Operationalized Problem Solving Blueprint

WHITE PAPER BY TALAL SABIH

Problems to Solutions Introduction

Most if not all businesses strive for increased efficiency, reduced costs, maintaining high employee morale and customer satisfaction, promote innovation culture, stay ahead of competition, growing revenue and profit, capitalize on presented opportunities, and stay compliant with regulations and contractual obligations. However, these goals are often hindered by poor problem-solving skills across the organizations' levels.

Take for example, General Motors; once a market leader, struggled with inefficiencies due to slow and bureaucratic decision-making processes, which they did not identify as an issue to fix, led to a failure in addressing the market changes and inefficient allocation of resources, that led, among other reasons, to a financial meltdown in 2009.

Another example is Xerox; a pioneer in photocopying technology, failed to effectively manage its innovation processes and missed growth opportunities. Despite having an innovative R&D division, they struggled with inefficiency in converting research into marketable products leading to a decline in market relevance, something others were able to leverage, such as Apple and Microsoft.

Such cases and many others highlights the importance of problem-solving frameworks, like Six Sigma DMAIC, Design Thinking, which offers structured methodologies for diagnosing issues, generating solutions, and ensuring that efforts are systematic, data-driven, and result-oriented.

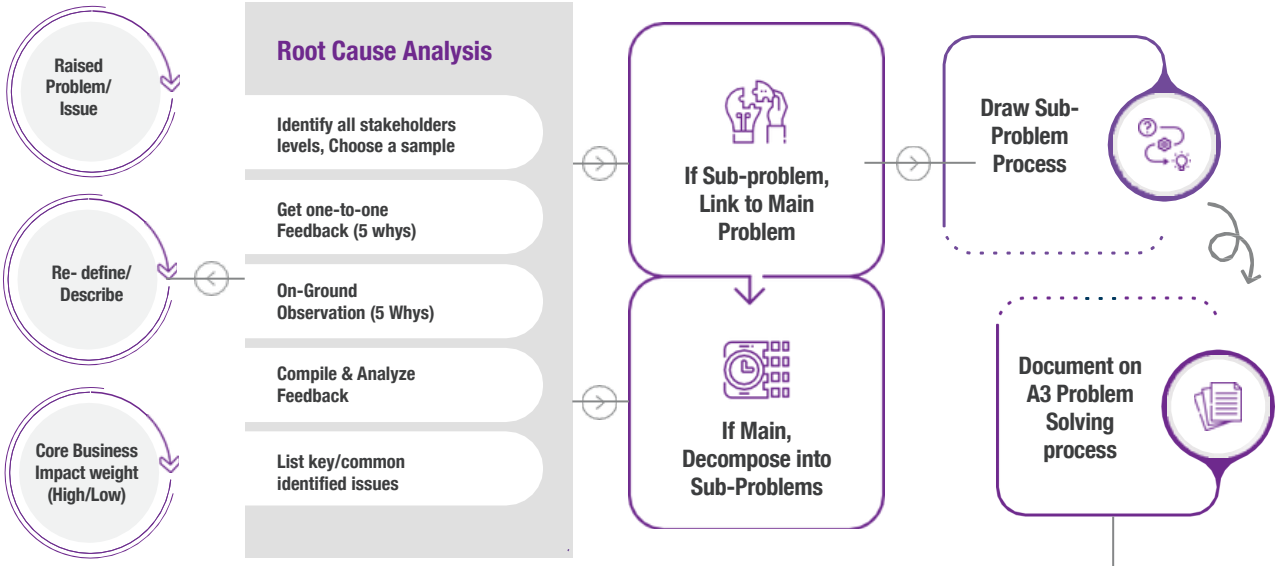
Moreover, without conscious thinking that is emphasizing deliberate, reflective, and strategic thinking over automatic responses has proved to be crucial to successful problem-solving.

It involves challenging assumptions, considering multiple perspectives, and being aware of biases and emotional influences, leading to more innovative and effective solutions.

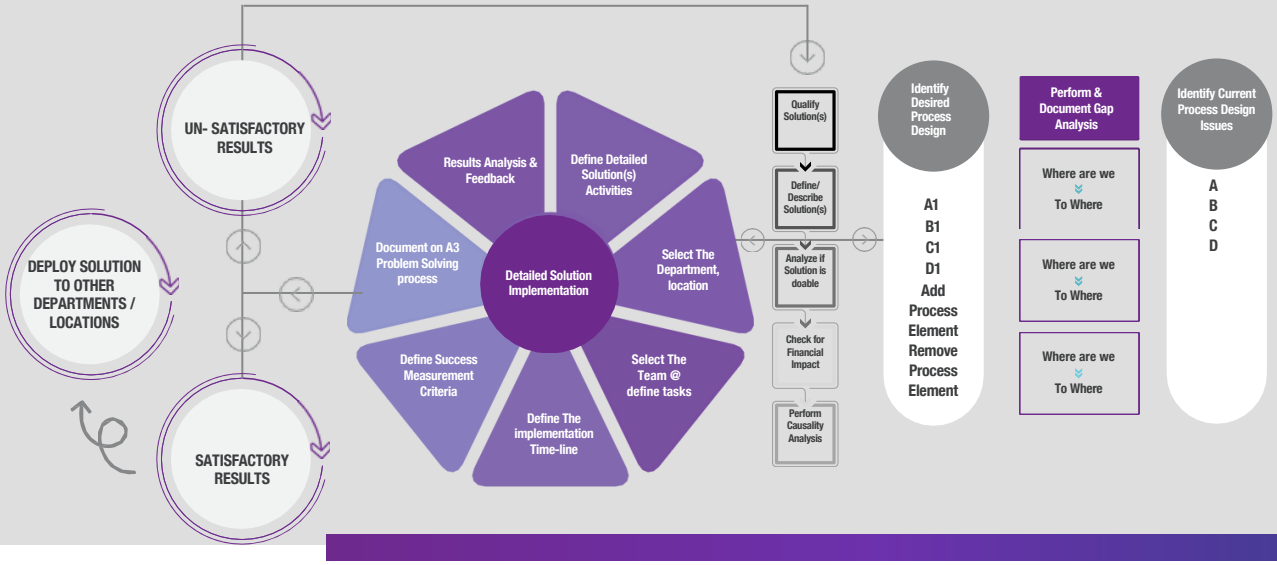
This document outlines a simplified, structured blueprint integrating problem-solving frameworks with mindful thinking to help professionals tackle challenges more effectively, ensuring solutions are innovative, sustainable, and impactful.

Operationalized Problems Solving Blueprint

Problem Analysis Process



Solution's Process



This problem-solving blueprint is a structured, step- by-step guide designed to systematically address and resolve complex issues. It serves as a comprehensive, yet simplified, framework that outlines the essential phases of problem-solving, from problem identification to the implementation of solutions. Typically, this blueprint includes key stages such as:

Problem Definition: Clearly articulating the problem, its scope, and its impact.

Root Cause Analysis: Investigating and identifying the underlying causes of the problem.

Solution Ideation: Brainstorming and generating potential solutions, considering various perspectives and alternatives.

Evaluation and Selection: Assessing the feasibility, risks, and benefits of each proposed solution, then selecting the most appropriate one.

Implementation Planning: Developing a detailed plan to execute the chosen solution, including timelines, resources, and responsibilities.

Execution and Monitoring: Putting the solution into action and continuously monitoring its effectiveness, making adjustments as needed.

Review and Reflection: Analyzing the outcomes, learning from the process, , documenting insights for future reference.

The problem-solving blueprint is designed to be adaptable across different fields and scenarios, ensuring a methodical approach that enhances decision-making, minimizes risks, and leads to sustainable solutions.

Problem Analysis Process

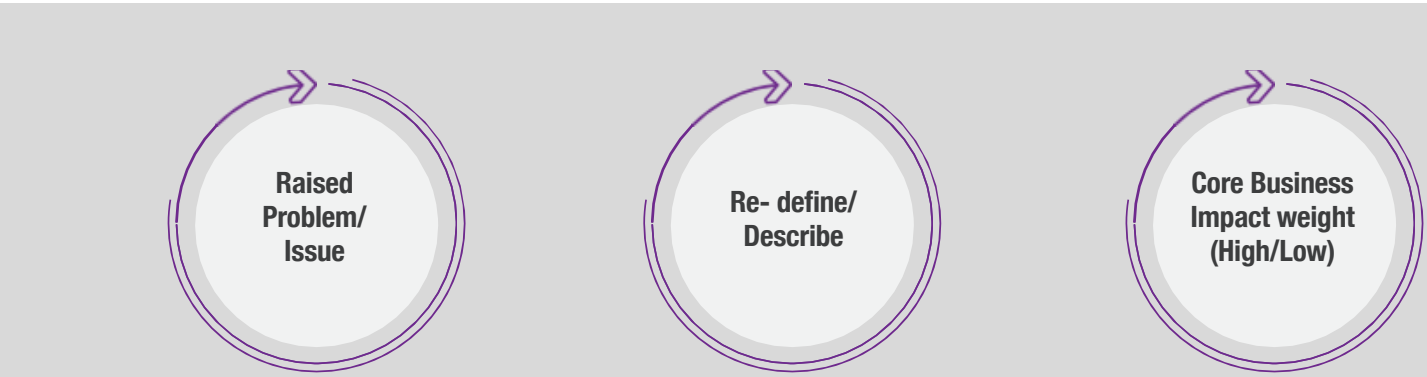
Problem analysis is an essential process in both operational and strategic contexts, particularly within business environments. It involves systematically identifying, understanding, and breaking down a problem to uncover its root causes, rather than merely addressing symptoms.

This process starts with a clear definition of the problem, considering the broader business processes and systems in which it occurs. By examining how various business functions— such as finance, operations, marketing, and human resources—interact and contribute to the issue, problem analysis ensures a holistic understanding.

A key aspect of this process is to dissect the problem into smaller, more manageable components, analyzing each in detail. This often involves tools like process mapping, cause-and-effect diagrams, and data analysis to pinpoint inefficiencies or breakdowns in business processes. By thoroughly understanding these elements, problem-solvers can identify the critical factors that need to be addressed to resolve the issue effectively.

The insights gained through problem analysis are crucial for informing strategic decision-making and guiding the development of targeted, sustainable solutions that align with overall business objectives.

Defining the Problem, Impact & Priority



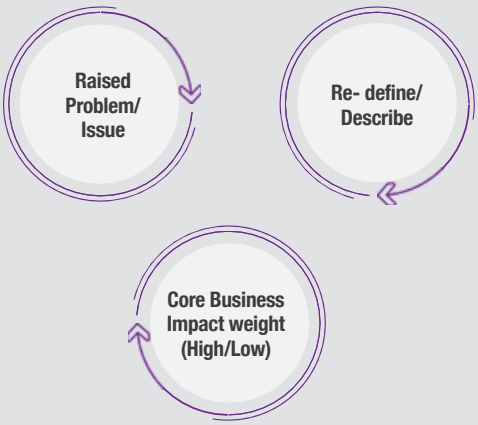
In navigating the myriad challenges and opportunities that arise daily, from insights shared by our team, colleagues, management, customers, or ourselves, it is essential to adopt a structured approach that is built on a disciplined process that addresses these issues and mitigating the risks of leaving a trail of unresolved tasks that can ultimately erode morale and productivity.

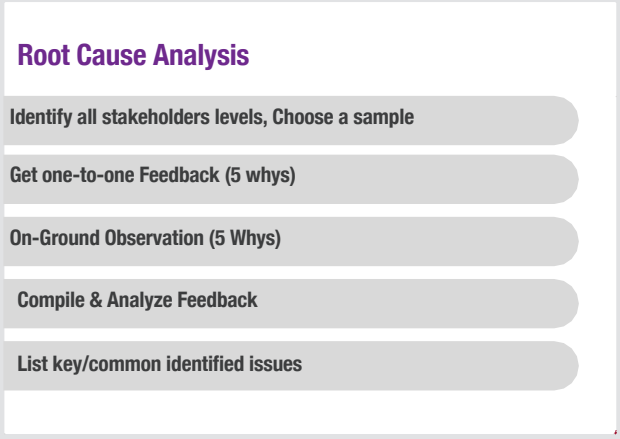
The initial step involves accurately interpreting, defining and re-defining the problem in a clear, concise, and objective manner. This ensures the focus remains squarely on the issue at hand, avoiding any preconceived solutions.

Next, it is crucial to assess the impact of these challenges on our core business functions, determining their significance and potential ramifications.

By organizing these issues and opportunities within a prioritization framework, complete with defined weights and mutual agreement within the stakeholders, allows us to address them methodically and effectively. This structured approach not only enhances efficiency but also fosters a proactive stance in in tackling organizational challenges.

Root Cause Analysis





The initial step in addressing a problem or opportunity is to identify the primary stakeholders who are influencing, experiencing, causing, or struggling with the issue. This involves considering various entities such as locations, divisions, sub-divisions, managers, employees, and relevant contractors.

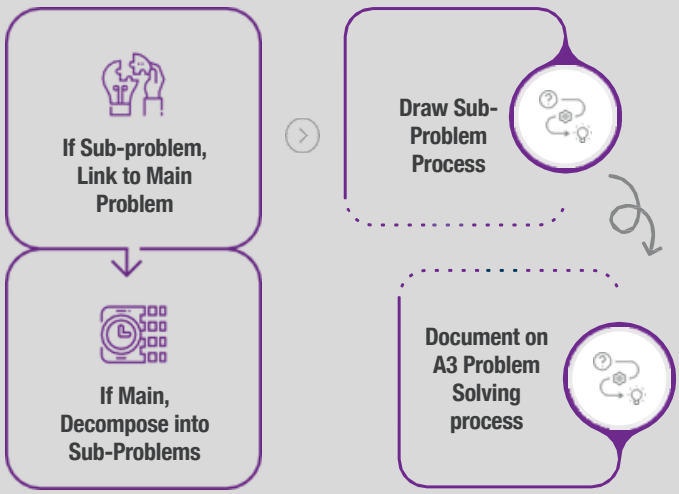
Once identified, a representative sample of these stakeholders should be selected for interviews. These interviews are crucial in obtaining direct one-on-
one feedback using the "5 Whys" methodology. This technique delves deep into understanding the root causes behind the issues by repeatedly asking "why" until the underlying reasons are uncovered.

In addition to interviews, close observation of the situation is essential. This allows for firsthand insight into how events unfold, validating and supplementing the information gathered through interviews. This approach not only helps in confirming the details provided by stakeholders but also uncovers nuances that may not have been apparent during interviews alone.

Following interviews and observations, we need to compile the gathered information to identify common causes and key insights. This compilation forms the basis for understanding the core issues driving the problem or opportunity.

It's important to note that the findings from these activities may lead to a reassessment of the initial problem definition or description. As new insights emerge, they may alter the understanding of the problem, necessitating adjustments to ensure a more accurate and comprehensive approach to addressing it. This iterative process ensures that the solutions developed are rooted in a thorough understanding of the underlying issues and stakeholder perspectives.

Problem Processes Clarity



Identified problems can be categorized into two distinct groups: main problems and sub- problems. For instance, consider the overarching issue of low profitability.

When dealing with a high-level problem like low profitability as an example, it's essential to break it down by examining the
contributing various operational processes. Each component must undergo thorough analysis and solution development to address its specific impact on profitability effectively.

Conversely, when addressing sub-problems such as project delays, it's crucial to establish a clear link back to the main issue of low profitability. This ensures that efforts to resolve sub-problems remain aligned with the broader objective of improving overall profitability.

Illustrating the processes associated with the identified problems with clarity is vital for a comprehensive understanding and effective investigation of solutions. The ability to visually map out these processes not only enhances understanding but also facilitates the development of targeted solutions. As the saying goes, "If you can't draw it, you don't fully understand it; and if you don't fully understand it, you can't properly solve it."

Furthermore, documenting findings is crucial for subsequent solution development and ensuring everyone involved shares a unified understanding of the issues at hand. Adopting a structured approach like the "A3 Problem Solving process" can be particularly effective in documenting and systematically addressing these findings.

Solution's Process

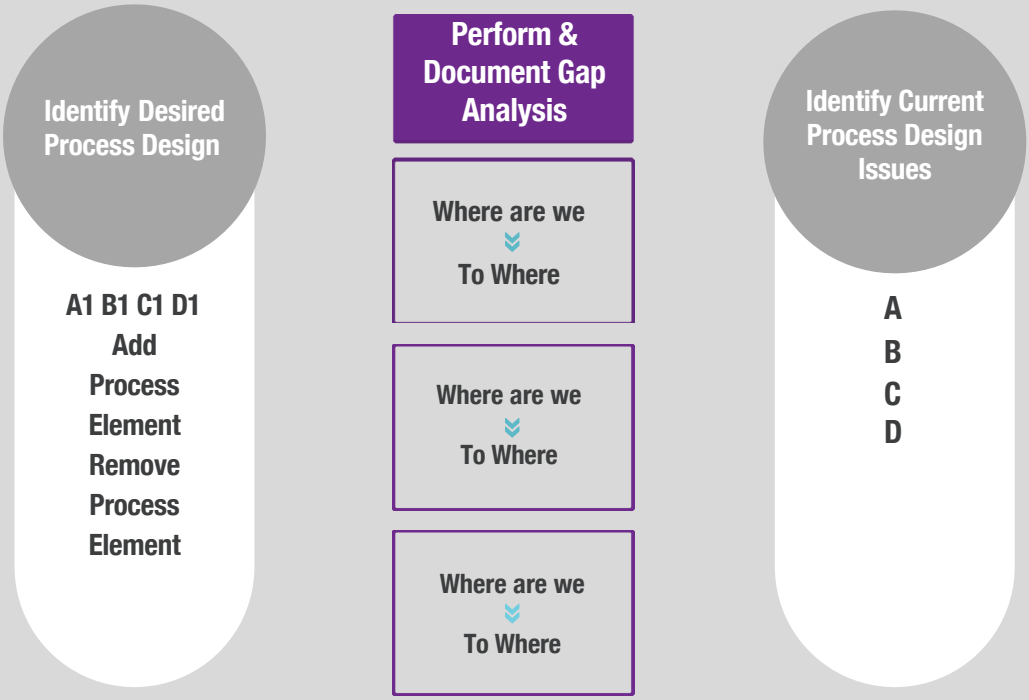
The solutioning approach is a structured method for developing and implementing solutions to complex business challenges, integrating both creative thinking and strategic planning.

Within a business context, this approach begins by building on a thorough understanding of the problem, which is informed by a detailed analysis of relevant business processes and systems. The goal is to move beyond simply identifying issues to generating a range of potential solutions that address the root causes within the context of the organization's operations.

Creativity and innovation are crucial in this phase, as it involves brainstorming ideas that may include process improvements, technology integration, or changes in business strategy. Once a variety of potential solutions are identified, each is evaluated against key business criteria such as feasibility, cost-effectiveness, alignment with corporate goals, and potential impact on existing processes. This evaluation may involve tools like risk assessment, process modeling, and scenario analysis to ensure that the chosen solution is practical and sustainable.

The final stage of the solutioning approach involves careful implementation, where business processes are adjusted or redesigned to integrate the solution seamlessly. This phase requires detailed planning, including defining action steps, assigning responsibilities, setting timelines, and establishing performance metrics to track success. Continuous monitoring and the ability to adapt are essential, allowing for real-time adjustments as the solution is deployed. This approach ensures that solutions are not only effective in addressing immediate challenges but also contribute to the long-term efficiency and success of the business.

Current Vs Desired Processes Design & Gap Analysis



Based on the documented current sub-problem processes, the next step involves outlining the desired processes that can effectively address our identified issues:

Amending of Processes: Identify which existing processes need amendments to resolve specific issues. This could involve refining workflows, revising procedures, or adjusting operational protocols. For instance, if project delays contribute to low profitability, the project management process might need amendments to streamline timelines and resource allocation.

Removal and Replacement of Processes: Determine if there are processes that need complete removal and replacement. Sometimes, outdated or inefficient processes may need to be replaced with more effective ones. For example, if an outdated inventory management system is causing delays and increased costs, replacing it with a more advanced system could be necessary.

Introduction of New Processes or Elements: Identify areas where new processes or elements need to be introduced to address gaps. This might involve introducing entirely new workflows or incorporating new technologies or methodologies. For instance, implementing a lean manufacturing process could be introduced to improve efficiency and reduce waste.

It's important to note that process changes extend beyond documentation and may require system upgrades and skill development among personnel. Therefore, conducting a thorough Gap Analysis for each desired change is crucial. This analysis helps in understanding the current state compared to the desired future state, identifying gaps in processes, systems, and skills that need to be addressed to successfully implement the changes.

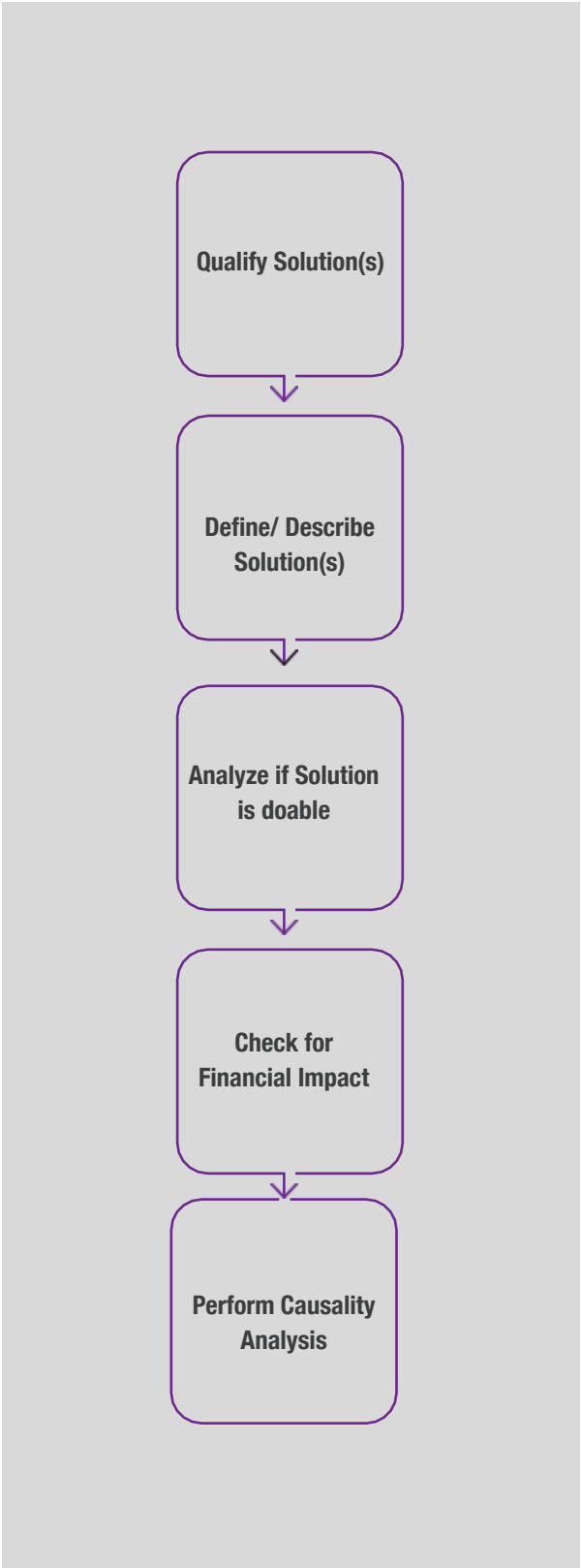
By systematically addressing which processes require amendments, replacements, or introductions, and by performing comprehensive Gap Analyses, organizations can effectively implement targeted improvements to tackle underlying issues such as low profitability. This approach ensures that changes are not only well-planned but also aligned with strategic objectives and capable of delivering sustainable results.

QUALIFYING THE SOLUTION

After depicting the desired state of the solution, it is crucial to proceed with thorough qualification before execution. This involves several critical steps to ensure the solution is well-defined and feasible:

1. **Clear Description of the Solution:** Provide a detailed description of the proposed solution and articulate what specific issues it aims to resolve. This clarity helps in ensuring that all aspects of the problem have been addressed and potential oversights are minimized.
2. **Feedback Gathering:** Conduct one-on-one or group discussions and possibly surveys to gather feedback on the proposed changes. This step is essential for identifying any overlooked issues or concerns that stakeholders may raise. It ensures that the solution is robust and well-understood across the organization.
3. **Analysis of Implementation Feasibility:** Assess whether the introduced changes can be implemented as depicted or if modifications are necessary. This evaluation considers practical constraints, resource availability, and organizational readiness to adopt the changes effectively.
4. **Cost Analysis:** Understand the costs associated with each introduced change, such as implementing a new ERP system or investing in skills development. This financial assessment ensures that budgetary considerations are aligned with the expected benefits of the solution.
5. **Causality Analysis:** Perform causality analysis to anticipate potential reactions to the proposed changes. This step involves considering various perspectives, time spans, and potential impacts of the solution. By conducting thorough data analysis and scientific predictions , organizations can prepare for and mitigate any adverse effects that may arise from the changes.

Each of these steps contributes to a comprehensive qualification process that enhances the likelihood of successful implementation and sustainable outcomes. By addressing these aspects diligently, organizations can navigate changes effectively, minimize risks, and achieve positive stabilization of operations and outcomes.



Detailed Solution Implementation

01 Define Detailed Solutions & Activities

Clearly setting the objectives and goals of each required activity and associating it with the problems in hand is an essential part of provide a direction for everyone to follow.

This should be followed by a detailed plan of the decomposed solution's activities that are mapped to defined personas for proper team selection.

02 Selecting the Department and Location

Selecting the Department

Choosing the appropriate department is the first step in the solutioning process. This decision should be based on the nature of the problem, the department's expertise and resources and the department's ability to implement and sustain the solution.

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03 Select the Team and Define Tasks

Selecting the Team

A well-rounded team is essential for successful implementation. Team selection should focus on the diverse skill sets relevant to the problem, representation from all relevant departments and individuals with a track record of effective problem-solving and collaboration.

Assigning Tasks

Once the team is selected, clearly define the tasks and responsibilities. This can be done through the task breakdown structure (TBS) to outline all necessary activities, assigning roles based on expertise and availability (defined earlier as personas) and setting clear expectations and deadlines for each task.

04 Define the Implementation Timeline

A detailed timeline ensures that the project stays on track. Key steps includes identifying all major milestones, , estimating the duration of each task, creating a Gantt chart or similar tool to visualize the timeline and regularly updating the timeline based on progress and unforeseen challenges.

05 Selecting the Department and Location

Success measurement criteria are essential to evaluate the effectiveness of the solution. These criteria should be Specific, Measurable, Achievable, Relevant, and Time-bound (SMART), aligned with organizational goals and objectives and regularly monitored and adjusted as needed.

Examples of Success Criteria

- Reduction in process time by 20% within 2 months.
- Increase in customer satisfaction scores by 15% within the next quarter.
- Achieving a 10% cost reduction in the targeted department within the first half of the year.

06 Document the Process Using A3 Problem Solving

Having already defined and documented the problem using the A3 problem-solving document, we need to furthermore leverage this working document to provide a structured approach that can link the problem to the defined solution. The key captured elements should include:

Background and current status: Context, importance and analysis of the problem.

Root Cause Analysis: Identifying the underlying causes of the problem.

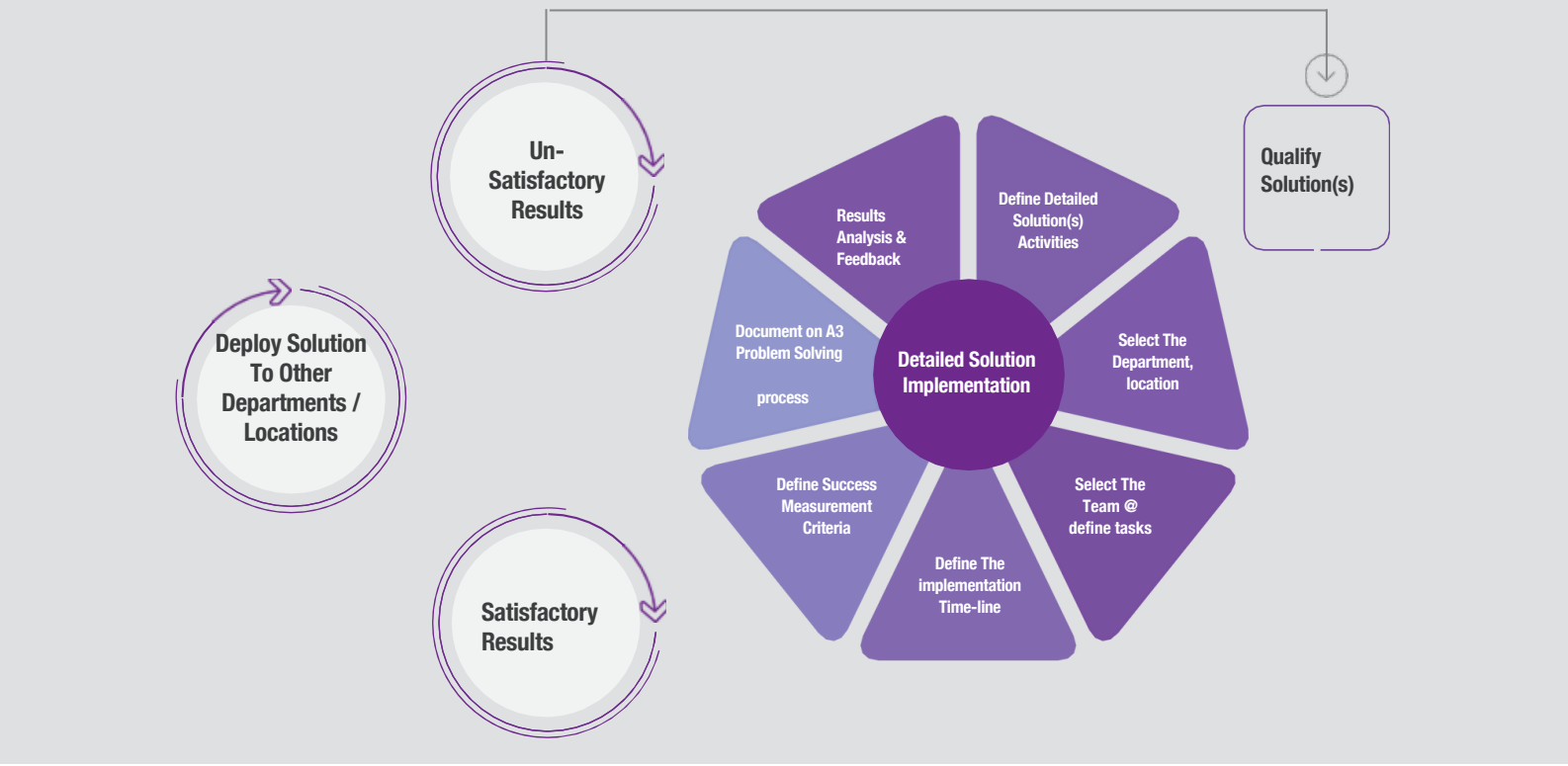
Goals/Targets: Clear objectives to be achieved.

Countermeasures: Proposed solutions to address the root causes.

Implementation Plan: Proposed and implemented activities.

Follow-Up: Methods for monitoring progress and ensuring sustainability.

Detailed Solution
Implementation & Results Analysis



07 Result Analysis, Feedback & Next Actions

After implementation, analyse the results to determine the effectiveness of the solution. This involves comparing outcomes against the success measurement criteria, identifying any deviations from the expected results and assessing the impact on the organization.

Collecting and integrating feedback is crucial for continuous improvement. This can be achieved by conducting surveys and interviews with stakeholders, holding debrief sessions with the team and reviewing performance data and metrics.

Satisfactory Results

Deployment: If results meet or exceed the success criteria, proceed with further deployment. This involves scaling the solution to other relevant areas or departments.

Continuous Improvement: Document best practices and lessons learned to refine the process further.

Unsatisfactory Results

Revise Solution Qualification: If results fall short of expectations, revisit the solution qualification phase. Analyze gaps and identify areas for improvement.

Root Cause Analysis: Conduct a thorough review to understand why the solution did not meet the criteria.

Refinement and Testing: Modify the solution based on findings and test it in a controlled environment before redeployment.

Iterative Process: Repeat the implementation and analysis steps until satisfactory results are achieved.

Summary

This white paper has explored the essential components of problem analysis and solutioning approaches, emphasizing their importance in driving sustainable business success.

By systematically identifying root causes, understanding the broader context, and applying structured problem-solving frameworks, organizations can tackle challenges with greater precision and confidence.

The integration of business processes into these methodologies ensures that solutions are not only innovative but also practical and aligned with organizational goals. A conscious thinking approach further enhances the effectiveness of this process by fostering critical thinking, creativity, and adaptability, enabling businesses to navigate uncertainty and change. Ultimately, the principles and practices outlined in this paper provide a comprehensive blueprint for organizations seeking to enhance their problem- solving capabilities. By embracing these approaches, businesses can improve decision-making, optimize operations, and create lasting value in an increasingly competitive landscape.

The journey from problem analysis to solution implementation is a dynamic and iterative process, one that requires continuous learning and refinement, but it is a journey that leads to stronger, more resilient organizations equipped to meet the challenges of the future.

Acknowledgements

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Note

The above acknowledgements do not imply in anyway an endorsement for this white paper content.

About the Author

With over 32 years of experience in information technology and systems integration, Talal Sabih has held key roles, including Technical Presales Manager, Business Units Director, Sales Director, Solutions Architect, and Product Manager. Currently serving as the Sales Director at Gulf Business Machines (GBM) LLC in Abu Dhabi, UAE.
The many facets of his working experience bring a wealth of expertise in problems solving, driving business growth and developing strategic solutions for complex business and IT challenges.
Talal Sabih holds an MBA from the University of Leicester and an Advanced Certified Executive certificate, ACE, from MIT Sloan School of Management, Executive Education, and actively pursuing AI & Data Science Solutions learning through MIT Professional Education and the University of Leicester.

Links:

https://kanbantool.com/kanban-guide/a3-problem-solving

https://www.lean.org/lexicon-terms/5-whys/#:~:text=5%20Whys%20is%20the%20practice,to%20discover%20the%20root%20cause.

https://asq.org/quality-resources/dmaic

https://www.ideou.com/blogs/inspiration/design-thinking-process#:~:text=With%20design%20thinking%2C%20the%20six,adapted%20for%20each%20specific%20challenge

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