
7 **Game-Based Learning Experiences**

Cross-Cultural Marketing and International Human Resource Management (HRM)

Summary 7.1 The Shared Architecture of Management Learning Simulations. – 7.2 Cross-Cultural Marketing Simulation: *Sprinting a Brand* (by Tiziano Vescovi). – 7.3 The Game. – 7.4 Limitations and Potential Improvements to the Simulation. – 7.5 Learning by Playing. – 7.6 A Game-Based Simulation of International Human Resource Management. – 7.7 Collaborative and Collective Learning. – 7.7.1 The Strategic Relevance of Staffing and Candidate Evaluation in International Organisations. – 7.7.2 People Strategy and Its Relationship with Staffing and Talent Management. – 7.7.3 People Strategy, Staffing, and Talent Management in International HRM. – 7.7.4 Learning Analytics and Scoring Logic in the Game-Based Simulation. – 7.7.5 Fun and Difficulty Level.

7.1 The Shared Architecture of Management Learning Simulations

This chapter applies the theoretical framework to management education. Among the most practically tested applications of simulation-based learning in management development is the use of virtual reality for sales training: Upadhyay and Khandelwal (2018) report that VR-based simulations enable trainees to practise high-stakes client interactions, handle objections, and develop adaptive communication strategies in an environment that is both

realistic and consequence-free, with self-reported improvements in confidence and skill transfer. Van Bree (2014) situates this enterprise within a broader vision of game-based organisation design. Hall and Patel (2020) contextualise these design choices within the broader organisational frame: their account of leading the learning function identifies the strategic, relational, and operational challenges facing those responsible for learning and development in complex organisations, and positions simulation-based and game-based approaches as high-leverage investments precisely because they develop the adaptive, judgment-based competencies that conventional training cannot reliably produce. Hugos (2012) develops a complementary practical argument, demonstrating how game mechanics points, levels, immediate feedback, and transparent rules can be embedded in business processes to improve organisational performance, increase employee engagement, and accelerate learning within teams. The enterprise game, in Hugos's account, is not a metaphor but a design principle: the logic that makes games engaging is the same logic that makes organisations adaptive. Hugos argues that the principles of game mechanics – meaningful choice, feedback, progressive challenge, and the management of uncertainty – translate directly into the design of organisational structures and learning interventions, making game design thinking a real resource for management practice, and not merely an instructional technique, with particular attention to cross-cultural marketing, international human resource management, learning analytics, collaboration, staffing, and talent-management decisions.

Lavine et al. (2022) offer a framework for management learning that interweaves positive and critical perspectives. At a more foundational level, Mantzavinos, North, and Shariq (2004) argue that institutions evolve through shared learning, that economic performance across societies depends on how effectively individuals and organisations build, revise, and transmit the cognitive models they use to navigate complex environments. This claim has direct implications for management simulation design: games that make economic and institutional logic visible, that reward adaptive model-revision rather than the mechanical application of received rules, are aligned with the deepest mechanisms through which institutions improve over time, affirming the value of engagement and experimentation while insisting on reflexive attention to power, culture, and the limits of any single method. This dual orientation applies with particular force to cross-cultural and international HRM simulations, where the risk of reproducing cultural stereotypes through unreflective game design is real, and where the educational value depends on the facilitator's capacity to make that risk itself an object of learning. The two educational experiences under consideration, simulation-based learning in cross-cultural marketing and game-based learning

in international human resource management, may at first appear to belong to different pedagogical families. One seems to be primarily concerned with market environments, consumer meaning, communication strategy, and cultural adaptation, while the other appears to focus on organisational roles, employment policies, intercultural interaction, negotiation, and managerial decision-making. Yet, when examined more closely, both are found on the same deep educational architecture. In both cases, learning is produced through the design of a meaningful situation, the demand for situated action, and the experience of consequences that follow from that action. Both educational formats place learners inside a structured scenario, require them to interpret a particular context, compel them to make decisions and perform actions, and then confront them with outcomes that reveal something important about the logic of the field being studied.

This common structure is crucial. It means that both simulation-based learning and game-based learning are not simply alternative techniques for making management education more engaging. They are forms of consequential pedagogy. Their educational value lies in the fact that they transform abstract knowledge into lived problem situations. Rather than merely receiving information about marketing across cultures or HRM in international environments, learners are placed in situations in which knowledge must be used, tested, and revised. The central learning process no longer consists of memorising principles and later applying them in a hypothetical way; instead, it consists of entering a scenario, interpreting its constraints and opportunities, acting under conditions of uncertainty, and then understanding the effects of one's conduct. In this respect, both kinds of simulation are pedagogically powerful because they organise learning as a movement from scenario and context, to decision and action, to results, consequences, and reflective re-interpretation.

At the heart of both formats is the principle that management problems are never encountered in a vacuum. Decisions are not abstract choices detached from circumstance. They are shaped by settings, roles, timing, relationships, institutional conditions, and cultural environments. This is why the scenario and the context are not simply narrative ornaments placed around the learning activity. They are foundational elements of the educational design. The scenario introduces a problem world. It defines what is happening, what is at stake, who the relevant actors are, and why the situation requires intervention. The context deepens that world by specifying the cultural, organisational, market, relational, legal, symbolic, and temporal conditions within which the problem must be understood. Together, scenario and context generate the need for action.

Once participants are placed within such a world, they are required to decide and act. This second moment is central because learning becomes educationally meaningful only when interpretation is translated into agency. Participants must decide what matters, what should be prioritised, what alternatives are available, and how to intervene. Action is therefore not merely mechanical execution. It is the outward manifestation of interpretation and judgment. When learners choose a strategy, negotiate with others, allocate resources, revise messages, structure policies, or respond to emerging difficulties, they are not only displaying existing knowledge; they are actively constructing competence.

The third moment concerns the results and effects of those actions. A simulation becomes educational when it does not stop at action itself, but shows learners what their decisions produce. These results may concern performance, stakeholder responses, legitimacy, trust, morale, customer reception, organisational cohesion, or strategic effectiveness. Importantly, these outcomes are not merely terminal scores. They function as feedback. They reveal the causal logic of the environment and allow participants to examine the relationship between what they did and what followed. It is at this point that action becomes learning. Participants begin to understand not only whether their choices were effective, but why certain consequences emerged and what those consequences suggest about the deeper structure of the field.

This basic architecture applies to both cross-cultural marketing and international human resource management, even though each domain gives it a different emphasis. In cross-cultural marketing, the simulation is typically centred on the challenge of strategic action in culturally differentiated market environments. The learner is placed in a scenario in which an organisation must communicate, position, adapt, or redesign its presence in relation to consumers whose values, symbols, habits, expectations, and interpretive frameworks differ from those of the organisation's home environment. The educational difficulty lies in the fact that marketing strategy is not universally interpretable. The same product, slogan, visual image, or brand promise may carry different meanings in different cultural settings. What appears persuasive, elegant, humorous, respectful, or aspirational in one context may appear offensive, irrelevant, confusing, or ineffective in another. Thus the simulation teaches that marketing is not simply a matter of technical strategy, but of situated interpretation.

The scenario might concern entry into a new national market, the launch of a product across different cultural regions, the redesign of a campaign after a cultural misunderstanding, or the need to balance global brand consistency with local adaptation. This scenario becomes meaningful only through the context that surrounds it. The context may include cultural norms related to communication, values

associated with status and identity, consumer attitudes toward foreign brands, symbolic meanings attached to colours or images, local competitor behaviour, institutional regulations, media environments, and temporal pressures linked to launch schedules or market crises. None of these elements is pedagogically incidental. Each contributes to the field of interpretation within which participants must work. Learners are therefore not simply told that culture matters; they are placed in a situation in which failure to understand culture leads to poor action and visible consequences.

The decisions required in such a simulation are typically strategic and interpretive. Participants may have to choose how to segment a market, whether to standardise or localise a campaign, how to adapt a brand message, what communication channels to use, how to respond to consumer backlash, or how to negotiate between headquarters' strategic priorities and local cultural intelligence. Yet these decisions are never purely analytical. They become actions when participants commit to a course of conduct, revise messages, deploy campaigns, justify their choices to others, or respond to emergent feedback from the market. Their behaviour also becomes part of the learning process. Do they listen to local expertise? Do they cling rigidly to prior assumptions? Are they willing to revise an appealing strategy when new evidence suggests that it is culturally inappropriate? These behavioural patterns reveal as much about managerial competence as the formal decision itself.

The consequences of action in cross-cultural marketing simulations are often especially revealing because they expose the relationship between symbolic choices and market effects. Some decisions may produce immediate results. A mistranslated slogan, an offensive image, or a clearly inappropriate cultural reference may trigger rapid consumer rejection or reputational damage. These are cases where the relationship between action and effect is relatively direct and visible. Other decisions, however, may produce delayed consequences. A strategy that initially appears efficient may slowly erode brand trust because it fails to resonate with local values. A campaign that achieves short-term visibility may undermine long-term legitimacy because it is perceived as culturally tone-deaf or externally imposed. Such delayed consequences are educationally important because they teach learners that effectiveness cannot always be judged at the moment of launch. Marketing action unfolds over time, and its effects are often cumulative.

This introduces a key distinction: the difference between immediate and delayed effects. In educational simulations, some actions are followed by rapid consequences that can be easily linked back to the original choice. These immediate effects are useful for making causal structures visible. They help learners see those certain types of error or sensitivity matter. Delayed effects, by contrast, are pedagogically

richer because they reveal that real managerial environments are temporally layered. Not all decisions show their full significance at once. Some alter relationships, expectations, and perceptions in ways that become visible only later. A good simulation teaches both kinds of temporality.

A second important distinction concerns determinism and probability. Some outcomes in simulation design are relatively deterministic. That is, a certain type of action predictably generates a certain type of result. For example, if a campaign violates a widely known cultural taboo, rejection may be highly likely. Deterministic effects are useful in pedagogical terms because they clarify principles and provide strong feedback. However, many outcomes in professional life are not strictly deterministic. They are probabilistic. A well-adapted message may improve the likelihood of success without guaranteeing it. A carefully localised campaign may still fail because of competitor reactions, timing problems, distribution weaknesses, or internal incoherence. A simulation that includes probabilistic consequences offers a more realistic representation of managerial complexity. It teaches learners that good decisions improve the odds of success but do not abolish uncertainty. This insight is particularly important in management education because it counters the simplistic belief that correct reasoning automatically produces desired outcomes.

The distinction between linear and recursive designs is equally significant. In a more linear simulation, the educational sequence is relatively straightforward. Participants receive a scenario, analyse the context, make a decision, observe the result, and discuss the lesson. This format is useful, especially for introductory teaching, because it clarifies causal logic and reduces complexity. It allows educators to isolate variables and highlight fundamental principles. In cross-cultural marketing, a linear structure might involve presenting several campaign options for a given market and then showing which option is best aligned with cultural expectations. The learning is focused, clear, and tightly organised.

Yet many richer simulations are recursive rather than linear. In a recursive design, action changes the context, and the altered context requires new interpretation and new action. This structure more closely resembles actual management practice. A firm launches a campaign, receives ambiguous or unexpected feedback, revises its messaging, encounters new stakeholder responses, and must then re-evaluate its assumptions. What began as a single decision becomes an evolving process. The educational strength of recursion lies in the fact that learners are not merely tested once; they are drawn into a cycle of interpretation, intervention, consequence, and re-interpretation. They come to see that action is not a final step but a moment in an ongoing system.

Game-based learning in international human resource management is organised by the same overall architecture, but the educational emphasis shifts. Here the scenario typically concerns the internal life of multinational organisations rather than the external logic of markets. Learners may be asked to manage expatriate assignments, design internationally appropriate compensation systems, resolve conflict in multicultural teams, respond to grievances across subsidiaries, negotiate between global HR policies and local institutional expectations, or balance efficiency with fairness in staffing decisions. The context is therefore less centred on consumer interpretation and more centred on organisational relationships, formal structures, norms of legitimacy, and the human effects of management policy.

This field is particularly well suited to game-based learning because HRM decisions in international settings are rarely neutral or purely technical. They are deeply relational. They affect identity, belonging, authority, trust, motivation, and perceptions of fairness. A policy choice may be formally coherent and still generate resistance if it is experienced as culturally insensitive or politically imposed. An apparently efficient staffing decision may damage local legitimacy if it ignores local expertise or reinforces asymmetries between headquarters and subsidiaries. A game-based format makes these tensions visible by assigning roles, structuring interactions, and requiring participants to confront one another as stakeholders with different interests, expectations, and degrees of power.

For example, in international HRM, the scenario often revolves around organisational dilemmas. The use of computerised top management simulations has a long research tradition within management education: Nair (2003) found, in an early study of a business simulation, that middle managers systematically underperformed relative to senior managers and students, not because of inferior domain knowledge, but because of defensive decision-making patterns that the simulation made visible. This diagnostic capacity, the ability of a management simulation to reveal behavioural tendencies that formal assessment cannot detect, is one of its most distinctive and practically significant educational contributions.: whether to appoint a local manager or an expatriate, how to design rewards across countries with different expectations, how to evaluate performance across cultural contexts, how to address conflict between units, or how to negotiate a policy that can be accepted by both central and local actors. The context here includes labour laws, organisational hierarchies, cultural norms regarding authority and communication, corporate strategy, local institutional realities, and historical patterns of trust or mistrust. As in marketing simulations, this context is not merely descriptive. It

creates the conditions under which participants must interpret what counts as a reasonable, legitimate, or effective decision.

The actions required in international HRM simulations are often more overtly interpersonal than those in cross-cultural marketing. Participants must choose policies, but they must also communicate them, justify them, negotiate them, defend them, revise them, and bear responsibility for their effects on others. Thus, behaviour becomes especially central. The educational issue is not only whether the participant makes a technically plausible choice, but whether that choice is enacted with sensitivity, legitimacy, and strategic awareness. Does the participant listen to local concerns? Do they impose headquarters logic without consultation? Are they able to mediate between stakeholders? Can they recognise that a formally correct decision may still produce organisational damage if it is poorly communicated or normatively misaligned? In this domain, the simulation becomes an arena for observing not only decision quality but managerial comportment.

The results and consequences in international HRM are often less immediately measurable than in marketing, but no less significant. Outcomes may include changes in employee morale, trust in leadership, willingness to cooperate, retention risk, conflict intensity, legitimacy of HR policy, adaptation of expatriates, or cohesion across organisational units. Some of these consequences can appear quickly. A dismissive managerial response may trigger immediate resistance. An obviously inequitable policy may create direct conflict. But many important HRM effects are delayed. A staffing decision may seem efficient in the short run, only to produce dissatisfaction, hidden disengagement, or turnover months later. A policy that appears standardised and fair at headquarters may accumulate resentment in subsidiaries over time. These delayed effects are especially valuable pedagogically because they reveal that organisational decisions are socially and temporally layered.

As in the marketing case, consequences may be deterministic or probabilistic. A direct violation of a legal norm or an overtly discriminatory action may predictably produce formal or relational breakdown. Yet much of international HRM unfolds in probabilistic space. An inclusive policy may increase commitment without guaranteeing it. A well-intentioned expatriate assignment may still fail because of family adjustment problems, local resistance, or broader strategic instability. Probabilistic consequence structures teach learners that management is not an arena of certainty but of conditional influence. Decisions modify the landscape of possibility rather than mechanically producing outcomes.

The contrast between linear and recursive approaches is also highly relevant here. A linear HRM simulation may present a staffing problem, require participants to choose among policy alternatives, and then

provide structured feedback on likely consequences. This is useful for introducing students to fundamental categories of decision. But the recursive format is often more faithful to organisational reality. In a recursive game, a decision about staffing changes employee expectations; those expectations alter trust; changed trust affects the viability of later interventions; those interventions then reshape the organisational environment again. In this structure, every action is both a response to context and a producer of new context. Learners do not merely solve a problem; they inhabit a process.

When the two educational experiences are compared directly, their shared logic becomes evident. Both are based on the principle that learning emerges from acting within a meaningful situation and confronting the effects of that action. Both require the design of scenarios that are not generic, but domain-specific and contextually grounded. Both position context as an active force rather than passive background. Both require decisions that matter within the internal logic of the scenario. Both link those decisions to outcomes that teach participants something about performance, causality, judgment, and adaptation. In both, learning is grounded in the transformation of abstract concepts into situated problems.

At the same time, the comparison reveals significant differences of emphasis. Cross-cultural marketing simulations are more strongly oriented toward the interpretation of external environments, symbolic systems, and market responses. Their primary challenge is often strategic adaptation to culturally mediated consumer contexts. International HRM games, by contrast, are more strongly oriented toward the management of internal organisational relationships, policies, power structures, and interpersonal dynamics across borders. Their primary challenge is often the negotiation of legitimacy, coordination, and human consequences within multinational systems.

This distinction matters because it shows that different scenarios produce different contexts, and different contexts produce different forms of action. The type of world designed by the simulation determines what kind of competence is required. A market-entry scenario invites strategic interpretation, message adaptation, and reading of consumer response. An international staffing scenario invites relational judgment, policy negotiation, and sensitivity to institutional and organisational effects. Thus, the scenario is never neutral. It selects and organises the form of managerial reality to which learners must respond.

Yet both cases confirm the same general theoretical point: educational simulations in management are built on a causal and interpretive chain in which context generates meaningful choices, choices become actions, actions produce results, and results reshape future understanding. Sometimes this chain is presented in a linear form for clarity and instructional focus. Sometimes it is

organised recursively to reflect the evolving nature of real systems. Sometimes effects appear immediately, making causal relations easy to see. Sometimes they emerge only later, teaching learners about cumulative, indirect, and delayed consequences. Sometimes outcomes are deterministic, clarifying clear rules or boundaries. Sometimes they are probabilistic, reflecting uncertainty, multi-causality, and the fact that managerial action operates through influence rather than certainty.

These distinctions are not secondary technical details. They are central to the pedagogy of simulation. A linear design is useful when the aim is to make foundational relationships visible and cognitively manageable. A recursive design is useful when the aim is to cultivate systems thinking, adaptation, and strategic responsiveness. Immediate effects are useful because they provide strong, memorable feedback. Delayed effects are useful because they reveal temporal complexity. Deterministic consequences are useful because they clarify norms, principles, and predictable errors. Probabilistic consequences are useful because they prepare learners for the uncertainty and ambiguity of real managerial life.

Seen in this way, simulation-based learning in cross-cultural marketing and game-based learning in international human resource management should not be treated as isolated pedagogical methods. They are better understood as two variants of a broader educational logic: a logic in which learning is generated by the design of consequential environments. These environments compel learners to interpret situations, choose among alternatives, act under constraints, and examine the effects of what they have done. Their value lies not simply in activity, nor in realism, nor in playfulness, but in the fact that they turn knowledge into situated judgment and judgment into experience.

A final synthesis may therefore be stated as follows. Both simulation-based learning in cross-cultural marketing and game-based learning in international human resource management are grounded in the design of scenarios and contexts that make decision and action necessary. These decisions and actions affect results, and those results generate effects that may be immediate or delayed, deterministic or probabilistic. Depending on the educational purpose and design sophistication, the learning process may unfold linearly or recursively. In all cases, however, the central pedagogical principle remains the same: learners develop competence by acting within meaningful situations and by understanding the consequences of their actions within systems that are culturally, organisationally, and strategically structured.

7.2 Cross-Cultural Marketing Simulation: *Sprinting a Brand* (by Tiziano Vescovi)

The *Sprinting a Brand* game is an educational case study in decision-making simulation within the field of strategic and operational marketing, as it coherently integrates theoretical concepts, realistic constraints, and organisational dynamics typical of new brand launch projects. The game's structure can be organised around three dimensions: educational validity, consistency with theoretical marketing models, and the ability to develop decision-making skills. The game draws inspiration from the theme of new brand development, drawing on information from various authors, including De Chernatony (2008), Aaker (2012), Kapferer (1994; 2012), Steenkamp (2017), and Keller, Busacca, and Ostillo (2021).

The key elements of the game concern the player's role, the description of the client and its objectives, and a series of constraints that constantly influence the evaluation of the player's choices and are synthesised into a final assessment. The player is a brand strategist working at a consulting firm called Luma Strategy. The client is the company Vortika Sports S.p.A., which intends to launch a new brand dedicated to running and cross-training products that it has decided to call ARX. The company's goal is to launch the new brand within 16 weeks of the start-up, testing it in three pilot cities it considers key to understanding the brand's potential success (Milan, Turin, Bologna), in time for the half-marathon season, which would allow for the collection of important information on the proposed product offering. The constraints are therefore a budget of €750,000.00, a small internal support team, a defined time frame, and highly fragmented available market data. The company defines 3 KPIs (Key Performance Indicators) to be achieved within 90 days of launch:

1. 20% aided awareness in the pilot cities
2. 10,000 online pre-orders
3. 3 active partnerships with retailers

The basic mechanics are therefore simple and measurable (Beverland 2021). First, the resources the player must manage to succeed in the marketing consulting role. These relate to time (weeks), budget (available €), client trust (measured on a scale of 0-100), and the team's satisfaction and trust levels (measured on a scale of 0-100). At each turn, the player has three choices, each of which affects the resources differently and unlocks or locks options in subsequent levels. The final score is determined by the weighted sum of KPIs + Trust + Remaining Budget. The marketing consultancy fails if trust falls below 30, the budget goes into the negative, or the time delay exceeds 2 weeks.

The logic of the *Sprinting a Brand* game is to directly involve the player in a simulated real-world scenario, through various stages useful for developing a marketing consultation, applicable to internal company responsibilities, adaptable to various cultural contexts (with a few tested variations, it can be applied to culturally distant markets), relating to the market launch of a new sports brand, simulating not only the sequence of marketing actions to be carried out, providing alternative choices that lead to different consequences and outcomes, but also unforeseen situations and the dynamics of relationships among the actors involved, that is, the various stakeholders involved in the process of launching new products/brands, each with a specific role and distinct interests that influence the decision-making process. Specifically, these are:

1. Main Player (player)
2. Customer
3. Internal stakeholders (NPCs - Non-Playable Characters)
4. External actors (implicit in the game)

The main player, the central decision-maker, is the player, that is, the Brand Strategist, a consultant at Luma Strategy. Their role is to define the strategy to follow for the brand launch, the competitive positioning it must adopt, and the launch plan to be implemented. They must also manage the various resources at their disposal, namely the budget, time, the client company's trust, and the various documents they can obtain or request (e.g., market research, interviews with distributors, etc.). They must then mediate among the client company's internal stakeholders, who have different priorities, different opinions, and different ways of interacting. All of this must be implemented while ensuring the successful achievement of the specified KPIs.

The second key player is obviously Vortika Sports S.p.A., the client company, which is the project sponsor, eager to launch the ARX brand, and which defines the objectives to be achieved, sets the constraints, and determines the available budget.

Closely linked to this key player are, of course, the internal stakeholders, who are assigned various roles. The CEO (Chief Executive Officer), or general manager, defines the company's strategic direction and vision. His or her objectives are to achieve an ambitious and distinctive positioning, that is, a premium positioning. From a Behavioural perspective, he rewards bold and well-reasoned choices, while penalising excessive analysis of problems that slows down or prevents decision-making, bearing ultimate responsibility for the company's development, which he manages with an entrepreneurial vision.

The CMO (Chief Marketing Officer), that is, the head of marketing, sales, and communications, focuses on the intrinsic consistency of the

brand's characteristics and its relationship with the company's other brands. They are concerned with the effectiveness of promotional and sales campaigns and the performance of KPIs; furthermore, they strive to ensure that a price deemed too high by potential customers does not limit the target market they aim to reach. Their approach tends to prioritise decisions based on data and market testing, seeking an appropriate segmentation strategy and a consistent, innovative communication campaign.

The CFO (Chief Financial Officer) is responsible for the financial oversight of the operation; therefore, their objectives are to seek adequate margins relative to the established investment, a minimum ROI (Return on Investment) of 20%, and the mitigation of financial risks that may arise from the marketing activities undertaken from time to time. His management approach focuses on financial scenarios and financial sensitivity analysis and, naturally, he opposes decisions that he deems economically unsustainable.

The Head of Operations is responsible for operational management and production activities. Their goal is to make production more efficient and less complex, constantly seeking to simplify the product range, reduce variations that hinder operations, and promote decisions that ensure a higher degree of production and logistics feasibility. He therefore prefers and rewards simple, scalable solutions and criticises any activity that could increase the complexity of his operations, such as generating too many SKUs (Stock Keeping Units) in his warehouses.

These corporate stakeholders are joined by a number of external stakeholders implicit in the process. First and foremost are retailers and commercial partners, that is, the physical sales channels through which products will be distributed. The objectives of these stakeholders are to select, from Vortika Sport's overall product offering, the brands and products with the highest likelihood and speed of sale, to maximise their revenue and margins while reducing inventory costs. That is, products capable of attracting customers, driving traffic to other parts of their offering, and thereby boosting overall sales. Their role in the game is to provide insights through interviews they participate in and to contribute to achieving established KPIs, which include securing at least three strong partnerships with retailers.

The target consumers, that is, the end users of the new brand's products, are profiled as 'urban athletes' between the ages of 18 and 35, who are active in sports and dedicated to staying in shape. Their goal is to use high-performance products that align with their lifestyle, without necessarily opting for products designed for professional athletes. Their role in the strategy is to determine brand awareness levels, drive product pre-orders based on available information and

performance expectations, and shape the brand's perception, and thus its actual market positioning relative to competitors.

Influencers/creators, whose relationship with the new brand's offerings should drive the amplification of communication across various media, thereby enhancing its reputation. Obviously, influencers tend to collaborate with brands that align with their image, reputation, and standing, demonstrating a certain degree of independent judgment. The company has no control over their communications, so their impact can be positive or negative, and is not entirely predictable in terms of how and when it will occur.

Competitors can also be considered external actors, as market rivals whose Behaviour directly influences the position and perception of Vortika Sport's offering. Their goal is obviously to defend or increase their market share. Their impact in the game influences Vortika Sport's positioning, pricing, and communication strategies. Their actions can trigger unforeseen market events, such as product leaks, that is, the unauthorised disclosure of confidential information, images, or technical specifications of a new product prior to its official announcement.

The game highlights how marketing is a multi-stakeholder process, emphasising the various interests at play, a negotiation where internal alignment among the different stakeholders is necessary, and constrained by available budgets, defined time frames, and limited data. Success depends not only on strategic choices but also on the player's ability to balance conflicting perspectives within the client company, build consensus among internal stakeholders regarding decisions to be made, and develop and maintain a high level of trust with stakeholders.

These three aspects, multi-stakeholder, negotiation-based, and constrained, actually represent the theoretical core of the simulation, because they transform marketing from a 'decision-making' discipline into a complex organisational process. Let's explore them in a structured way.

Marketing as a multi-stakeholder process highlights how decision-making regarding the market is not an individual process carried out by the CMO, but rather the balancing of a system of interests. In the game, the player does not make decisions in a technical vacuum, but within a network of actors with divergent objectives: the CEO is oriented toward choices that prioritise growth, the corporate vision, and differentiation from the competition; essentially, he is guided by a longer-term logic. The CMO, for their part, is focused on achieving sales performance, interested in the effect the new brand has on the overall consistency of the product offering's image, and on collecting clear data that allows for the measurement of various aspects of market actions. The CFO is obviously focused on the margins and ROI generated by the new

brand and on financial risk control, while the head of operations demands simplicity and production feasibility.

These perspectives often conflict regarding the importance and urgency to be assigned to the various decisions the consultant-player calls upon them to make. This negotiation is influenced by market factors beyond the company's control, which consequently contribute to altering the balance of power among the actors, such as trends in actual demand rather than projected demand, and changes in competitors' strategic behaviour.

As an educational implication of this condition, the marketing process becomes an example of applied stakeholder theory: value is not maximised for a single actor, but is built through the balance among multiple decision-making centres. In line with stakeholder theory (Freeman 1984; Donaldson, Preston 1995), the marketing process can be interpreted as a system of distributed value creation, in which multiple actors, internal and external, participate in the definition and implementation of decisions. In this sense, value is not maximised for a single stakeholder but emerges from the dynamic balance between often divergent interests, shifting marketing activities from customer-centric to human-centric/stakeholder-centric (Kotler, Kartajaya, Setiawan 2017). Consequently, in this dynamic, no choice is ever entirely right or wrong but may increase one actor's trust while simultaneously reducing another's. This introduces the concept of the distributional effects of decisions (Harrison, Bosse, Phillips 2010). Marketing activities as a negotiation process imply that the value of a market offering does not stem from a top-down decision but is constructed through conflict and mediation.

In the game, the initial briefing is deliberately contradictory, uncertain between a premium proposal and an accessible one. This simulates a typical reality: marketing does not always start from a clear strategy but navigates a conflict of visions (Mintzberg, Waters 1985). Being negotiative means that the player must continually mediate between seemingly incompatible objectives, build compromises acceptable to the conflicting parties, and translate different languages (finance, marketing, operations).

The cognitive mechanism activated by the game is geared toward developing sensemaking skills, that is, making sense of information that is inherently inconsistent. Sensemaking is the social and continuous process through which individuals and organisations construct meaning from their experiences, transforming chaos or ambiguity into structured realities (Weick 1995).

Furthermore, strategic framing skills are activated (clearly defining the problem before the solution). Strategic framing refers to the process through which organisational decision-makers interpret and define strategic situations, influencing possible courses of action (Kaplan 2008; Gavetti 2012). In line with the sensemaking

perspective, such frames are not objective but socially constructed and often subject to competition among actors with differing perspectives. Finally, internal persuasion activities are stimulated (selling the strategy to stakeholders), based on the premise that a strategy's effectiveness does not depend solely on its analytical quality, but also on its ability to be 'sold' and legitimised within the organisation (Whittington 2006).

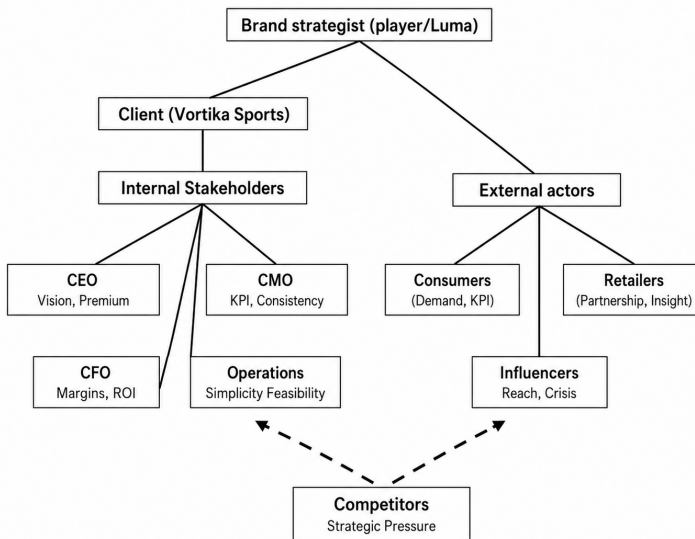


Figure 1 Concept map of the stakeholders involved

Taking a concrete example from the game: the CEO wants a premium offering, high margins, and strong branding; the CFO demands a high ROI and reduced financial risk; while the CMO aims for scalability of the offering and reaching a broad target audience. The player cannot satisfy everyone, so they must choose a coherent strategic narrative, justifying the exclusions and maintaining a minimum consensus that allows them to move forward smoothly with the proposal.

The formation of marketing decisions as a constrained process highlights how decisions occur under real constraints. The game introduces three fundamental constraints: a) time, 16 weeks for the entire launch and the typical pressure of 'time-to-market'; b) budget, €750,000 total, with trade-offs between activities (media, product, retail); incomplete information, fragmented market data, and the need to work with assumptions. These three aspects (multi-stakeholder,

negotiation-based, and constrained) reflect the concept of bounded rationality (Simon 2000).

The player cannot perfectly optimise their game decisions but can only meet minimum criteria for sound decision-making and choose among imperfect alternatives. As a learning outcome, the player learns that more information does not eliminate uncertainty, that every decision has an opportunity cost to consider, and that global optimisation is impossible. Together, these three elements define marketing as a complex adaptive system, where decisions, constraints, and interests interact continuously.

In summary, the game's core dynamics include a) input data involving stakeholders with different objectives, limited resources, and incomplete information; b) a complex decision-making process (internal negotiation, consensus-building, strategic choice under constraints); c) a final output (market KPIs, trust level, project sustainability); and feedback activities, i.e., crisis events, adjustments, and strategic review.

In addition to explicit KPIs, the game assesses three implicit competencies related to strategic coherence, meaning that it is not enough to choose strong options; the chosen options must be consistent with one another. The player's ability to align, as their success depends on their skill in reducing internal conflicts and building trust. The management of uncertainty, since complete information does not exist and the process involves various hypotheses where quality matters.

The educational value of the simulation lies in the fact that it overturns the traditional view of marketing: it is not merely analysis and rational decision-making, but rather a social (multi-actor), political (negotiation), and constrained (limited resources) process. Success does not stem from the 'perfect strategy', but from the ability to balance divergent interests, build internal consensus, and maintain trust over time (Elliott, Percy, Pervan 2015).

7.3 The Game

The game consists of a total of seven main phases, played out over nine rounds, excluding unforeseen events that occur at various points, requiring the player to adjust their strategic path.

Round 1. Kick-off: In the initial round, the player must align stakeholder objectives by gathering information from the initial brief, which contains the client's requirements.

Round 2. Research: This round involves collecting both desk and field research data and analysing insights regarding potential customer targets and perceptions of the pricing for the products being launched.

Move 3. Analysis: This move gathers the information needed to choose among the usual three alternatives by analysing the TAM/SAM/SOM data, which are fundamental metrics for assessing a business's market size and potential. These refer respectively to: the Total Addressable Market (TAM), the Served Available Market (SAM), and the Serviceable and Obtainable Market (SOM); this phase also involves formulating a market segmentation proposal.

Move 4. Positioning: In this move, three positioning options are presented: the premium option with prices above the competitors' average; the accessible and essential "Sport for everyone, without frills" option; and the Barbell strategy, which combines extremely safe investments (85-90% of capital) with high-risk, high-return investments (10-15%), avoiding intermediate solutions.

Step 5. Brand Identity: In this step, the characteristics of the brand name and visual identity are defined, and legal constraints regarding the brand definition, specifically potential similarities with competing brands, are verified.

Step 6. Portfolio & Pricing: In this step, inventory risk related to the size of the product range is assessed, along with the identification of potential 'hero' products, their accessories, and the margins achievable from each solution.

Step 7. Go-to-Market: It is time to decide how to reach the market, whether digitally via e-commerce platforms, through traditional retail (perhaps by developing a shop-in-shop solution to increase visibility of the new offering), or through sponsorship of a sporting event linked to the product's performance.

Move 8. Test: In this phase, you must define the testing methodology for the brand launch, aiming to validate the accuracy of the market message and the target positioning on a limited scale to decide whether to proceed with the launch, modify certain elements, or halt the process.

Move 9. Launch: In this phase, you assess how to respond to a potential reputational crisis and proceed to monitor the various KPIs.

The educational value of the simulation is implicit in the game's structure, which clearly reflects the principles of experiential learning defined by Kolb (2015) in his four-phase pedagogical model, which describes learning as a continuous process in which knowledge is created through the transformation of experience: the participant acts (decisions), observes the effects (changes in Trust, Budget, KPIs), reflects (debrief), and reformulates strategies.

The most significant element is the presence of explicit trade-offs such as time versus quality, for example, holding an initial workshop versus starting immediately, the depth and accuracy of data versus the speed of decision-making, for example, desk research versus direct field research, and strategic consistency versus tactical opportunities that arise.

This allows for the development of critical and systemic thinking, because every choice has cascading effects (David 1985), a concept whereby past decisions, events, or preferences significantly limit and determine current and future options, simulating real-world consulting contexts.

The game reflects consistency with theoretical marketing models. The problem definition and alignment process reflect the concepts of problem framing and stakeholder management. As previously noted, the presence of a conflicting brief (CEO vs. CMO) is consistent with stakeholder alignment theory (Cleland, Ireland 2006). From an educational perspective, this is crucial because it highlights that the marketing problem is not given but constructed.

By delving deeper into the learning aspects of marketing, we can identify how the game influences learning across various core areas of the discipline. First, the skills that can be acquired in the field of marketing research, specifically, the fundamentals, are reflected in the choices between secondary data, qualitative data, and quantitative data, as well as in the trade-off between internal and external validity. The integration of qualitative and quantitative insights is then evaluated. The challenge posed by incomplete data simulates a real-world context of bounded rationality. Market segmentation and sizing are achieved using TAM/SAM/SOM in line with market sizing models (Ashdown, Loker 2010). Of particular interest is the introduction of different scenarios, specifically a conservative-prudent scenario, a medium-risk scenario, and an aggressive scenario. This draws on decision theory under uncertainty and the need for sensitivity to parameters, as explicitly requested by the CFO. Positioning policies and brand strategy involve three strategic options representing classic archetypes: “smart performance”, attributable to differentiation strategies (Porter 1980); “Accessible & Essential”, linked to cost/volume leadership strategies; and the “Barbell strategy”, a hybrid solution with managerial complexity.

The conflict between distinctiveness and accessibility is central to branding decisions; in fact, an effective brand must balance salience (awareness) and meaning (brand meaning). In building brand identity and defining naming, constraints related to trademarks, digital availability, specifically the ability to secure a web domain consistent with the brand name, and competitive visual consistency come into play. From an educational perspective, this is useful because it links abstract strategy to legal and operational feasibility.

Regarding the product portfolio and pricing, the choices the player must make include focusing on a hero product that can drive sales of other complementary products, defining the breadth of the product range with the risks and benefits associated with expanding the product range, and the alternative of abandoning the project due to competitive weakness. These are aspects that reflect decisions

regarding product strategy and assortment planning. The margin constraint (>55%) introduces a unit economics framework. Regarding Go-to-Market, the launch alternatives (digital-first, retail-led, event-centric) represent different models of channel strategy and customer acquisition, while the use of KPIs such as CAC (Customer Acquisition Cost), ROAS (Return On Advertising Spend), and CTR (Click-Through Rate) makes the link between marketing and financial performance explicit. Finally, market testing and brand launch reflect evidence-based marketing approaches. Random events (crises, delays, negative reviews) introduce dimensions of uncertainty management, crisis management, and the need for organisational agility.

The organisational and political dimensions of marketing activities are considered particularly realistic due to the presence of stakeholders with differing objectives: the CEO is driven by the company's medium-term vision and the ambition to achieve significant results; the CMO is guided by the need for consistency in marketing decisions relative to the company's positioning and by concerns regarding KPI evaluation; the CFO focuses on the size of achievable contribution margins and potential financial risk; while operations teams are concerned about the complexity that may arise from the preceding decisions. This simulates marketing as an intra-organisational and negotiation-based process, not a purely analytical one. The "Customer Trust" parameter is particularly interesting because it serves as a proxy for consulting credibility, highlighting that defining a good strategy is not enough, it must be accepted by stakeholders.

The scoring system combines market KPIs, the remaining resources available for each chosen activity, the customer trust rate, and adherence to defined timelines. This reflects a multi-criteria objective function, typical of real-world managerial decisions. The failure conditions (Trust < 30, Budget < 0, delay) introduce 'hard' constraints, consistent with the theory of operational constraints. The game's scoring system translates a typical problem of real-world management into a simplified form: deciding under conditions of bounded rationality with multiple objectives and rigid constraints.

This reflects a multi-criteria decision-making (MCDM) model (Zopounidis, Doumpos 2016), typical of real-world managerial contexts where there is not a single utility function, but multiple simultaneous and partially conflicting objectives. An example can be described as follows: maximising KPIs may require a larger budget, saving on the budget may reduce KPIs, and speeding up timelines may reduce strategic quality. The problem is not to optimise, but to balance the trade-offs.

The condition of bounded rationality stems from the fact that there is no absolute optimal solution. The system is built according to Simon's (2000) concept of bounded rationality. In the game, this

aspect is reflected in certain constraints that the player must accept. First, the player does not have all the information they would like; they cannot foresee all the consequences of their decisions; they cannot simultaneously optimise all variables. Therefore, they do not obtain a 'perfect' solution, but a sufficiently satisfactory, coherent, and defensible solution vis-à-vis stakeholders. An important educational implication is that the game shifts the focus from 'what is the optimal choice?' to 'which choice is sustainable within the system of constraints?'

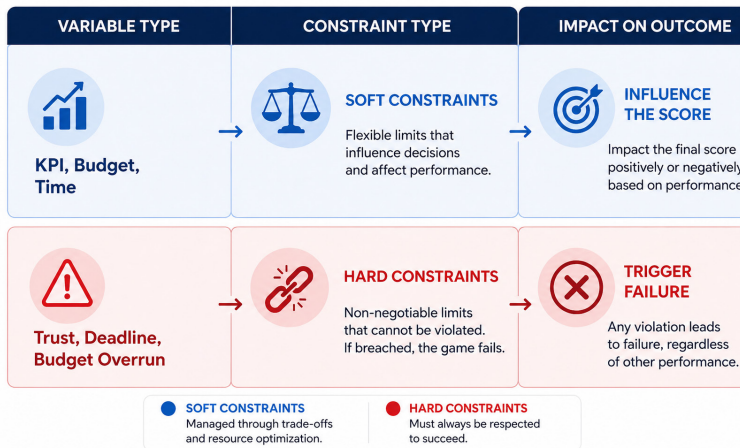


Figure 2 Types of constraints

The implicit scoring structure leads to the achievement of a dynamic equilibrium where the scoring system functions as a dynamic balance across four dimensions: market KPIs, trust from corporate stakeholders, available time, and remaining budget; these dimensions constantly vary due to the decisions the player makes. The key effect is that every decision shifts the system's equilibrium: greater investment leads to an increase in KPIs but a reduction in the available budget; faster decisions result in lower strategic quality; and an increase in the pursuit of stakeholder satisfaction and trust corresponds to a greater amount of time spent. The goal is therefore to find a balance among various competing forces.

Some constraints can be defined as 'hard', others as 'soft'. The former represent failure thresholds that must not be exceeded and correspond precisely to $\text{Trust} < 30$, $\text{Budget} < 0$, and $\text{Delay} > 2$ weeks. These are non-negotiable constraints. A system does not fail due to average performance, but due to the occurrence of critical bottlenecks (Goldratt 2004).

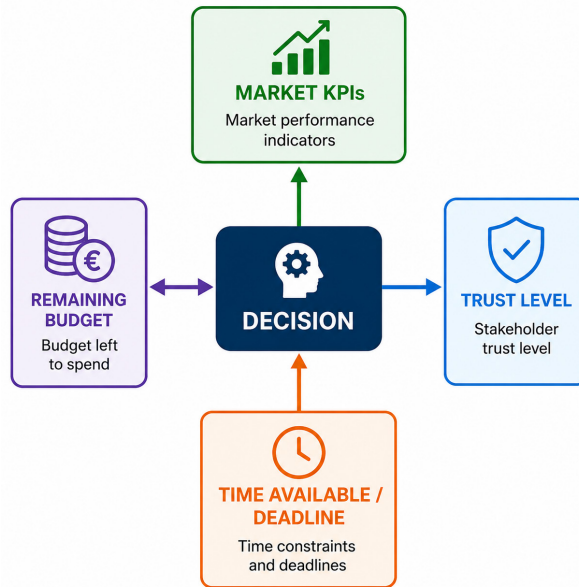


Figure 3 Dynamic equilibrium of decisions

The role of 'trust' as a strategic relational variable is perhaps the most interesting from an educational standpoint. In fact, it does not measure technical performance but refers to the credibility of the strategy proposed to the client, the resulting consistency among marketing decisions, as perceived by company stakeholders, and the management of stakeholder relationships itself. Trust functions as a metric of relational capital that encompasses reputation, organisational legitimacy, and trust in the consultant.

Thus, a project may achieve good or excellent KPIs but fail due to an insufficient level of trust, or it may achieve only average results but be barely accepted by stakeholders. This introduces the fundamental aspect that managerial success is not only about performance but also about legitimacy.

The scoring system integrates three fundamental theoretical levels:

1. Multi-objective optimisation (Chen 2024): there is not a single utility function, but multiple simultaneous objectives;
2. Bounded rationality (Simon 2000): decisions made with incomplete information and limited cognitive abilities;
3. Constraint theory (Cox, Schleier 2010): the presence of rigid constraints that determine the project's viability.

The scoring system transforms the game into a realistic simulation because it does not reward the 'optimal' solution so much as it rewards the systemic consistency of decisions and penalises the violation of critical constraints. In managerial terms, the winner is not the one who maximises a single variable, but the one who manages to keep the system in equilibrium under pressure. The presence of decision-making realism (constraints, conflicts, incomplete data), combined with the end-to-end integration of the marketing process, the development of cross-functional skills, and simple yet significant game mechanics, characterises the educational value of the game.

In particular, decision-making realism does not merely simulate 'what to do', but how to make decisions under imperfect conditions, which is the true managerial skill. In this way, students learn to make decisions without complete information (avoiding the 'perfect analysis' scenario), to manage ambiguity and contradictions, to define explicit trade-offs between the conflicting desires of the CEO, CFO, and CMO in a real conflict of interest, to evaluate the validity and usefulness of qualitative data versus quantitative data, and to manage the decision-making pressure imposed by time and budget constraints, thereby enabling the construction of a 'defensible decision'. The end-to-end integration of the marketing process, which avoids teaching isolated phases of the process (marketing research, branding, sales, distribution, etc.), is instead integrated into a single decision-making cycle that students must navigate. The game's design provides a comprehensive view of the problem at hand by presenting an ambiguous brief, incomplete marketing research data, the challenging choice between strategic alternatives, brand positioning, operational constraints on defining and managing the product portfolio, plan execution, and potential crises at the time of the new brand's launch. This fosters the development of systemic thinking, where one choice impacts others, and the ability to connect different decisions. For example, the strategic choice to position the brand in a premium segment impacts pricing decisions, target audience selection, and distribution channel choices. Students come to understand that marketing is not about 'running specific campaigns', but rather about making interconnected decisions. The development of cross-functional skills is a significant part of the game. It requires analytical skills, that is, the ability to interpret incomplete and contradictory data by distinguishing perceptions from facts and seeking the truth amidst differing opinions. For example, retailers may demand an innovative design deemed essential, while the panel highlights the importance of price. It develops synthesis skills, that is, the ability to reduce complexity into clear decisions that follow a strategic line of thinking derived from the analysis process and go beyond it. It also requires a willingness to negotiate among the various positions of corporate leadership, between the desire for

growth, concerns about risk, and the demand for consistency, to find a credible compromise, in accordance with stakeholder management, which remains fundamental in real-world work. It requires an aptitude for risk management, that is, the ability to evaluate not only the opportunities arising from the available options but also the potential drawbacks, defining not what is best but what is sustainable given the context in which the player operates, and proposing decision-making under uncertainty.

The simple game mechanics work because they are easy to understand but difficult to optimise; this is exactly what is needed in education. Key resources (budget, time, client trust, and team morale) teach that every decision has a cost and that there are no free choices. The student learns that optimising one variable (e.g., KPI) can worsen another (e.g., trust or time). The concept of constraint is introduced as a strategic driver, not as a limit, but as part of the decision.

In summary, the game works because it combines realism, that is, it simulates real-world chaos, with structure; it guides the player through the game phase by phase, step by step; it imposes a continuous trade-off, introducing the concept that every choice has both positive and negative consequences. Its scope goes beyond a marketing game; it also serves as a managerial decision-making simulator. In fact, it presents the player with certain logical questions that transform the process from a simple, engaging experience into a more comprehensive and assessable educational tool:

1. What would you do differently?
2. Where did you take too much or too little risk?
3. The evaluation criteria are summarised in Figure 4, which lists the rating levels, a description of the rationale for each rating, and observable performance indicators. At the end, examples of final overall scores are provided, along with the option to evaluate quantitative KPIs.



Figure 4 Evaluation rubrics

Structured debriefing sessions can also be incorporated, as they play a key role in transforming the game into deep learning. These debriefs should be scheduled after Step 3.2 (strategic decision-making), after Step 6 (GTM), and after Step 7.2 (brand launch and market crises), with a final debrief added at the end.

The structure of the debrief should remain simple yet meaningful, incorporating five key points. The first concerns the question “What would you do differently?” with the aim of fostering metacognition, that is, reflection on one’s own decisions, by posing guiding questions such as “Which decision would you make differently?”, “With the

current information, would you change your strategy?”, and “Did you underestimate any data?”. The expected outcome of this process is to generate awareness of mistakes and the resulting ability to learn from experience.

The second concerns the question “Where did you take too much/too little risk?” and aims to develop risk management skills, suggesting guiding questions such as “Did you make overly conservative decisions?”, “Where did you take excessive risks?”, “Did you balance short-term vs. long-term well?”.

The third concerns the question “What did you overlook?”, with the goal of bringing to light decision-making biases the player encountered during the various phases. In this case, the guiding questions might be “What data did you not consider?”, “Did you give more weight to qualitative or quantitative factors?”, “Were you influenced by an opinion (e.g., CEO or CMO)?”.

The fourth point involves the question “How did you manage stakeholders?”, with the goal of developing interpersonal soft skills; the player should be asked “Did you favor anyone (CEO/CMO/CFO)?”, “Were you able to mediate between the different positions?”, “Did you lose someone’s trust?”.

The final point poses the question “What would you do in the next step?”, with the goal of linking learning to action, by asking: “What is your next move?”, “What would you change in the go-to-market strategy?”, “How would you improve the KPIs achieved?”.

In terms of how the debrief is conducted, several classroom options can also be considered:

- Option 1. A quick debrief (approx. 10-15 min) focused on two key questions: “What would you do differently?” and “Where did you take too much/too little risk?”.
- Option 2. A more structured debrief (approx. 30 min), involving group discussions and a final report from each group presented to the whole class.
- Option 3. A written debrief of no more than two pages describing the main mistake the player believes they made during the game, the best choice made under conditions of incomplete information, what they would change about their approach, and why.

As we have seen, the game is designed to develop both hard skills, through data analysis and the development of a marketing strategy, and soft skills, which involve communication skills, the ability to negotiate between parties, and the need for decision-making. It also promotes the understanding and learning of meta-skills that are of considerable importance, such as the ability to learn from one’s mistakes and to reason under conditions of uncertainty. Without rubrics, the game is more engaging, but without debriefing, the game

becomes more superficial. With both, it can become a true simulator of managerial skills.

7.4 Limitations and Potential Improvements to the Simulation

From a scientific and educational perspective, several critical issues within the game can be identified. For example, the competitive complexity is greatly simplified; the market is, in fact, represented in a rather simplified manner, and the competitive response dynamics are missing. There is also a lack of long-term iterative learning, as KPIs are limited to 90 days and brand equity is not considered in the medium term. Consumer Behaviour is also simplified, since the model does not fully integrate the psychological variables implicit in the type of purchase, that is, motivations, deep-seated perceptions, and the psychological reasons behind responses to questions regarding purchasing Behaviour. There is also a risk of ‘gamification bias’, as players may seek to optimise their score rather than the strategic consistency of the decisions made.

The reduction of competitive complexity is a theoretical limitation, as the model represents the market in a partially exogenous and simplified form: competitors are present, but they do not fully play the role of strategic agents. In terms of economic and strategic theory, this means that the system is not a true dynamic oligopoly, but a simplified reactive environment. Consequently, it lacks competitors’ response strategies, the condition of strategic interdependence among firms, and competitive response dynamics, such as a potential price war or strategic repositioning due to competitors’ actions, as well as any actions to anticipate the predictable competitive response Behaviour of the competitors themselves.

The risk is that of an incomplete understanding of game theory as applied to marketing, both regarding the perception of competition as an iterative and adaptive process and the nature of markets’ continuous evolutionary transformation. The player thus risks developing a one-sided view of market conditions, according to which the player’s decisions determine the market, but the market does not think strategically and does not react competitively.

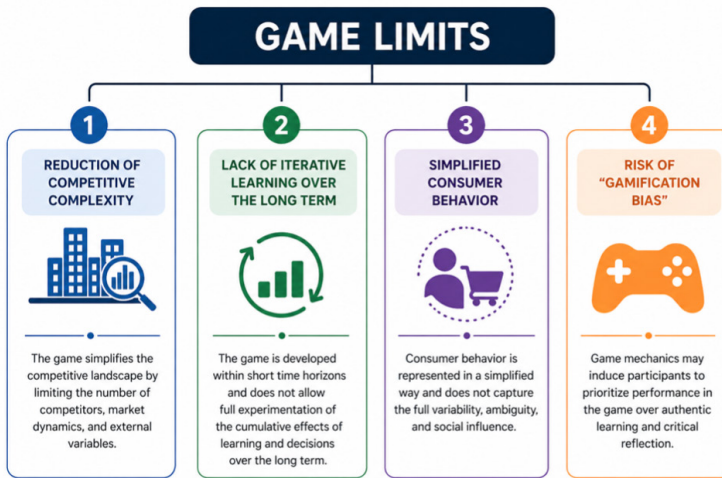


Figure 5 Main limitations of the game

To increase realism, elements of market response and environmental dynamics could be introduced. For example, one might consider reactions from competitors using adaptive strategies that leverage the possibilities offered by artificial intelligence, response functions such as a reaction to a price change decided by the player, the dynamic evolution of market shares in response to different strategic decisions, and the entry or exit of competitors. In this way, the game model could incorporate dynamics that would make the game very realistic.

Long-term iterative learning is absent, since the system is focused, as mentioned, on a short time horizon, with KPIs primarily oriented toward immediate performance. Consequently, the fundamental dimension represented by the intertemporal dynamics of brand value, and thus brand equity, is missing. The structure of the gameplay highlights and incentivises the pursuit of short-term optimisation, places the focus on converting interest into purchases and immediate awareness, and ends up underestimating cumulative effects, thereby losing sight of the effects of brand reputation accumulation and the growth, or lack thereof, of customer loyalty.

In real-world marketing decisions and activities, many variables have delayed effects relative to the moment of decision, since the processes at work in the market and among consumers require learning curves and decision-making that takes time. These effects are cumulative in nature because they build up over time, producing results that are sometimes unexpected; they depend on the historical trajectory of decisions and competitive responses. The game, on the

other hand, implicitly assumes a quasi-static relationship between action and outcome.

In a future iteration of the game, a dynamic brand equity index could be introduced, based on market responses, along with variable reputational effects driven by competitive Behaviours. This would provide the building blocks for a dynamic brand value model.

Consumer Behaviour is obviously simplified, modelled primarily as reactive to price and communication, and aggregated into quantitative KPIs. Therefore, there is a lack of representation of the cognitive, emotional, and symbolic dimensions of consumption. This limits the understanding of the intrinsic and extrinsic motivations of potential buyers, the effect of non-rational decision-making processes, and the effects of identity construction through brands. The consumer is implicitly treated as a fully rational agent with predictable Behaviour.













DIMENSION	CURRENT MODEL	POSSIBLE EVOLUTION
 Competition	 Static	 Dynamic multi-agent
 Time	 Short-term	 Multi-period
 Consumers	 Aggregated	 Psychographic and behavioral
 Evaluation	 Scoring	 Coherence + performance

Figure 6 Possible evolution of the game

In reality, consumer Behaviour is influenced by values and emotional reactions, by the social identity they wish to build or achieve through products and brands, and by the cultural context in which they are embedded (a game is planned that will propose variations in cultural contexts, simulating Vietnamese and Chinese contexts). Framing effects are present, whereby people react to the same information in different ways depending on how it is presented. Emphasising the positive aspects (benefits) rather than the negative ones (obstacles) influences decisions, even if the substance remains the same. The current model simplifies everything into a direct and simplified

relationship between marketing inputs and a linear Behavioural output.

In a future edition, more advanced psychographic market segments (status-driven, community-driven, performance-driven), non-linear Behavioural models, and social effects in communication and purchasing Behaviour (virality, network effects) could be introduced.

As for the risk of 'gamification bias', the scoring system may encourage behaviour aimed at maximising the score rather than following an actual strategy, as Goodhart (2015) states: "When a measure becomes a target, it ceases to be a good measure". The risk is that the player will be inclined to choose options that 'optimise' the score, resulting in a failure to follow an acceptable strategic consistency, developing a 'game the system' mentality, thereby reducing the depth of marketing analysis, transforming the pursuit of logical managerial decisions into opportunistic decisions focused on the score rather than on market conditions that are gradually taking shape, and significantly distorting the objective of acquiring managerial competencies. The scoring system may also become too predictable, easily optimised, and insufficiently responsive to the pursuit of overall strategic quality.

To mitigate this issue, qualitative assessments based on stakeholder judgment can be introduced, along with qualitative KPIs that are partially hidden or made less obvious, emerging during the game, and penalties for strategically inconsistent decisions. This shifts the game toward an evaluation of strategic coherence rather than relying solely on a numerical score.

In conclusion, the simulation is effective as an introductory teaching tool because it simplifies the complexity of the real market, which would otherwise be excessive for the players' skill level, makes the strategic decisions required by the proposed marketing problem clear and emphasises the decision-making process and its progression as required. However, its ideal future development should move toward a more systemic, behavioural, and dynamic simulation, in which the market, consumers, and competitors evolve over time.

7.5 Learning by Playing

An analysis of the game *Sprinting to Brand* reveals it to be an educational tool for simulating marketing decision-making processes under conditions of organisational complexity, information uncertainty, and time constraints. The value of the simulation lies not only in its attempt to reproduce, in simplified form, the stages of launching a new brand, but also in its ability to translate into a learning experience some of the key tensions that characterise the contemporary marketing process: the multiplicity of stakeholders

involved, the negotiation of divergent interests, and the need to make coherent decisions under constraints of time, budget, and internal legitimacy.

From this perspective, *Sprinting a Brand* aligns with a conception of marketing understood not as an isolated or merely technical-analytical function, but as a complex, cross-functional, and relational organisational process. The simulation highlights, in fact, that marketing decisions cannot be understood or evaluated exclusively in terms of instrumental effectiveness but must be situated within a system of interdependencies among internal and external stakeholders, each with different rationales, expectations, and evaluation criteria. In this sense, the game provides a stakeholder-oriented view of the decision-making process, in which strategic value emerges not from the maximisation of a single actor's interests, but from the construction of dynamic balances between objectives that are often partially conflicting.

Another key element is the portrayal of marketing activities as negotiation activities. The presence of ambiguous briefings, misaligned preferences, and structural trade-offs makes it clear that strategy formulation is not simply the outcome of a linear analytical process, but the product of practices of interpretation, framing, and mediation. The game, therefore, is not exclusively geared toward testing prior disciplinary knowledge, but rather encourages the development of cognitive and organisational skills, such as sensemaking, defining the strategic problem, the ability to argue a case, and building internal consensus. From this perspective, it helps shift the educational focus from seeking the 'optimal' choice to constructing sustainable, coherent, and justifiable decisions, that is, the 'possible' choice.

The centrality assigned to constraints also appears significant. Limited time, a defined budget, the incompleteness of available data, and the presence of critical failure thresholds create a decision-making environment compatible with the notion of bounded rationality. The player does not operate under conditions of full information, nor can they pursue a logic of absolute optimisation; on the contrary, they are called upon to identify satisfactory solutions within a system of multiple and interdependent constraints. The simulation thus succeeds in representing one of the most realistic dimensions of management: the need to decide under imperfect conditions, assuming opportunity costs, accepting margins of uncertainty, and preserving the overall balance of the decision-making system.

The game serves as a tool well-suited for the simultaneous development of hard skills, soft skills, and meta-skills. In terms of subject-specific skills, it allows participants to apply classic models of market research, market sizing, segmentation, positioning, brand strategy, channel strategy, and performance measurement.

In terms of transferable skills, it trains participants in synthesis, negotiation, stakeholder management, risk assessment, and strategic communication. Finally, it fosters self-reflection, learning from mistakes, and the ability to reason in highly ambiguous contexts. It is precisely this multi-level nature of learning that makes the simulation a particularly valuable tool not only for teaching marketing but for managerial training in a broader sense.

Within this framework, debriefing plays a decisive role. Simulation, in fact, fosters deep learning only to the extent that the experience is subsequently subjected to a process of critical reflection, verbalisation, and re-elaboration. Questions regarding what the participant would do differently, the risks taken, the data overlooked, stakeholder management, and subsequent moves are not merely a complement to the game but an essential component of its pedagogical framework. For this reason, the integration of the game, evaluation rubrics, and structured moments of reflection is a central condition for the full scientific and educational value of the tool.

In conclusion, *Sprinting a Brand* seeks to combine conceptual rigor, educational applicability, and managerial relevance. Its intent is to bring to the fore not so much the total complexity of reality as its most formative underlying tensions: ambiguity, constraints, interdependence, conflict of interest, the partial irreversibility of choices, and the need for internal legitimacy.

It can therefore be concluded that the simulation's main contribution lies in its attempt to promote a form of learning that integrates theory, action, and critical reflection. In this way, *Sprinting a Brand* does not merely support the understanding of marketing tools and models, but seeks to contribute to the development of managerial judgment, preparing participants to operate in real-world contexts characterised by complexity, decision-making pressure, and a plurality of success criteria.

7.6 A Game-Based Simulation of International Human Resource Management

This game-based simulation is designed to support learning in International Human Resource Management (IHRM) through an interactive and experiential approach. Participants are immersed in realistic international HR scenarios that require analysis, decision-making, and reflection on outcomes.

The simulation is organised into five modules, whose development corresponds to progressively increasing levels of complexity. Each module addresses a specific theme in international personnel management and is designed to build on the knowledge and skills acquired in previous stages. All modules are developed in HTML

format and are downloadable, allowing participants to access the materials offline and review them at their own pace.

In several exercises, participants are asked to make decisions based on a reference model that is provided and made available for download. In other cases, they are confronted with an open-ended problem, requiring them to identify, compare, and justify alternative solutions. The decisions taken by players are evaluated in terms of their correctness and consistency with international HRM principles.

Each decision generates a score, which contributes to an overall performance assessment and supports the certification of learning outcomes. Scores are collected and processed anonymously and are used not only for individual feedback, but also to construct an aggregated learning scenario that reflects patterns, strengths, and areas for improvement across the entire population of players.

Through its modular structure, increasing complexity, and data-driven feedback system, the simulation promotes active learning, self-assessment, and a deeper understanding of International Human Resource Management in a global context.

The game-based simulation integrates a structured learning analytics framework that aims to monitor, evaluate, and interpret the learning processes and results of participants in International Human Resource Management (IHRM).

At the individual level, learning analytics are based on the decisions made by participants during the simulation. Each exercise requires players to select or propose solutions to HR-related problems. These decisions are mapped to predefined evaluation criteria derived from established IHRM models and best practices. The resulting assessments generate quantitative scores that reflect the degree of alignment between participants' choices and theoretically or empirically grounded solutions.

At the system level, all performance data are collected, stored, and processed in anonymised form. No personally identifiable information is used in the analytical process. This ensures compliance with ethical standards and data protection regulations, while allowing the aggregation of results across the full population of players.

Aggregated data are used to construct a population-level learning scenario, which enables the analysis of learning patterns across modules and levels of complexity. In particular, the analytics framework supports:

- the identification of common decision paths and recurring errors;
- the assessment of learning progression across modules with increasing complexity;
- the comparison of performance across different types of exercises (model-based vs. problem-based);

- the evaluation of the overall effectiveness of specific modules and learning designs.

The learning analytics outputs serve both formative and summative purposes. Formatively, they provide feedback for the iterative improvement of the simulation design, module content, and difficulty calibration; They support the certification of learning outcomes, ensuring that performance scores are grounded in transparent and replicable evaluation criteria. Overall, the learning analytics component transforms gameplay data into actionable insights, enhancing the pedagogical value of the simulation and supporting evidence-based evaluation of learning in International HRM Collaborative Learning and Group-Based Simulation. In addition to individual gameplay, the simulation includes a dedicated component that supports collaborative learning in small groups. Participants are given the opportunity to compare perspectives, discuss decision options, and collectively reflect on the implications of alternative HR strategies in an international context. To facilitate group-based activities, an ad hoc version of the simulation is made available for use in teamwork settings. This version is specifically designed to support collective decision-making, enabling groups to engage with the same scenarios while negotiating and justifying shared solutions. The structure of the group version allows instructors to integrate the simulation into classroom-based workshops, seminars, or project work where collaboration is a core learning objective. From a methodological perspective, group interaction is treated as a complementary learning dimension rather than a substitute for individual assessment. Group-level decisions can be analysed to identify patterns of collective reasoning, convergence or divergence of viewpoints, and the impact of discussion on decision quality. When learning analytics are applied to group activities, data are processed in aggregated and anonymised form, ensuring consistency with ethical and data protection standards. The inclusion of a group-based simulation mode enhances the pedagogical value of the tool by promoting peer learning, critical discussion, and shared sense-making, which are particularly relevant for International Human Resource Management, where decisions often emerge from collective processes and cross-functional collaboration.

7.7 Collaborative and Collective Learning

The group-based version of the simulation is grounded in established theories of collaborative and collective learning, which emphasise learning as a socially situated and co-constructed process. According to social constructivist perspectives, knowledge emerges through

interaction, dialogue, and the negotiation of meaning among learners rather than through individual cognition alone. This theoretical orientation is particularly relevant in the field of International Human Resource Management, where decision-making typically involves multiple stakeholders and diverse cultural viewpoints.

Within the simulation, collaborative learning is operationalised through small-group interaction, where participants jointly analyse scenarios, exchange interpretations, and deliberate on alternative courses of action. These interactions support the development of higher-order cognitive skills, such as critical thinking, perspective-taking, and integrative problem-solving. The requirement to articulate and justify decisions within the group further reinforces reflective learning and conceptual understanding.

The simulation also incorporates elements of collective learning, understood as the capacity of a group to develop shared knowledge structures that go beyond the sum of individual contributions. Through repeated engagement with complex scenarios and feedback mechanisms, groups progressively align their interpretations and decision criteria, leading to more coherent and informed collective outcomes. This process mirrors real-world organisational learning dynamics in international contexts.

From an instructional design perspective, the availability of an ad hoc group version of the simulation enables educators to intentionally scaffold collaborative processes. By structuring tasks, roles, and decision points, instructors can foster productive interaction and guide groups toward effective knowledge co-construction. Learning analytics applied to group-level performance further support this approach by making visible patterns of collective reasoning and learning progression.

Overall, the integration of collaborative and collective learning theory provides a robust conceptual foundation for the group-based simulation. It reinforces the alignment between the pedagogical design of the tool and the social, interactive nature of international human resource management practice.

7.7.1 The Strategic Relevance of Staffing and Candidate Evaluation in International Organisations

Personnel selection and staffing represent a core process in Human Resource Management, as they directly shape the alignment between individual characteristics and organisational needs. Effective staffing requires the systematic evaluation of candidates' skills, competencies, values, and behavioural tendencies in relation to the strategic objectives, structure, and culture of the organisation. The quality

of this matching process has long-term implications for individual performance, organisational effectiveness, and workforce stability.

In international organisations, the relevance of staffing processes is further amplified. Firms operating across national borders face higher levels of complexity due to cultural diversity, institutional differences, and geographically dispersed operations. As a result, selecting the right candidates, particularly for international assignments or globally integrated roles, becomes a high-impact decision with significant economic consequences. Poor staffing decisions can generate substantial direct costs (e.g., recruitment, relocation, training, and turnover) as well as indirect costs related to underperformance, coordination failures, and reputational damage.

Beyond economic considerations, staffing and candidate evaluation play a critical role in shaping employee motivation and work-related behaviour. When individuals perceive a strong fit between their personal characteristics and job requirements, they are more likely to demonstrate engagement, commitment, and adaptive behaviour. Conversely, misalignment can lead to stress, reduced motivation, and dysfunctional behaviours, particularly in international contexts where ambiguity and adjustment demands are high.

For these reasons, staffing in international companies is not merely an administrative activity, but a strategic and behavioural process. It influences how employees interpret organisational expectations, respond to cross-cultural challenges, and contribute to collective goals. By integrating staffing and candidate evaluation into the simulation, participants are encouraged to appreciate the multifaceted nature of selection decisions and to understand their economic, motivational, and behavioural implications in global organisations.

7.7.2 People Strategy and Its Relationship with Staffing and Talent Management

People strategy can be defined as the coherent set of principles, priorities, and choices through which an organisation aligns the management of its human resources with its overall business strategy. It expresses how an organisation intends to attract, develop, motivate, and retain people in order to achieve sustainable competitive advantage. Unlike isolated HR practices, people strategy provides a long-term, integrative perspective, linking individual-level processes to organisational goals and values.

Within this strategic framework, staffing and talent management represent two closely interconnected and mutually reinforcing processes. Staffing concerns the acquisition of human resources through recruitment, selection, and placement decisions, while talent

management focuses on the identification, development, deployment, and retention of individuals with critical skills and high potential. Both processes are central mechanisms through which people strategy is translated into operational reality.

From a strategic perspective, staffing decisions are not neutral or purely technical. Choices about whom to hire, for which roles, and at which career stage directly reflect underlying assumptions about the type of workforce the organisation seeks to build. For example, a people strategy oriented toward innovation and adaptability will prioritise candidates with learning agility, openness to change, and cross-functional skills. Conversely, a strategy emphasising efficiency and standardisation may focus more strongly on role-specific competencies and procedural reliability. In this sense, staffing acts as a gatekeeping function, shaping the human capital available to the organisation over time.

Talent management builds upon these initial staffing decisions by determining how selected individuals are nurtured and leveraged within the organisation. A coherent people strategy ensures consistency between who is hired and how talent is subsequently developed and rewarded. Misalignment between staffing and talent management, for instance, hiring for creativity but promoting conformity, can undermine employee motivation, weaken performance, and erode trust in organisational systems.

The relationship between people strategy, staffing, and talent management becomes even more critical in international organisations. Global firms must reconcile the need for strategic coherence with sensitivity to local labour markets, cultural expectations, and institutional constraints. Decisions about staffing expatriates, developing global leaders, or building local talent pipelines reflect broader people strategy choices regarding standardisation versus differentiation, centralisation versus decentralisation, and short-term performance versus long-term capability building.

From an economic standpoint, people strategy provides a framework for managing the cost-value trade-off inherent in staffing and talent decisions. Investments in recruitment, assessment, training, and development are justified not only by immediate performance outcomes but also by their contribution to long-term organisational learning and resilience. Poorly articulated or inconsistently implemented people strategies increase the risk of costly mismatches, high turnover, and underutilisation of talent, risks that are magnified in international contexts due to higher coordination and adjustment costs.

Equally important are the motivational and behavioural implications of the alignment between people strategy, staffing, and talent management. Employees interpret staffing and promotion decisions as signals of what the organisation truly values. When

these signals are consistent with the declared people strategy, they foster perceptions of fairness, clarity, and psychological contract fulfilment. When inconsistencies arise, they may generate cynicism, disengagement, and counterproductive behaviours.

In this light, staffing and talent management should be understood not merely as functional HR processes, but as strategic levers that shape organisational culture, behaviour, and identity. A well-defined people strategy provides the guiding logic that connects individual characteristics and aspirations with organisational needs and long-term objectives. By making these connections explicit, organisations, and learners engaging with the simulation, can better understand how human resource decisions contribute to both performance and sustainability.

Within the simulation context, this strategic perspective encourages participants to move beyond short-term, isolated decision-making. Instead, they are invited to reflect on how staffing and talent management choices accumulate over time, reinforcing or undermining the intended people strategy and, ultimately, the effectiveness of the organisation in a complex international environment.

People strategy can be defined as the coherent set of principles, priorities, and managerial choices through which an organisation aligns the management of its human resources with its overall business strategy. Within the field of Strategic Human Resource Management (SHRM), people strategy represents the mechanism through which HR practices are vertically aligned with organisational objectives and horizontally integrated with one another. Rather than viewing HR activities as isolated functions, SHRM emphasises their systemic and long-term impact on organisational performance.

From the perspective of the Resource-Based View (RBV) of the firm, human resources constitute a critical source of sustainable competitive advantage when they are valuable, rare, difficult to imitate, and effectively organised. People strategy plays a central role in shaping these conditions by determining how human capital is acquired, developed, and deployed. Staffing and talent management are therefore not operational decisions alone, but strategic investments that influence the quality and uniqueness of the organisation's human resource base.

Within this framework, staffing functions as a strategic entry point. Recruitment and selection decisions determine which forms of human capital enter the organisation and set the boundaries of future capability development. A people strategy oriented toward innovation, international growth, or knowledge integration will emphasise selection criteria such as learning agility, cultural intelligence, and collaborative orientation. Conversely, strategies focused on efficiency or reliability may prioritise standardisation,

technical specialisation, and procedural compliance. In RBV terms, staffing decisions shape the initial endowment of human capital on which competitive advantage is built.

Talent management extends this strategic logic over time. Drawing on Human Capital Theory, talent management can be understood as a process of enhancing the productive value of individuals through targeted investments in training, development, and career opportunities. A coherent people strategy ensures that these investments are aligned with both individual potential and organisational priorities, thereby maximising returns on human capital investments. Inconsistent or fragmented approaches, by contrast, risk underutilising talent and eroding the value created through staffing.

The strategic interdependence between staffing and talent management becomes particularly salient in international organisations. Global firms operate in environments characterised by institutional diversity, cultural complexity, and heightened uncertainty. From a SHRM perspective, people strategy provides the guiding framework for managing these tensions, balancing global integration with local responsiveness. Staffing choices related to expatriation, global leadership pipelines, or local talent development reflect deeper strategic assumptions about control, knowledge transfer, and long-term capability building.

Economic considerations further reinforce the strategic nature of these processes. In line with Human Capital Theory, investments in selection and development generate costs in the short term but create value through improved performance, reduced turnover, and enhanced adaptability. In international contexts, the financial consequences of poor staffing or weak talent management are magnified due to relocation costs, adjustment failures, and coordination inefficiencies. A clearly articulated people strategy helps organisations manage these risks by providing consistency and strategic direction.

Equally important are the behavioural and motivational implications emphasised in SHRM research. Employees interpret staffing, promotion, and development decisions as signals of organisational values and priorities. When these signals are aligned with the stated people strategy, they foster perceptions of fairness, commitment, and psychological contract fulfilment. When misaligned, they may generate disengagement, reduced motivation, and counterproductive behaviours, outcomes that undermine the very human capital advantages the organisation seeks to build.

Taken together, Strategic HRM, the Resource-Based View, and Human Capital Theory provide a robust conceptual foundation for understanding the relationship between people strategy, staffing, and talent management. These perspectives highlight how HR decisions accumulate over time to shape organisational capabilities, employee

behaviour, and competitive advantage. Within the simulation, this theoretical integration encourages participants to approach staffing and talent management not as isolated choices, but as interconnected strategic levers with long-term organisational consequences in a complex international environment.

7.7.3 People Strategy, Staffing, and Talent Management in International HRM

People Strategy People strategy refers to the set of long-term choices through which an organisation aligns the management of its workforce with its business strategy. In Strategic Human Resource Management (SHRM), people strategy ensures: Vertical alignment: HR practices support organisational goals; Horizontal alignment: HR practices (staffing, development, rewards) are mutually consistent.

Staffing as a Strategic Lever From the Resource-Based View (RBV), human resources can create sustainable competitive advantage when they are valuable, rare, difficult to imitate, and well organised. Staffing decisions determine who enters the organisation.

Key Question for Players: Selection criteria shape the organisation's future capabilities (e.g., innovation, adaptability, global coordination).
Key Question for Players: Does your staffing decision contribute to building a distinctive and valuable human capital base?

Talent Management and Human Capital According to Human Capital Theory, employees' skills and competencies are assets that generate value when organisations invest in their development.

Talent management includes identification, development, deployment, and retention of high-potential employees. Coherence between staffing and development increases the return on human capital investments.

Key Question for Players: Are development and career decisions consistent with the characteristics of the people you selected?

Higher economic impact (recruitment, training, relocation, turnover costs): Stronger behavioural consequences (motivation, engagement, adjustment); Strategic relevance for global integration and local responsiveness.

Key Question for Players: How do cultural, institutional, and organisational factors influence the effectiveness of your HR decisions?

7.7.4 Learning Analytics and Scoring Logic in the Game-Based Simulation

The game-based simulation is designed to transform players' decisions into meaningful evidence of learning through a structured learning analytics and scoring system. Rather than evaluating isolated answers, the system captures how participants reason, adapt, and integrate decisions over time, particularly in complex areas such as the management of international teams.

At the core of the simulation, each decision made by a player (or group) is mapped against a set of reference criteria derived from international HRM theory and best practices. Decisions are evaluated along multiple dimensions, reflecting not only correctness, but also strategic coherence and behavioural awareness. Each decision generates a partial score, and the aggregation of these scores over time forms the basis of both feedback and certification of learning outcomes.

A first layer of scoring focuses on decision quality. When players are presented with a scenario, such as managing conflict in an international team or designing coordination mechanisms across countries, their chosen action is compared with a benchmark solution.

Decisions that are fully consistent with the underlying model or best practice receive the maximum score (e.g., 3 points). Partially appropriate decisions receive an intermediate score (e.g., 1-2 points), reflecting awareness of the problem but incomplete alignment. Inappropriate or counterproductive decisions receive zero or negative points, particularly when they increase conflict, undermine trust, or ignore contextual constraints. Beyond single decisions, the simulation evaluates strategic consistency over time. Players are rewarded not only for making good choices, but for making choices that fit together coherently. For example, a staffing decision that emphasises diversity and collaboration should be followed by leadership and coordination practices that support integration.

Consistent decision patterns across scenarios generate bonus points for strategic alignment, while contradictory decisions, for example, selecting for autonomy but managing through rigid control, reduce the cumulative score, even when individual decisions are acceptable in isolation. In the international team management module, particular attention is given to conflict management. The scoring system distinguishes between task conflict and relationship conflict and evaluates how players intervene. Preventive and proportionate interventions that preserve collaboration while encouraging constructive debate are scored highly. Escalation of relationship conflict, avoidance of critical issues, or culturally insensitive responses lead to penalties, reflecting their negative impact on team performance. Another key dimension concerns integration and

coordination in global teams. Players receive higher scores when their decisions balance global consistency with local responsiveness, clarify roles, and support communication across time zones and cultures. Over-standardisation or excessive decentralisation, when misaligned with the scenario, results in lower scores, signalling coordination inefficiencies. The scoring system also captures learning progression: early mistakes are not automatically penalised if players demonstrate improvement over time. Evidence of adaptation, such as changing strategies after feedback or avoiding repeated errors, generates progression points that reward learning rather than perfection, while repeated ineffective choices lead to declining marginal scores. In the group-based version of the simulation, scores can be generated at both individual and collective levels. Groups that converge toward well-reasoned shared solutions receive higher collective scores, while persistent disagreement without resolution, or dominance by a single perspective, reduces the group score. When reflective explanations are required, metacognitive scoring is applied: players who clearly justify their decisions and link them to strategic objectives receive additional points. Overall, the scoring system is designed to reflect the strategic, behavioural, and organisational complexity of International Human Resource Management, ensuring that high performance corresponds to deep, transferable understanding rather than short-term optimisation.

7.7.5 Fun and Difficulty Level

One of the central challenges in video game design is to sustain player enjoyment without allowing the experience to become either excessively easy or unnecessarily difficult. Engagement depends on a dynamic relationship among fantasy, curiosity, control, and challenge. When these elements are well balanced, players are more likely to remain immersed, motivated, and emotionally involved in the game experience. When this balance is disrupted, however, enjoyment may decline rapidly. Challenge is especially difficult to regulate because the appropriate level of difficulty is never fixed. It changes as players learn the mechanics of the game, improve their skills, encounter failure, revise their strategies, and become more familiar with the logic of the environment. Traditional difficulty settings are limited in this respect, even when they offer multiple levels. A fixed difficulty curve may frustrate players who progress more slowly than expected, while leaving more skilled or faster-learning players insufficiently challenged. Similarly, requiring players to adjust the difficulty manually may interrupt immersion and make the experience feel artificial. Dynamic Difficulty Adjustment (DDA), responds to these

limitations by enabling games to adapt difficulty continuously and more subtly during play.

DDA can be understood as an AI-supported design approach through which a game modifies its parameters, systems, or agent behaviours in real time on the basis of the player's observed performance. Instead of treating difficulty as a fixed choice made before gameplay begins, DDA treats it as a variable that can be recalibrated throughout the experience. The system evaluates the player's performance in relation to an expected or desired baseline and then adjusts the game in order to keep the player within an appropriate zone of challenge. This principle is closely connected to Csíkszentmihályi's concept of flow, according to which task difficulty and individual ability must remain sufficiently balanced to support concentration, confidence, and motivation. For DDA to be effective, however, the system must be able to estimate the player's current skill level, detect changes in that skill over time, and adjust difficulty in a way that does not appear intrusive, arbitrary, or manipulative.

A central component of DDA is the meaningful measurement of player performance. One possible approach is to compare the player's current number of successful actions with an ideal reference value over a defined period of time. This comparison allows the system to produce a normalised estimate of difficulty, which may also be paired with an inverse measure of ease. If the resulting value remains within a desired range, the game can interpret the current level of difficulty as appropriate. If it falls outside that range, the system may intervene by increasing or decreasing the level of challenge. A broader proficiency score can also be constructed by combining several performance indicators, either through simple averaging or through weighted aggregation, depending on the relative importance assigned to each indicator.

A second approach evaluates performance by comparing the player's actions with an expected value at a specific point in the game. This makes it possible to determine whether the player is performing above expectations, below expectations, or in line with them. On the basis of this comparison, the game may modify variables such as enemy strength, resource availability, pacing, or the behaviour of non-player characters. In more advanced systems, this process can be supported by adaptive agents that learn from player behaviour and modify their strategies accordingly. Such agents must be efficient enough to learn from a limited number of encounters, rather than requiring extensive training time. They must also be interpretable, since developers need to understand why the system generates particular behaviours. Variety is equally important, because adaptive agents should not become repetitive or predictable. At the same time, they must remain consistent across different players and scalable enough to respond to a wide range of skill levels.

Fully adaptive AI, however, can create design problems if its only objective is to improve its own performance. If the AI becomes too effective, it may defeat the player too consistently and therefore undermine the very purpose of DDA. The goal of DDA is not to maximise AI success, but to preserve an engaging and balanced level of challenge. For this reason, developers may introduce specific constraints on adaptation. Weight clipping, for example, limits the maximum value assigned to a rule, preventing any single strategy from becoming excessively dominant. Top culling operates in a similar manner by allowing weights to increase while excluding rules that exceed a specified threshold from being selected. These techniques help prevent the AI from becoming overwhelmingly efficient and preserve the player's possibility of success.

Another possible adjustment is the introduction of an 'adrenaline rush' mechanism, which takes into account the fact that players often improve rapidly at the beginning of a session and more gradually later on. To reflect this learning pattern, the system can limit how aggressively it updates rule weights. If the player's improvement falls below a certain threshold, the AI's adaptation rate can be reduced so that it does not outpace the player too quickly. The fitness function can also be redesigned. Rather than rewarding the AI for maximising its own performance, the system can reward behaviours that reduce the gap between the AI and the player. In this way, adaptation is directed toward balanced competition rather than toward the simple increase of AI victory.

Dynamic Difficulty Adjustment can therefore be understood as a design strategy aimed at sustaining player engagement through continuous and individualised adaptation. Its implementation normally involves two closely connected stages: measuring the player's proficiency through gameplay data and adjusting game parameters or agent behaviours in response to that measurement. Both stages require careful data collection, mathematical modelling, and design judgement. When implemented effectively, DDA can maintain motivation by keeping challenge within a rewarding range. When implemented poorly, it can produce abrupt changes in difficulty, reduce player trust, or impose unnecessary computational demands on the game engine. For this reason, DDA requires not only technical sophistication, but also careful planning, testing, and sensitivity to the player's experience (Sepulveda, Caro, Fernández 2019).