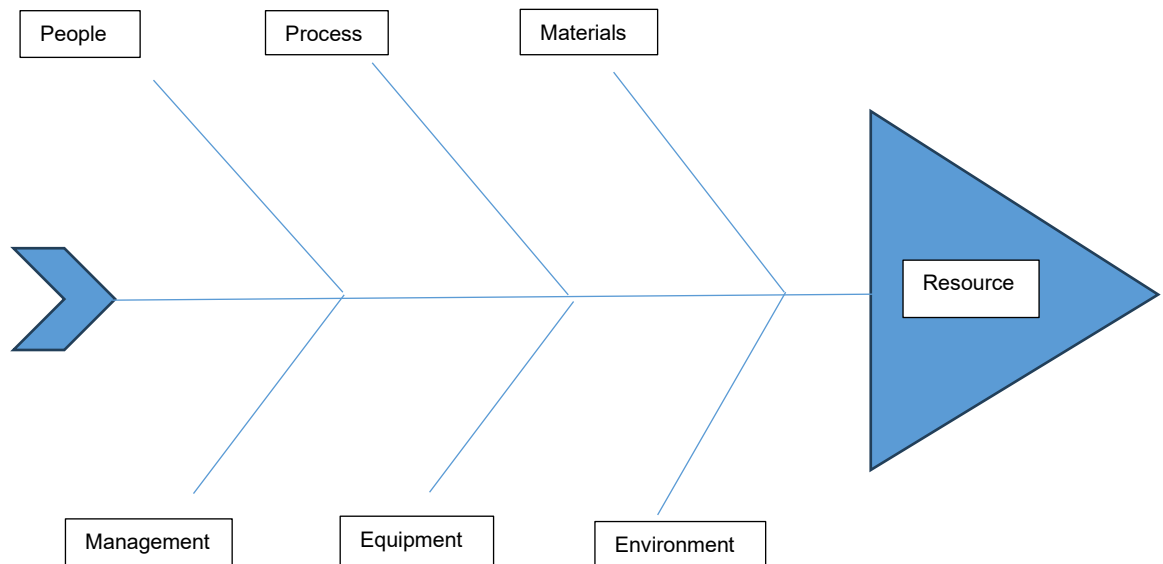
Fishbone Diagram



(S.Creighton, 2022)

The Ishikawa or Fishbone diagram is a powerful cause-and-effect analysis tool used to identify the root causes of a problem by categorizing potential sources of issues. In the context of a construction company facing inadequate resources, leading to a 40% loss in productivity, morale, and efficiency, the Fishbone diagram helps to systematically explore the contributing factors across different categories.

Below my Fishbone analysis



People

- **Understaffing:** Not enough skilled workers to meet project demands.
- **Lack of Training:** Workers may not be fully trained, leading to inefficiency and errors.
- **High Turnover:** Frequent turnover can disrupt workflow and lead to resource shortages.
- **Low Morale:** Stress and dissatisfaction among employees reduce productivity.

Process

- **Inefficient Workflow:** Poorly designed processes cause delays and inefficient use of resources.
- **Poor Resource Allocation:** Resources may not be distributed effectively across projects.
- **Lack of Planning:** Inadequate project planning can lead to unexpected shortages and delays.
- **Bottlenecks:** Specific stages of the process may be causing delays due to resource limitations.

3. Materials

- **Supply Chain Issues:** Delays or disruptions in the supply chain lead to material shortages.
- **Poor Quality Materials:** Low-quality materials may require rework, consuming more resources.
- **Over-Reliance on Specific Suppliers:** Limited supplier options increase vulnerability to shortages.
- **Storage Issues:** Improper storage or handling of materials could lead to wastage.

4. Equipment

- **Outdated Equipment:** Older equipment may be inefficient or prone to breakdowns, leading to delays.
- **Insufficient Equipment:** Not enough machinery or tools to meet the demands of ongoing projects.
- **Maintenance Issues:** Lack of regular maintenance causes equipment failures.
- **Inadequate Training on Equipment:** Workers not fully trained on using equipment, leading to inefficiency.

5. Environment

- **External Factors:** Weather conditions or other environmental factors may disrupt work and resource availability.
- **Regulatory Compliance:** Unexpected regulatory changes can limit the availability or use of certain resources.
- **Market Conditions:** Economic downturns or price fluctuations can limit the availability of materials or funding.
- **Safety Concerns:** Safety issues might slow down work or require additional resources to address.

6. Management

- **Poor Decision-Making:** Ineffective management decisions can lead to resource misallocation.
- **Budget Constraints:** Limited budget for acquiring necessary resources, leading to compromises.
- **Lack of Communication:** Poor communication between management and teams can lead to unaddressed resource needs.
- **Ineffective Leadership:** Leadership may not be adequately addressing resource challenges, leading to ongoing inefficiencies.
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2. Proposition of alternative solution

Based on the identified scope and impact of inadequate resources within the construction company, here are several solutions that could help address the problem, taking into consideration the available resources: (Kahneman, D., Lovallo, D., & Sibony, O, 2011)

Optimize Resource Allocation

- **Description:** Implement a more strategic approach to resource allocation across projects to ensure that available resources are used where they are most needed.
- **Solution Details:**
 - **Project Prioritization:** Prioritize projects based on deadlines, profitability, and resource availability. Allocate the most critical resources to high-priority projects to avoid bottlenecks.
 - **Resource Management Tools:** Utilize project management software to track resource usage in real-time and adjust allocations dynamically based on project needs and progress.
- **Description:** Address manpower issues by optimizing staffing levels, improving training, and reducing turnover.
- **Solution Details:**
 - **Flexible Staffing:** Implement flexible staffing solutions, such as hiring temporary or contract workers during peak periods, to ensure that projects are adequately staffed.
 - **Cross-Training:** Provide cross-training opportunities to current employees so they can handle multiple roles, increasing flexibility and reducing the impact of understaffing.
 - **Employee Retention Programs:** Introduce retention programs, such as employee recognition, career development opportunities, and better work-life balance options, to reduce turnover and maintain a stable workforce.

Enhance Equipment Utilization and Maintenance

- **Description:** Improve the availability and efficiency of equipment by optimizing its use and ensuring regular maintenance.
- **Solution Details:**
 - **Equipment Sharing:** Implement a system for sharing equipment between projects to maximize usage. Schedule equipment based on project timelines to minimize downtime.
 - **Preventive Maintenance:** Establish a preventive maintenance schedule to reduce the likelihood of equipment breakdowns, ensuring that machinery is always ready for use.
 - **Leasing Options:** Consider leasing additional equipment during peak periods instead of purchasing, which can be a more cost-effective way to meet temporary increases in demand.

Implement Better Financial Planning and Budget Management

- **Description:** Address financial constraints by improving budget management and exploring alternative financing options.
- **Solution Details:**

- **Cost Control Measures:** Review project budgets regularly to identify cost overruns early and implement corrective measures. This may involve renegotiating contracts, reducing unnecessary expenditures, or reallocating funds.
- **Phased Project Funding:** Break down large projects into smaller phases to manage costs more effectively and secure funding incrementally, which can ease financial strain.
- **Alternative Financing:** Explore alternative financing options, such as loans, grants, or partnerships, to ensure adequate capital is available for resource acquisition.

Foster Stronger Communication and Collaboration

- **Description:** Improve communication and collaboration within teams and between departments to ensure better resource management and problem-solving.
- **Solution Details:**
 - **Regular Coordination Meetings:** Hold regular meetings between project managers, procurement teams, and department heads to ensure everyone is aligned on resource needs and availability.
 - **Transparent Reporting:** Implement transparent reporting systems where resource usage, availability, and project progress are regularly shared across teams to identify issues early.
 - **Collaboration Tools:** Utilize collaboration tools that allow real-time sharing of information and resources, making it easier to coordinate efforts across multiple projects and teams.

By implementing these solutions, the construction company can address the root causes of inadequate resources and mitigate their impact on productivity, morale, and efficiency. These strategies leverage available resources more effectively and introduce new practices to prevent future resource shortages. Ultimately, these measures will help the company restore its operational effectiveness and maintain competitiveness in the market.

3.Decision making techniques to identify appropriate options & Detailed plan to implement the solution

Below I have used a Decision Matrix to compare options against criteria to help me identify the best solution (M. H., & Moore, D. A., 2012)

Solution	Cost (3)	Ease of Implementation (2)	Impact on Productivity (4)	Impact on Morale (5)	Long-Term Sustainability (3)	Total Weighted Score
A - Optimize Resource Allocation	3 x 3 = 9	4 x 2 = 8	5 x 4 = 20	5 x 5 = 25	4 x 3 = 12	74
B - Improve Workforce Management	2 x 3 = 6	3 x 2 = 6	4 x 4 = 16	4 x 5 = 20	3 x 3 = 9	57
C - Enhance Equipment Utilization and Maintenance	3 x 3 = 9	2 x 3 = 6	3 x 4 = 12	3 x 5 = 15	2 x 3 = 6	48
D - Foster Stronger Communication & Collaboration	5 x 3 = 15	5 x 2 = 10	4 x 4 = 16	4 x 5 = 20	4 x 3 = 12	73

Results

Solution A - Optimize Resource Allocation has the highest score of 74 followed closely by solution D - Foster Stronger Communication & Collaboration.

Based on these results solution A would be most beneficial and the best option to have an impact. Using a Decision Matrix in your decision-making process provides a structured, objective, and transparent way to evaluate and prioritize solutions. (Association for Project Management, 2019)

4. Communicating plan to relevant stakeholders

In a construction company addressing inadequate resources, the stakeholders would include individuals or groups who are directly or indirectly impacted by the problem and the implementation of the proposed solutions. Here's an outline of the key stakeholders and how to effectively communicate the plan to each group.

Key Stakeholders

Stakeholder Group	Role	Communication Needs	Communication Method
Senior Management	Decision-makers who approve budgets, allocate resources, and set strategic priorities.	High-level overview of the plan, its strategic alignment with company goals, cost implications, expected outcomes, and timelines/milestones.	Executive summary reports, presentation meetings, and periodic updates via email or in-person briefings.
Project Managers	Oversee the implementation of the solutions, manage teams, and ensure tasks are completed on time and within budget.	Detailed project timelines, task assignments, resource allocation, and progress tracking.	Regular project meetings, detailed Gantt charts, project management software updates, and status reports.
HR Department	Responsible for workforce management, including staffing, training, and employee retention programs.	Information on workforce management initiatives, training schedules, and staff development plans.	Coordination meetings, training workshops, detailed action plans, and email communication.
Finance Department	Oversee budget management, financial planning, and funding allocation.	Cost estimates, budget allocation plans, phased funding schedules, and financial performance reports.	Budget reports, financial meetings, periodic financial reviews, and email communication.

Suppliers and Contractors	Provide materials, equipment, and services necessary for the construction projects.	Clear expectations regarding supply schedules, contract terms, and bulk purchasing agreements.	Contract negotiations, supply chain meetings, formal agreements, and ongoing communication via email and phone.
Employees and Site Workers	Execute the construction tasks, use the equipment, and implement the new processes.	Clear instructions, training on new tools and processes, and regular updates on changes that affect their work.	Training sessions, tool-box talks, instructional manuals, notice boards, and team meetings.
Clients	End beneficiaries of the construction projects, interested in timely and quality completion.	Assurance of project timelines, quality control, and transparency on any changes.	Regular progress updates, meetings, and formal project reports.

(Thomke, S., & Manzi, J., 2017)

(Zwikaël, O., & Globerson, S., 2006)

5. Assess appropriate monitoring to ensure successful implementation

Gantt Chart

Project Timeline and Key Milestones

- **Project Start Date:** Week 1
- **Project End Date:** Week 16 (4 months total)

Tasks and Timeline

Task/Activity	Duration	Start Date	End Date	Dependencies
1. Optimize Resource Allocation				
1.1 Identify high-priority projects	1 week	Week 1	Week 2	None
1.2 Implement resource management tools	3 weeks	Week 2	Week 5	1.1
1.3 Train staff on new tools	2 weeks	Week 5	Week 7	1.2
1.4 Monitor and adjust resource allocation	Ongoing	Week 7	Week 16	1.3

| **2. Improve Workforce Management** | | | | | 2.1 Assess current staffing needs | 2 weeks | Week 1 | Week 3 | None | | 2.2 Develop cross-training programs | 2 weeks | Week 3 | Week 5 | 2.1 | | 2.3 Implement flexible staffing options | 2 weeks | Week 5 | Week 7 | 2.1 | | 2.4 Launch retention and development programs | 2 weeks | Week 7 | Week 9 | 2.1 | | 2.5 Monitor workforce performance | Ongoing | Week 9 | Week 16 | 2.4 |

| **3. Enhance Equipment Utilization & Maintenance** | | | | | 3.1 Review current equipment usage | 1 week | Week 1 | Week 2 | None | | 3.2 Develop equipment sharing schedule | 2 weeks | Week 2 | Week 4 | 3.1 | | 3.3 Implement preventive maintenance schedule | 2 weeks | Week 4 | Week 6 | 3.2 | | 3.4 Explore and implement leasing options | 3 weeks | Week 6 | Week 9 | 3.1 | | 3.5 Ongoing equipment monitoring | Ongoing | Week 9 | Week 16 | 3.3, 3.4 |

| **4. Foster Stronger Communication and Collaboration** | | | | | 4.1 Identify and evaluate additional suppliers | 2 weeks | Week 1 | Week 3 | None | | 4.2 Negotiate bulk purchasing agreements | 2 weeks | Week 3 | Week 5 | 4.1 | | 4.3 Implement just-in-time inventory system | 3 weeks | Week 5 | Week 8 | 4.2 | | 4.4 Monitor and adjust supply chain processes | Ongoing | Week 8 | Week 16 | 4.3 |

| **Weeks 1-4:** Focus on initial assessments, planning, and setting up foundational elements like resource management tools, supplier relationships, staffing, and communication channels.

- **Weeks 4-8:** Implementation of core strategies including equipment maintenance, financial planning, and process efficiency improvements.
- **Weeks 8-16:** Monitoring, adjusting, and continuous improvement across all areas, ensuring that each solution is effectively contributing to increased productivity, morale, and efficiency.

A Gantt chart is an essential tool for managing complex projects. It helps in planning, executing, and monitoring tasks, ensuring that projects stay on track, resources are used efficiently, and deadlines are met. For a construction company dealing with resource inadequacies, a Gantt chart will be invaluable in coordinating efforts, avoiding delays, and successfully implementing solutions to improve productivity, morale, and efficiency.

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