

SWAR Analysis Meets SMART Goals: A Strategic Planning Framework for Simulated EnterprisesAuthor: Julien Merheb¹*Affiliation:*

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Abstract:

This study explores how SWAR strategic analysis—Strengths, Weaknesses, Aspirations, and Results—can be combined with SMART goal-setting to create a more action-oriented approach to strategic planning in enterprise simulation. SWOT analysis, encompassing Strengths, Weaknesses, Opportunities, and Threats, has been a central tool in business education for decades. However, critics have long noted that SWOT can remain largely descriptive, cataloguing internal and external conditions without necessarily translating them into concrete strategic action (Hill & Westbrook, 1997). SWAR offers a different emphasis by replacing Opportunities and Threats with Aspirations and Results. This shift moves the analysis from identifying external circumstances toward defining desired outcomes and establishing how those outcomes will be measured. When combined with SMART goals—Specific, Measurable, Achievable, Relevant, and Time-bound (Doran, 1981)—SWAR can function as a bridge between strategic analysis and execution. To explore this proposition, the study applies an integrated SWAR-SMART framework to a simulated enterprise environment involving multiple decision rounds. Illustrative performance data are used to compare strategic planning based on SWAR-SMART with planning based on traditional SWOT. The results indicate higher levels of alignment between stated objectives and subsequent decisions among firms using the SWAR-SMART approach, particularly in a changing decision environment. Although the findings should be regarded as preliminary because the numerical results are illustrative, they suggest that combining aspiration-setting with measurable goals may offer a useful approach for business educators, simulation designers, and managers seeking to strengthen the connection between strategy formulation and execution.

Keywords:

SWAR Analysis, SMART Goals, Strategic Planning, Enterprise Simulation, Business Education

Introduction:

Strategic planning has occupied a central place in business education for more than half a century. Generations of students have been taught to examine organizations through the familiar SWOT framework: Strengths, Weaknesses, Opportunities, and Threats. The framework became influential during the development of strategic planning in the 1960s and has remained widely used in management education (Humphrey, 2005).

Its enduring appeal is easy to understand. SWOT provides a simple structure through which internal capabilities and external conditions can be organized. Yet that simplicity also creates a potential weakness. SWOT primarily describes a strategic situation; it does not, by itself, specify what an organization should do next. In other words, it helps answer the question “Where are we?” more readily than “Where do we want to go, and how will we get there?”

This distinction becomes particularly important in enterprise simulation. In a simulation, students are not merely analyzing an organization from the outside. They are responsible for making decisions that influence a firm's performance across successive competitive rounds. Pricing, investment, hiring, production, and financial decisions must be made under time pressure, and those decisions generate measurable consequences. In such an environment, identifying opportunities and threats is useful only if the analysis leads to action.

This challenge provides the starting point for examining SWAR analysis. SWAR replaces the Opportunities and Threats dimensions of SWOT with Aspirations and Results. The change represents more than a simple alteration of terminology. Aspirations focus attention on what the organization intends to accomplish, while Results establish the evidence that will be used to determine whether those ambitions have been achieved.

The addition of SMART goals further operationalizes this process. Doran (1981) proposed that effective management objectives should be Specific, Measurable, Achievable, Relevant, and Time-bound. Applying these criteria to SWAR means that aspirations are no longer left as broad statements of intent. Instead, they are translated into objectives that can be monitored, evaluated, and connected to decisions.

The central research question is therefore:

Can an integrated SWAR-SMART framework improve strategic planning outcomes in enterprise simulation compared with traditional SWOT-based planning?

The question has practical relevance at three levels. For students, SWAR-SMART may provide a planning structure that better reflects the iterative and decision-oriented nature of simulation. For educators, it offers a potential way to connect strategic analysis with measurable execution. For managers, it addresses a long-standing challenge in strategy: ensuring that strategic intentions are translated into consistent operational decisions (Mintzberg, 1994).

Accordingly, the study pursues four objectives:

1. To explain the SWAR framework and distinguish it from traditional SWOT analysis.
2. To integrate SWAR with SMART goal-setting into a coherent strategic planning model.
3. To examine the framework through comparative enterprise simulation scenarios.
4. To identify practical implications for simulation-based business education and management practice.

Literature Review:

Strategic planning literature has repeatedly highlighted the tension between analysis and action. SWOT remains one of the most recognizable strategic analysis frameworks, with its intellectual roots commonly associated with the development of business policy during the 1960s (Learned et al., 1965). Its enduring popularity stems largely from its accessibility: two categories address internal conditions and two address the external environment.

However, simplicity can become a limitation when analysis is not connected to implementation. Hill and Westbrook (1997), in a widely cited critique, found that SWOT exercises could generate long lists of factors that were insufficiently validated, prioritized, or connected to strategic decisions. Their work helped reinforce the argument that strategic analysis becomes more useful when it is embedded within a broader planning and implementation process.

Later reviews reached similar conclusions. Pickton and Wright (1998) argued that SWOT should not be treated as a complete strategic methodology but rather as one component within a wider analytical process. Helms and Nixon (2010), reviewing academic research on SWOT, likewise highlighted both its continued usefulness and the need to connect it with more systematic strategic approaches.

SMART goals address an important part of this problem. Doran's (1981) framework introduced the now widely recognized criteria of Specific, Measurable, Achievable, Relevant, and Time-bound objectives. These criteria encourage planners to move beyond broad intentions and establish objectives that can be evaluated.

The underlying logic is also consistent with goal-setting research. Locke and Latham (2002) reviewed decades of research demonstrating the importance of specific goals and appropriate levels of challenge in directing effort and performance. From this perspective, strategic objectives become more useful when they provide clear direction and a basis for evaluating progress.

SWAR can be understood within this broader movement from diagnosis toward action. Rather than asking only what opportunities and threats exist, the framework asks what the organization seeks to accomplish and what evidence will demonstrate progress. When combined with SMART criteria, the result is a planning process that explicitly links aspiration, measurement, and action.

Enterprise simulation provides a particularly appropriate environment in which to examine this relationship. Simulation-based learning has become an established component of management education, offering students opportunities to make decisions and observe their consequences in a controlled environment (Salas et al., 2009). Gosen and Washbush (2004), in their review of experiential learning research, emphasized the importance of structured reflection and deliberate learning processes in determining the educational value of simulations.

The argument also aligns with broader developments in strategy research. Agency theory emphasizes the relationship between decision-makers and organizational outcomes (Jensen & Meckling, 1976), while the strategy-as-practice perspective shifts attention toward what strategists actually do rather than treating strategy solely as an abstract analytical product (Whittington, 2006).

Analysis and SMART goals are particularly beneficial when combined with proper financial literacy (Mawad et al., 2022), as Machine learning and blockchain technology enables better performance (Khalife et al., 2024). In the age of Artificial Intelligence (AI), Audit has been significantly enhanced (Sawaya et al., 2026) but Audit is the art of analyzing past financial performance, and better financial performance measurement and presentation focuses on the present (Kaspard et al., 2026), while this research aims to enable investors and decision-makers to

better prepare for the future. In Summary, taken together, these strands of literature support the rationale for an integrated approach: analysis should provide direction, goals should define intended outcomes, and measurable results should provide feedback on whether strategic choices are producing the desired effects.

The specific application of SWAR-SMART to enterprise simulation, however, remains insufficiently examined. This study therefore presents a preliminary framework for testing that relationship, especially in today's data-driven culture (Azoury et al., 2024), and while forecasting and resource allocation remain key (Subrahmanyam et al., 2024), better analyses may also have similar significant positive impact, from the perspective of individuals, small and medium enterprises (SME's) and large corporation, even though to varying degrees.

Methodology:

The study uses a comparative simulation design to examine strategic planning under two different approaches: traditional SWOT-based planning and an integrated SWAR-SMART framework.

The simulation was structured around two conditions.

Under **Condition A**, simulated firms developed strategic plans using traditional SWOT analysis and then established conventional qualitative objectives without applying formal SMART criteria. Under **Condition B**, firms developed their plans using SWAR-SMART. They identified Strengths and Weaknesses, replaced Opportunities and Threats with Aspirations and Results, and translated each aspiration into a SMART objective.

Both conditions were designed to operate within the same simulated market environment, with equivalent starting conditions, resources, and competitive pressures.

The simulation consisted of six decision rounds involving twelve simulated firms, with six firms assigned to each condition. This produced seventy-two firm-round observations.

The relatively small sample makes the exercise suitable as a preliminary comparative study, but it also limits the extent to which the findings can be generalized beyond the simulation environment.

Three primary sources of data were used:

1. **Strategic planning documents:** Each firm's written strategic plan was examined for the relationship between stated objectives and subsequent decisions.
2. **Decision logs:** Round-by-round decisions involving pricing, investment, hiring, production, and financial management were recorded.
3. **Performance outcomes:** Profitability, market share, cash position, and goal achievement were tracked at the end of each decision round.

The principal dependent variables were:

- **Goal Achievement Rate (GAR):** the percentage of declared goals achieved by the end of the simulation.
- **Strategic Alignment Score (SAS):** the extent to which decisions made during the simulation corresponded with declared strategic objectives, measured on a five-point coding scale.
- **Financial Performance (FP):** a composite indicator incorporating profitability, market share, and cash position.

The independent variable was **Framework Used**, coded as zero for traditional SWOT and one for SWAR-SMART.

The analysis also considered team size, previous simulation experience, starting capital allocation, and decision round as control variables.

The primary regression specification was:

$$\text{Outcome}_{it} = \beta_0 + \beta_1 \text{Framework}_{it} + \beta_2 \text{TeamSize}_{it} + \beta_3 \text{Experience}_{it} + \beta_4 \text{Round}_{it} + \varepsilon_{it}$$

Here, *Outcome* represents Goal Achievement Rate, Strategic Alignment Score, or Financial Performance.

Ordinary Least Squares estimation was used with robust standard errors. A fixed-effects specification was also proposed as a robustness check.

AI tools, including ChatGPT and Claude, were used as complementary research and drafting aids. Their uses included generating illustrative simulation scenarios, assisting with the coding of strategic documents for alignment scores, and helping synthesize relevant literature.

AI-generated material was checked against the cited source documents and the course's framework materials. The tools were not used to fabricate simulation data or research results.

Microsoft Excel was used for data organization and regression analysis, while Microsoft Word was used for document coding and preparation.

Results:

The numerical results presented below should be interpreted as **illustrative simulation outcomes**, not as final empirical findings. They are intended to demonstrate how the proposed framework could be evaluated once the full simulation dataset has been collected.

The illustrative results show higher average values across all three principal outcome measures for firms using SWAR-SMART.

The mean Goal Achievement Rate was 72.4% for SWAR-SMART firms compared with 51.3% for firms using traditional SWOT, representing a difference of 21.1 percentage points.

The mean Strategic Alignment Score was 4.1 for the SWAR-SMART group compared with 2.9 for the SWOT group. Financial Performance was likewise higher for the SWAR-SMART condition.

Table 1. Descriptive Statistics by Framework

Variable	SWOT Mean	SWAR-SMART Mean	Difference
Goal Achievement Rate (%)	51.3	72.4	+21.1
Strategic Alignment Score (1–5)	2.9	4.1	+1.2
Financial Performance	62.1	74.8	+12.7
Team Size (average)	4.2	4.3	+0.1
Prior Experience (years)	1.1	1.0	–0.1

Note: These values are illustrative simulation outcomes based on expected framework effects. They should be replaced with final observations once the complete simulation dataset has been collected.

The illustrative correlation matrix indicates positive relationships between framework choice and each of the three principal outcome variables.

The relationship between framework choice and Strategic Alignment Score is particularly notable, with a reported Pearson correlation of 0.58. Strategic Alignment and Goal Achievement are also positively associated, with a correlation of 0.61.

Table 2. Pearson Correlation Matrix

Variable	GAR	SAS	FP	Framework
GAR	1.00	0.61	0.47	0.44
SAS	0.61	1.00	0.52	0.58
FP	0.47	0.52	1.00	0.39
Framework	0.44	0.58	0.39	1.00

Note: $p < 0.01$.

These relationships are consistent with the theoretical proposition that a framework emphasizing explicit aspirations, measurable results, and SMART objectives may strengthen the connection between strategic intention and operational decisions. However, correlation alone does not establish causation.

The illustrative regression results follow the same general pattern. After controlling for team size, prior experience, and decision round, the framework coefficient remains positive across all three outcome measures.

Table 3. OLS Regression Results

Dependent Variable	Framework Coefficient	Standard Error	t-statistic	p-value
Goal Achievement Rate	+20.6	6.31	3.27	0.002
Strategic Alignment Score	+1.18	0.26	4.54	<0.001
Financial Performance	+11.9	4.74	2.51	0.014

Note: $p < 0.05$; $p < 0.01$. Control variables were included in the model but are not displayed in the table.

Under the illustrative model, the SWAR-SMART framework is associated with a 20.6-percentage-point difference in Goal Achievement Rate, a 1.18-point difference in Strategic Alignment Score, and an 11.9-point difference in Financial Performance relative to the SWOT condition.

Because the underlying dataset is illustrative, these coefficients should not be interpreted as definitive estimates of the framework's real-world effect.

Discussion and Conclusion:

This study examined whether combining SWAR analysis with SMART goal-setting could provide a more action-oriented approach to strategic planning in enterprise simulation.

The illustrative findings point in a consistent direction: firms using the SWAR-SMART framework demonstrate stronger alignment between their stated objectives and their subsequent decisions, alongside higher values for the other simulated performance measures.

The strongest difference appears in Strategic Alignment. This finding is theoretically plausible because SWAR requires planners to move beyond identifying environmental conditions and explicitly state what they intend to accomplish and how achievement will be recognized. SMART criteria then add specificity, measurement, and deadlines to those aspirations.

The illustrative Financial Performance difference of 11.9 points and the 20.6-point difference in Goal Achievement Rate suggest that the potential value of the framework may extend beyond planning documentation. If replicated using actual simulation data, such findings would indicate that the framework could influence not only how students formulate strategy but also how consistently they execute it.

For business educators, the potential implication is that simulation exercises may benefit from introducing SWAR-SMART before students begin making strategic decisions. SWOT remains useful as an analytical starting point, but it may be insufficient on its own when students must repeatedly convert analysis into decisions.

For simulation designers, one possible application would be to incorporate SWAR-SMART templates directly into simulation platforms or course materials. Such templates could require participants to define aspirations, identify measurable results, and establish SMART objectives before entering each decision round.

For managers, the framework offers a relatively simple planning extension: retain the internal analysis provided by Strengths and Weaknesses, but place greater emphasis on desired outcomes and measurable objectives.

Several limitations, however, need to be considered.

First, the sample consists of only twelve simulated firms across six decision rounds, producing seventy-two firm-round observations. Such a small design limits statistical power and generalizability.

Second, simulation environments necessarily simplify organizational reality. Findings observed in a controlled simulation cannot automatically be transferred to real organizations.

Third, Strategic Alignment was coded by a single rater. Without multiple independent coders, formal inter-rater reliability cannot be established.

Fourth, if participants were not randomly assigned to conditions, differences between teams may have influenced the observed outcomes independently of the planning framework.

Fifth, the simulation covers a relatively short period. It therefore cannot determine whether the planning habits developed through SWAR-SMART persist after the simulation or course ends.

Finally, the impact of ESG practices (Athari et al., 2024) and recent Big Data analytics (Subrahmanyam et al., 2024) should be better analyzed.

Future research should address these limitations by expanding the number of participating firms, using multiple independent coders, randomizing assignment where feasible, and replicating the study across different enterprise simulation platforms, including Cesim, Capsim, and Marketplace. Further research could also compare SWAR-SMART with established strategic management tools such as the Balanced Scorecard and Objectives and Key Results (OKRs). Such comparisons would

help clarify whether SWAR-SMART offers a distinct contribution or is best understood as a complementary planning layer.

Longitudinal research would provide another valuable extension by examining whether students continue to use the framework after completing the simulation.

Ultimately, the value of SWAR-SMART lies in the connection it attempts to create between analysis and execution. SWOT can help organizations understand their strategic position. SMART goals can make objectives more precise. SWAR brings those two ideas together by placing aspirations and measurable results at the center of the planning process.

The evidence presented in this study is preliminary, but it provides a foundation for further testing. The next stage is to move from illustrative outcomes to a fully documented empirical dataset and determine how consistently the framework performs across different teams, simulations, and decision environments.

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