

# Value Creation and Destruction: Balancing Failure in Serious Games Applied to Online Corporate Training

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## Abstract

The research investigates how digital Serious Games (SGs) for organizational training create value while simultaneously causing value to be lost during their implementation process. Organizations face challenges when implementing SGs because these games offer experiential learning, higher engagement, and better knowledge transfer. The main reasons for adoption failure include difficulties tailoring solutions, distributing resources, and preparing organizations for change, with findings indicating both positive and negative value creation. The research analyzes Brazilian organizational interview data to identify four value-based dimensions that demonstrate dangerous organizational methods, along with their learning potential. The research findings enable organizations to identify the primary barriers that prevent SGs from entering mainstream business-to-business adoption, while providing operational methods to develop training systems that merge contemporary methods with current business systems.

**Keywords:** Serious Games, Online Corporate Training (OCT), Value creation; Value destruction

## 1. Introduction

The global market for SGs continues to grow because these games provide organizations with valuable training outcomes at affordable prices (AlliedMarket, 2020). Organizations face three main obstacles that prevent them from achieving SG success: they need customized solutions that their systems cannot integrate (Hauge et al., 2014), and their operational capacity remains limited (Riedel et al., 2013). Organizations encounter multiple barriers when adopting new systems because they retain their current resource management systems, and people evaluate success based on personal effort and social bonds (Turnbull et al., 1996).

This issue indicates failure through three harmful elements: unsatisfied customer expectations, defective products, and interrupted service delivery (Hübner et al., 2018; Kjeldgaard et al., 2021; Talwar et al., 2020). Organizations gain essential learning experiences through their failure processes, which enable them to improve their predictive abilities and situational monitoring and to acquire knowledge for implementing recovery strategies (Fombelle et al., 2020; Friend et al., 2019). Organizations need to understand failure because it represents the main obstacles to implementing Succession Gen training programs.

The corporate learning environment has transformed due to technological advances, creating new requirements for workplace education. Students learn through SGs, which provide practical experiences that help them acquire problem-solving abilities and achieve better understanding, active involvement, and knowledge retention than conventional educational approaches (Karunathilake & Galdolage, 2021; Westera, 2019). The delivery of value requires more than standardized mathematical formulas. The process requires organizations to align their readiness for value co-creation with developers who can obtain the necessary resources based on market conditions (Ng & Ding, 2010). Organizations can achieve successful SG implementation through proper execution, as these systems help workers develop their skills, make their staff more committed, and improve their business market position. However, organizations need to invest significant resources to establish and integrate these systems (Backlund & Hendrix, 2013). The research establishes the value paradox of SG adoption, which holds that value can exist in two opposing states depending on how actors view things (Smith & Lewis,

2011) and how well their organizations work together (Star, 2010). The research examines these opposing systems to develop a better understanding of SGs' effects on organizational training outcomes and their current operational difficulties.

## 2. Literature Review: Defining Failure as a Phenomenon in Online Corporate Training

Grönroos and Voima (2013) provided a clear understanding of value as structured from a producer (or developer) perspective, with integrated resources under their control (at least in part). They are made available for customers to experience, thereby enacting co-producing practices (value-in-exchange) that are resource-dependent (Ehret & Wirtz, 2018). In this study, concerning dyadic exchanges, while the customer, when accumulating experiences over time and independently of resources made available (value-in-use), is enthralled in a “social, physical, temporal, and/or spatial” manner, as the “customer integrates resources and processes from a firm with the resources and processes from other organizations and/or actors, depending on his or her individual, relational, and collective goals” (Grönroos & Voima, 2013, pp. 136–137; Helkkula et al., 2012). Frau et al. (2017) conceptualized variation usage factors which we can adopt to analyze how technology-enabled value impacts Online Corporate Training (OCT) offerings: “capital accessibility, attrition and exploitation”, where that usage is found to be “a longitudinal, dynamic, experiential process that may include both construction and destruction (...) in different social and physical as well as temporal and spatial settings” (Grönroos & Voima, 2013, p. 138). The degree of capital accessed by one actor before other(s), how the choice to prioritize that access to resource integrating, and the degree of benefits realized from these choices are directly related to Serious Games Developers' (SGD) position facing COs in situated markets, which we found to be relevant – in terms of knowledge transformation and competitive advantage, related to employee training (Ehret & Wirtz, 2018; Jardon & Martos, 2012; Paananen & Seppänen, 2013; Perrey et al., 2004; Whysall et al., 2019; Wirtz & Ehret, 2017). Furthermore, the literature also suggests that value, being all encompassing, enables co-creation (...) by which mutual value is expanded together, because value is at the same time exchanged between parties and experienced in the continuum, where customers bring past experiences shaping their future value perceptions. Being explored in a global scale, knowledge-based value can be internalized from an economic perspective ('value-in-exchange') and a resource integration perspective ('value-in-use'), the latter branched out in two subcategories (Loon, 2019; Plé 2017): value creation (VC) and value destruction (VD), denoting a variation in the amount of value retained by each party during multilateral interactions, and how that value increases or decreases along a given timeframe (Buhalis et al., 2020). As actors can access one or more forms of value and transform them into new capital through an exploitative approach, it is noted that, by not contributing to value, there is evidence of failure to achieve desired findings, impacting several dimensions about B2B relationships at simultaneous levels – a complex proposition in itself, such as quality or knowhow shortcoming on services rendered, inappropriate resource allocation, misinterpreting the other party's expectations, etc., overall generating a 'negative influence' that may propagate further than the original locus of value loss (Andriopoulos & Lewis, 2009; Eze et al., 2019; Zhu & Zolkiewski, 2015).

OCT is noted to deal with complex configurations, which may lead to success or failure, relative to the type of training (content and format), the recipients of that training, the managerial oversight of training initiatives, and the pertinence of training findings (Bernardino & Curado, 2020; Sitzmann & Weinhardt, 2018). Training failure from an economic and managerial perspective may seem a priority in evaluating findings (Miller & Mattick, n.d.); however, deeper concerns should be addressed, including organizational culture and the organization's own institutional makeup, as root causes of failure (Bunch, 2007; Hald et al., 2020). Additional complexity is perceived when considering training delivery systems based on technological innovation and the organization's readiness for adoption (Heldal et al., 2018). Following the concept of intermediate value spaces between creation and destruction, we propose that value can also be created 'from failure' as cumulative experience can be developed even when training performance falls short of preestablished success thresholds (e.g., 'learning from mistakes'), specifically regarding online Serious Gaming training contributions and the corresponding assessments to learning and knowledge transfer to the workplace (Echeverri, 2021; Edmondson, 2011; Westera, 2022).

### Institutional Theory (Interactive Value Formation Framework)

Strongly related to Practice Theory as depicting corporate actors behavior, through intentions, artifacts used and activities and processes performed, contextualizing their valence perceptions towards value (Cabiddu et al., 2019), the Interactive Value Formation (IVF) framework was adopted in our second study, based on Echeverri and Skålén's work (2021). Extant research traditionally places VC and VD as diametrically opposed absolutes, rather than a relative positioning along a spectrum, in what may be constructed as a 'zero-sum' model (Cambridge University Press, 2021). Interactive Value Formation (IVF) Theory proposes an intermediary space

between these two opposites, where multilayered degrees in value may fluctuate (Echeverri & Skååén, 2021; Luyen et al., 2022). VC and VD can be placed in a 'IVF space' as both inside existing practices (processes and other practice components which are perceived and effectively constitute an alignment or misalignment with existing goals and objectives) and between clustered practices (where higher or lower degree of correlation between bundled practices).

As value alternates along a continuum, this 'variation space' can be observed as a constant flux where IVF consists in a function of value alignment or misalignment, enabled and constrained by mutually exchanged resource configuration (Baker & Kim, 2019; Plé & C eres, 2010; Vafeas et al., 2016). As resources are inserted into practices, they come back to the concept of practice (mis)alignment with intended outcomes, alternating VC and VD states (Kustrak Korper et al., 2021). Quite notably in digital goods markets, such as software services where innovation is a key success factor, knowledge exchange transforms knowledge and creates new knowledge enabling value creation, in a B2B relationship, when the proper conditions are present (i.e., trust, communication, transparency, skilled human capital and adequate resources, common objectives towards problem-solving, etc.), or when they become absent or lacking, there is potential for VD (Barrett et al., 2015; J rvi et al., 2018;  sterberg, 2004; Randhawa et al., 2017). VC and VC may occur alternately along a continuum or simultaneously between different actor exchanges, when coherent or divergent actor interactions occur (Vargo & Lusch, 2016), thus inserting IVF within and across service ecosystems (Carid et al., 2019).

### **Failure as a Phenomenon**

Failure in employee adoption - OCT offering's success measurements are based on an ideally high adoption combined with manageable 'turnover' rates among participating employees, and can be dependent of the convergence of many factors, amongst which a balanced composition between the system's characteristics and the trainee's personal learning traits (Malureanu et al., 2021). OCT adoption is legitimized when trainees recognize them as being pertinent to their realities – or 'perceived usefulness', which is partly dependent on a good internal communication strategy supported by management (Davis, 1989; Karunaratne & Abeyratne, 2020; Nguyen et al., 2015). Such perception is trifold: their adequacy and relevancy to pedagogical content balanced with delivery processes and formats; participation, albeit structured on a one-on-one mode (the user and the system), is immersed in a socially contextualized environment, and subjected to normative dynamics (during and between gameplay sessions), therefore participation must be a socially acceptable activity; training has established, clear and well communicated short term benefits and long term goals (that will impact actors and organizations in several levels), adequately inserted in a preexisting "lifelong learning" organizational culture trait.

Rooted on behavioristic and constructivist precepts, modern OCT design also builds upon preexisting employee knowledge through real-life situational processes (supported by pedagogical content), where outcomes would ideally be relatable to their work reality (Berns & Erickson, 2001). A contextualized training design should thus consider subjective and objective layers, highlighted from – in the corporate setting, the employee and organizational perspective (before, during and after training amid an existing work environment, structured with a given hierarchy, employee self-identities, group identities, their interactions, etc.), as well as through a technology perspective which pertains to how, where and by which resource requirements data will flow to support a given training system (Glahn & Gruber, 2020). Each layer must be juxtaposed in a manner where the training system allows for an optimum fit for the trainee's individual, subjective and objective learning requirements towards a given pedagogical strategy, supported by a preset of learning processes captured by a specific medium (Madhubala & Akila, 2017). The more integrated each layer is between the training setting (a planned occurrence) and the corporate setting (an ongoing environment), the fewer the changes for failure. Nonetheless, failure can be embedded within both the OCT settings - where a Serious Game (SG) is inserted, as well as the way SGs' didactic content and learning process are structured themselves. Faced with a SG-based training program, on one end, some employees may fully capture value from digital SG training experiences, while others may refuse to play (or are compiled) at all. Some still might perform at several distinct levels, as well as realize distinct benefits which may or may not be identifiable or systematized. The more subjective the SGs' value to the employee and, subsequently, the SGs' placement in the training program are, the greater the potential for failure.

Workplace realities entail several potential barriers to training adoption: competing priorities or poor balance between proper effort allocation concerning work responsibilities and additional training effort, as well as impacting the employee's work-life balance, generating low engagement (Loerzel, 2019; Susomrith & Coetzer, 2015); restricted time availability - made evident by routine demands and the state of each employee's workload (Trevor & McCracken, 2009); unclear training objectives or benefits, contextualizing the training

program vis-à-vis the employee's own goals (Jurburg et al., 2019); unclear knowledge transfer feasibility, i.e., Expected Transfer Success (ETS); inadequate pedagogical and training content and processes generated by poorly designed SGs or inadequate formats based on the existing strategy (Ryburn et al., 2007); lack of leadership support of direction and orientation (McCracken, 2005); lack of peer support through legitimization and normative impact (Ruiz-Pérez et al., 2020); poor availability and accessibility to training (more common aspect of in-person formats), pertaining to self-directed appreciation and perception of organizational relevance – being recognized by the organization as a valued member, i.e., Training Visibility (TV) (Dhir & Shukla, 2019).

Low employee involvement/access during inception phases, poor feedback processes, no planning for clear incentives (intrinsic and extrinsic) to adopt and maintain training, low investment in setting the stage for training approach institutionalization in the organization's culture, low management involvement throughout development and deployment phases, no provision for adjustments during co-development, lack of workforce skill requirements assessment prior to Online Corporate Training (OCT) development, notably top management misguided expectations for a “quick fix” solution without long term commitment. Automatic thinking, based on individual schemas, can be inserted in the workplace habitus as a collection of inherited, institutionalized practices (Bourdieu, 1992). It is brought on by education, the household and early institutions, being considered adequate to adopt in as a cognitive behavior in familiar situations, while a ‘gear switching’ to conscious thinking likely occurs from environmental cues, such as specific necessity, unfamiliarity and novelty or disruptive failure perceptions (Sutton & Louis, 1991). Collectively, employees similarly adopt organizational culture traits – the shared assumptions and beliefs shaped within the organizational environment, to support a set of belief structures over which they balance shared schemas, and automatic thinking remains the default interactive quality in absence of novelty, disruption or direct requirements, such as the introduction of new training methodologies. The latter, not unusually, can be seen as a threat to the status quo, igniting potential resistance to adopt and, at certain levels numbing those targeted for change with the necessary conscientiousness or the conditions leading to it (Gibson & Earley, 2007). That could explain those cases when the decision to adopt change would make the most logical sense as – in theory, more benefits would be gained, yet adoption fails or those targeted to adopt change make the emotional decision to resist, maintaining cognitive behaviors seeking the familiar in a changing environment, individual and social motivational drivers may be at play. Even when value loss continues to be generated as a consequence, a certain cognitive myopia envelope those who are determined to maintaining ‘business as usual’ positions (Fiedler et al., 2019).

The potential benefits from generating a competitive edge out of human capital training as resource development strategies are well documented in extant research, notably regarding 21st century realities (Jardon & Martos, 2012; Park & Ungson, 2019; Porter et al., 2009). Several authors outlined key aspects of organizational sources of strategic competitive advantage, chiefly those focused on capabilities' development, such as labor and capital, in order to generate either products and services at low cost or differentiated positionings, outlining the ‘Resource-Based View’ approach to organizational competitiveness (Mintzberg et al., 1999; Porter, 1991). As such, human capital becomes the nexus of competitive advantage-seeking strategies, and human resources training a key practice which, mediated by innovation management, optimizes the benefits realization potential based on an interplay between the interfirm employee and management networks and sustainable organizational performance, investing regularly in a long-term perspective for return on investments (Garavan et al., 2020; Hatch & Dyer, 2004; Liu et al., 2020; McKinsey, 2021). But what happens when Online Corporate Training (OCT)s fail to realize their intended benefits, why does it happen, and is it possible to atomize the phenomenon to better understand its origins and outcomes? Talent retention has become a worldwide challenge for many organizations in most industries, particularly so in high-turnover countries and emerging economies such as Brazil (ManpowerGroup, 2021). Mentioned as a market that has not been largely explored regarding turnover dynamics linked to Talent Management Strategies (TMS), Brazil still has a relevant role to play in the Latin American region as one of its largest economies. It remains a necessity to explore why COs continue to fail in retaining talent as well as managing turnover levels which generate high costs in retraining and skill deficits across their workforce, affecting the organization's overall competitiveness. Marketing myopia as a concept has evolved from the need to concentrate on customer needs, established on a dyadic relationship assumption, to an overconvergence on customers those blinds marketers to other important issues and actors in an ever more dynamic environment (Craig Smith et al., 2010; Levitt, 1975). By looking at a wider scope of actor's role in an organizational network, theirs could be perceived as relevant components to the firm's strategic resources, by means of capability contributions to its competitiveness. Johnston (2009) suggests that the same core competences that help an organization position itself apart from the competition might, in a dynamic environment, become the same factors that will hinder its competitiveness, if the nexus that makes up a logic arrangement of competencies is not in itself capable of being reconfigured logically, capability myopia is onset.

Organizational capabilities count when they remain adherent to current market trends, therefore the company must remain capable of adapting and evolving to said trends as well, supported by its learning potential (Senge et al., 2015). Johnston (2009) also mentions ‘boundary myopia’, specifically relevant when the organization depends on ‘value constellations’ as source of resource integration, where companies extend their access to new ‘emergent capabilities’ outside the organizational limits and into the realm of a ‘super-system’ – conversely, myopia occurs when managers overvalue their social capital bonds and do not maintain social capital bridging through trust and fostering cooperation. (Ackoff, 1971; Agger & Jensen, 2015; Cohen & Prusak, 2001; Flood & Jackson, 1991; Normann & Ramirez, 1993).

### **3. Methodology**

#### *3.1 Research Design*

The research adopts an interpretive worldview because it recognizes that organizations generate their own social realities, which require researchers to study all participants in their entirety (Saunders et al., 2008, 2018). By privileging meaning-making and contextual interpretation, the research aligns with a constructivist epistemology (Gavard-Perret et al., 2012). The research employed inductive reasoning to develop theoretical frameworks from data observation rather than starting with pre-existing frameworks. The research team applied abductive reasoning (Dubois & Gadde, 2002, 2014) to develop theoretical knowledge through an ongoing process of alternating between research data and academic literature, thereby enhancing their comprehension of B2B organizational change. The research design employed qualitative methods because it required exploratory investigations. The research used Grounded Theory (GT) as its methodological approach, which allowed researchers to abstract data and develop theoretical concepts (Charmaz, 2008, p. 157; Tripp, 2005). The research design enables scientists to study Client Organization operations while collecting data on leaders' perspectives regarding SG implementation failures. The GT approach enabled us to discover the specific practices that create or eliminate value within business-to-business relationships.

#### *3.2 Sampling Strategy*

Access to CO stakeholders was limited, requiring purposive and convenience sampling. The research team followed developer recommendations to select participants because this method enabled them to interview participants, as described by Saunders et al. in their qualitative research methods book (2018). The researchers used Snowball sampling to recruit additional research participants (Naderifar et al., 2017; TenHouten, 1992). The research team conducted 10 semi-structured interviews (SSIs) with senior managers and executives from the banking, automotive, tourism, finance, pharmaceutical, and higher education sectors. The research added new value destruction knowledge through its 27 interview responses, which supported the findings from our initial study. The research participants resided in Brazil's Southeast region, 90% of whom held graduate qualifications, and all participants held leadership or strategic management positions. The research team conducted 50–60-minute interviews via VoIP platforms, which participants allowed to be recorded for transcription into Portuguese before the team performed a back-translation (Brislin, 1970). The research sample size remained small, but it reached both saturation and redundancy according to Guba (1979) and Creswell (2007).

#### *3.3 Data Collection*

The research design used semi-structured interviews because they enabled researchers to guide theme exploration while providing participants with unrestricted opportunities to express their thoughts (Adams, 2015; Longhurst, 2009). The research method is best suited to exploratory studies because it allows researchers to examine specific situations through detailed analyses. The SSI guide examined obstacles that prevent organizations from achieving value creation while providing a context for organizational training adoption for its findings.

#### *3.4 Data Analysis*

The research team performed data analysis by using the Gioia methodology (Gioia et al., 2012). The research design of this study used Strauss and Corbin's (2012) methodology, which began with open coding of participant responses, followed by axial coding, and finished with the creation of aggregated dimensions. The research followed an iterative method that used QDAS software for qualitative data analysis and transcript validation. The research used Glaser's (1978) approach to combine empirical data with theoretical literature, supporting abductive reasoning and resulting in the development of fresh conceptual frameworks. The coding process began with first-order categories, then moved to second-order themes, resulting in four aggregated dimensions: Value Destruction, Reducing Value, Reconfiguring Value, and Restoring Value. The dimensions highlight both dangerous training approaches and the educational value of failed attempts, helping organizations understand

how to implement SG training effectively.

### *3.5 Reliability, Saturation and Redundancy Considerations*

In our research, saturation was reached when, at the final semi-structured interviews (SSIs), responses yielded neither additional relevant first-order categories, nor unique insights regarding potential challenges and obstacles to SG adoption. This suggested that our sources (interviewee's perceptions) had been exhausted for this specific research demographic. Regarding the cohort size, saturation was also supported by the high degree of alignment in responses across a diverse range of sectors (banking, pharmaceutical, etc.), a parameter which allowed us to move confidently towards the open coding and aggregated dimension phases. Moreover, given that the Grounded Theory Method (GTM) approach allows for data abstraction in developing theoretical concepts, we understand that the data provided has reached a state of redundancy, by depicting similar value fluctuation patterns (e.i.: managerial mediation and budget constraints), which were recorded across the 27 distinct interviews. The researchers also endeavored to compare results by first independently categorizing interview responses, following peer-debriefing interludes while undergoing the coding process, qualifying as a qualitative safeguard for improving reliability. Finally, our use of back-translation for the VoIP transcriptions provided an additional layer of linguistic-based reliability to our research, making sure that the conceptual nuances of value definition remained consistent between the original Brazilian Portuguese and the article's academic analysis.

## **4. Findings and Analysis**

The interviews with Client Organizations (COs) revealed a continuum of value states in the adoption of SGs for organizational training. Value is a relative concept that changes over time and across locations because it depends on established business practices, how managers view things, how workers participate, and what developers can handle. The research identified four aggregated dimensions that show how value decreases and increases in Brazilian COs through the value-destruction and reduction process and the reconfiguration and restoration process.

### *4.1 Value Destruction*

Value destruction occurs when SG outcomes fail to align with the current situation within the organization. The existing institutional systems conflict with new training approaches, revealing system weaknesses and creating instability for all involved actors. The poor design of existing systems prevents new projects from succeeding. At the same time, Brazilian cost restrictions limit ERP system deployment to only big businesses and international companies, leaving out all other organizations. Standard SGs purchased from the market incur ongoing expenses, reducing the potential earnings from these investments. SGs implementation creates risks for employee engagement because these programs have the potential to expose employee weaknesses, which would damage trust relationships, reduce worker motivation, and eliminate all planned advantages. The respondent stated that gamification should be strategically placed rather than added as a surface-level element.

*“Every gamification project must know where it wants to go... it needs a bigger objective and indicators to show that it's serious.” (C10)*

### *4.2 Value Reduction*

The value reduction occurs because managerial bias, low familiarity, and cultural resistance prevent SGs from reaching their full potential. Decision-makers tend to view new professional approaches as risky because they do not know how different organizational levels will participate in the process. The situation worsens because COs follow a reverse version of Amara's Law, leading them to predict fewer long-term advantages but more immediate obstacles. Organizational management creates a chain of influence that affects staff members' willingness to follow rules and stay involved, but sometimes compels them to participate against their will. Staff members experience different workplace situations: some receive public recognition, while others must deal with disclosure, which makes them less motivated. A manager stated that tool effectiveness depends on how organizations use them rather than on the tools' features.

*“Success does not depend on whether the training system is a serious game or not... it really has to do with management.” (C09)*

### *4.3 Reconfiguring Value*

The value reconfiguration process begins when COs and Serious Game Developers (SGDs) unite to construct erosion control systems and adapt their operational systems to new requirements. Organizations should merge

training materials into SGs by making failure diagnosis and recovery strategy development a shared responsibility, enabling them to build knowledge databases and test innovative solutions. Leadership needs to focus on tasks with the most significant potential for recovery while using performance indicators to measure progress toward their objectives. The process requires all stakeholders, including end users and buyers, operational teams, and developers, to participate from the beginning. The combination of adaptability and modularity protects long-term usability by enabling products to scale through additional modules. The training programs receive support from various departments that work together to fulfill their individual priorities across HR, finance, billing, and marketing. The research participant demonstrated how SGs improved their learning consolidation abilities through their combination of consultancy material, which confirmed the success of this teaching method.

*“The essence of my game is to gamify financial consulting... all the content I pass along in consultancy must be present in the game.” (C06)*

#### 4.4 Value Restoration

The process of value restoration requires organizations to restore their original business practices, which will maintain their Social Governance legitimacy, enable transferable value, and maintain equal partnerships. The process of regular maintenance serves two purposes: it helps workers maintain their skills and apply their knowledge in the workplace. The trial-and-error method of experiential learning helps students develop resilience while it transforms their traditional learning approaches in COs. Users can track their post-game performance development through real-time assessment tools that operate as modular components within cloud-based platforms, yielding superior results compared to traditional seminars. The system needs customization and integration because SGs must connect their system to organizational systems to generate meta-analysis findings and valuable data insights. The success of COs and SGDs depends on their ability to establish fair partnerships, as developers need financial success while COs must optimize budget allocation to achieve a favorable cost-benefit ratio. The process of managerial mediation offers employees specific support when games do not produce the desired outcomes, helping them understand and achieve their targets. The HR manager stressed that organizations need to maintain their knowledge systems to prevent vital information from disappearing.

*“What has been taught, the learner will absorb about 60%; if you don't have a maintenance process, that will be lost.” (C04)*

### 5. Discussion

The research shows that Brazilian COs implement SG systems based on the different levels of organizational value they create. The report identifies three significant risks: value destruction due to poor alignment between strategy and execution, high implementation costs, and employee disengagement. The research on Reducing Value shows how managers establish workplace biases that staff members fight against, while their work performance continues to show uneven results. Organizations need to work together to drive adaptive change through Reconfiguring Value, which uses modular systems and departmental coordination methods. Restoring Value achieves sustainability through its four core elements: maintaining operations, experiential learning, using strong performance indicators, and establishing fair business relationships. The three dimensions show that SGs function as active systems that generate Value based on how well an organization prepares itself, how well its stakeholders align, and the state of the market.

Based on our findings, the collected data provided insights into the different degrees of value fluctuation between VC and VD (Echeverri, 2021). In fact, the evidence suggests that Value, in a dyadic relationship between SGDs and their CO, may be identified as an incremental loss (value erosion) followed by opportunities for a downfall reversal (value recovery) where specific steps can be identified (Makkonen & Olkkonen, 2017; Vafeas et al., 2016). Value cannot be unilaterally defined, as it is subjectively perceived through actors' viewpoints, expectations, and dynamic relationships in a given timeframe (Cabiddu et al., 2019). VC and VD in technology service ecosystems also present certain distinctive aspects, given the nature of digitalized goods and the pervasiveness that amplifies resource (mis)integration (Gewald & Krcmar, 2021; Schulz et al., 2021). In training and education online platforms, VC and VD are highly dependent on intra- and interorganizational actor interactions, where in several instances – markedly in emerging economies- opportunistic behavior can not only contribute to value loss but also perpetuate vicious cycles that limit recovery prospects (Karunathilake & Galdolage, 2021; Pathak et al., 2020; Prior & Marcos-Cuevas, 2016).

Our findings aggregate four distinct practices into a conceptual framework based on Echeverri and Skålén's models (2011 and 2021). VC and VD occur through transitional steps leading from VD to mitigating progressive erosion, stabilization, and recovery, ultimately establishing VC. Concerning VD, some practices can be classified as inherently destructive, in which potential or preexisting value is bound to be either eliminated or no actual gains can be obtained, despite expected goals of value creation (Plé & Cáceres, 2010). Digital transformation is not for everyone and always comes at a price – successful adoption of digital technology requires higher levels of institutionalization and mastery (Henderson, 2020; Westerman et al., 2014). Online Corporate Training (OCT) requirements heavily rely on preexisting digital knowledge, in line with employees' familiarity with online systems and expectations regarding access to such platforms. VC barriers are not limited to SG planning, SGDs' know-how, development, and deployment costs - VC is also dependent on both learning outcomes' applicability 'before and after the fact. Practical training requires a situational assessment that contextualizes learning objectives with employees' expectations, orientation, and short-term goals, alongside the organization's broader, long-term training scope (Gegenfurtner et al., 2009, 2020). Not only that, but training tracks - i.e., mandatory vs. elective training may be suitable for specific employee roles, but to others, they can also be heavily influenced by sectoral and social dynamics (Kuindersma et al., 2016; Rodríguez-Aflecht et al., 2017). Misplaced OCTs will likely fail to transfer training experience into new actionable knowledge – ergo, destroying the firm's competitive edge rather than ensuring it.

Understanding the reasons for VD also provides insight into other forms of value reduction, notably ongoing sources of Value Erosion (VE), consistent with Luyen's (2022) findings on the IVF model. We also associate VD and intermediate spaces of value reduction with the 'gaming-as-a-disservice' concept (Lehtonen et al., 2022). Games-as-a-Disservice, favoring the supplier rather than the customer and users of gaming platforms, and creating adverse, unintended behavior towards the original technical objective: to increment know-how and generate new knowledge. The data indicated that, under certain conditions, SG practices in misalignment with intended CO strategy may create an indirect negative impact, eroding value from an intraorganizational perspective, at the employee level (micro), managerial and leadership level (mezzo), as well as from an interorganizational perspective, affecting the development and deployment of OCTs. As mentioned by Kashyap et al. (2017), erosion refers to a loss relative to an estimated or previously captured value by the organization, its potential in a given market, and economic conditions. Given the interactive nature of Value Destruction (VD) within the organization, preexisting institutionalized conditions can significantly affect the likelihood of OCT success, depending on the degree of fit between the adopted SG and a specific CO. Under poor conditions, failure remains associated with a negative context, leaving OCT initiatives – even when adequately built - with little prospect for successful implementation and, as a result, generating high evasion rates among prospective employees by failing to be legitimized, as described by Calvo and Reio (2018). Even when training is mandatory, passive and active resistance at the managerial and employee levels can undermine the potential of VC and yield adverse outcomes (Berna-Martinez & Macia-Perez, 2012; Karlsson & Larsson, 2016; Parris et al., 2016). In some instances, any initiative is doomed from the start because it cannot be adequately developed in a hostile environment. Value Destruction (VD) and Value Reduction (VRd) drivers can coexist. However, they may arise from different sources altogether – even if, at first glance, they might overlap in certain aspects (or available data making them indistinguishable).

Value Reduction (VRd) arises from ongoing practices that may unintentionally result in value loss. Ongoing VRd, apparent or hidden, can also be catalyzed by VD practices at specific moments. In a continuum, value gains and losses occur at subsequent or isolated intervals. From a particular perspective, even verified VC-backed Online Corporate Training (OCT) programs that are inadequately actualized may be considered a form of value erosion, because the effort and investment required to attain specific objectives fall short of their full potential. This finding pertains to the 'conceptual functionality' supporting Haq et al. (2018), regarding the value gap between 'what SG outcomes are intended' and 'how the SG is applied'. VRd practices, when left unchecked, may erode preexisting and potential value.

Contrary to Skålén et al.'s concerns that value originates solely from social practices, we argue that both preexisting value and social interactions help shape VC or VD (2015). An SG offering's intended VC can be reduced as it is implemented and deployed if the intended training program proves to be a poor fit for the system, or if the environment and stakeholders involved are not adequately onboarded to such initiatives. In the case of SG-based training, our research identified three main specific categories potentially affected by value loss or erosion practices, which must be in balance in order for an organization to avoid or minimize its effects: (a) adhering to Zwick's (2002) concept of perceived value decrease linked to lack of value evidence in the organization, VE at the employee level can occur based on passive or active resistance to SGs, when seen as a

disruption of the status quo, about job stability, peer presence, workload disruption through mandatory attendance, theme-inappropriateness or poor designed; (b) VE at managerial level, emulating the research of Korhonen and Kaarela (2011), may occur when lack of experience in contributing to SG development and deployment causes insufficient support at mezzo hierarchical levels, especially in an emerging economy, where innovation buy-in needs constant validation and 'internal sales' of a new training program requires peer influencing. If managers are not directly promoting or supporting such initiatives, given poor training fit to their respective organizational areas, they may exert direct negative influence over employees or, at the very least, lack the necessary advocacy to enable full-on findings. Furthermore, even with management buy in, inexperience may inadvertently create gaps in adequate assessment feedbacks, also potentialized when either proper performance indicators are not clearly institutionalized within the CO; (c) VE caused by poorly designed SGs may cause poor performance— even if not at first deployment, but increasingly throughout usage, as discussed by Karlsson and Larsson (2016) on VE through management inertia.

Value Reconfiguration (VRc) involves mapping key VC potential sources within the training organization and identifying sources of VD and/or VE. The aim is, first, to take control by reverting or mitigating existing VD/VE effects, and subsequently to enable VRc planning. Høgevoold et al. (2020) researched the antecedent conditions for buyer-seller relationships to operate at an optimal balance, minimizing opportunism and conflict. We agree with this basic premise: in a dyadic organization invested in developing SG-based OCTs, we need to jointly identify and address familiar value-eroding sources to enable shared VC potential. By establishing mutual priorities, each part will reconfigure its practices and processes internally and in relation to others. One key aspect of value-loss stabilization is abandoning exploitative strategies that prevent mutual benefit. COs will revisit existing internal dynamics, strategic indicators, and assessment processes, in collaboration with SGDs' game performance indicators, aiming at a unified system that translates gaming outcomes into measurable training improvements in the workplace. Going forward, COs will need to systematically revisit this issue in order to validate and update existing requirements. Accordingly, SG systems would need to be developed with a framework that enables subsequent structural upgrades and module reconfiguration. Stabilizing value loss is a challenge in itself, given that it must be implemented between collaborating organizations, especially when siloed, information-restricted organizational makeups are the norm – a marked characteristic of EMs, with limited know-how on training data management, in agreement with McKinsey's report on organizational gaps in actor touchpoints between market players (2017). Nonetheless, organizational reconfiguration is sometimes key for making SG-based OCTs viable.

Value Restoration (VRt) practices become viable after VRd and VRc stages are covered, enabling a joint stabilization strategy. SG-based offerings should also involve regular attempts at VC reconfiguration, starting with stabilizing and identifying key issues with VRd and VD, mapping employees, management, and the SGD's offering itself. Recognizing VD drivers and sources, and therefore degrees of VRd, must be a priority for practitioners, to be addressed before subsequent training efforts and investments can be implemented. We follow the view of Hao et al. (2020) regarding the need to involve key CO and SGD actors, validating valuable interactional engagement and support. Subsequently, current training objectives need to be regularly reevaluated and adapted as needed to support training sustainability and avoid VD setbacks. Once training requirements are (re)defined and reconfigured, optimized conditions enable (new) value discovery, institutionalize adequate cultural mindsets across management and employees, foster collaborative efforts with SGDs, and align employees with long-term training prospects. (Figure 1) depicts our conceptual framework, where these aggregated codes can be identified. We have looked at how external conditions may be key for contextualizing each dimension, either individually or in relation to each other, regarding: a) the organizational culture already in place and those institutionalized practices framed by it; b) the existing human capital makeup in the organization, the clustered disposition of both formal (hierarchical) and informal (social) framework; c) the situated environment impacted by the COVID pandemic crisis, from a public health and economic perspective (both local and global), for an emerging, fragmented economy such as Brazil's, which created some data distortion collected in that region.

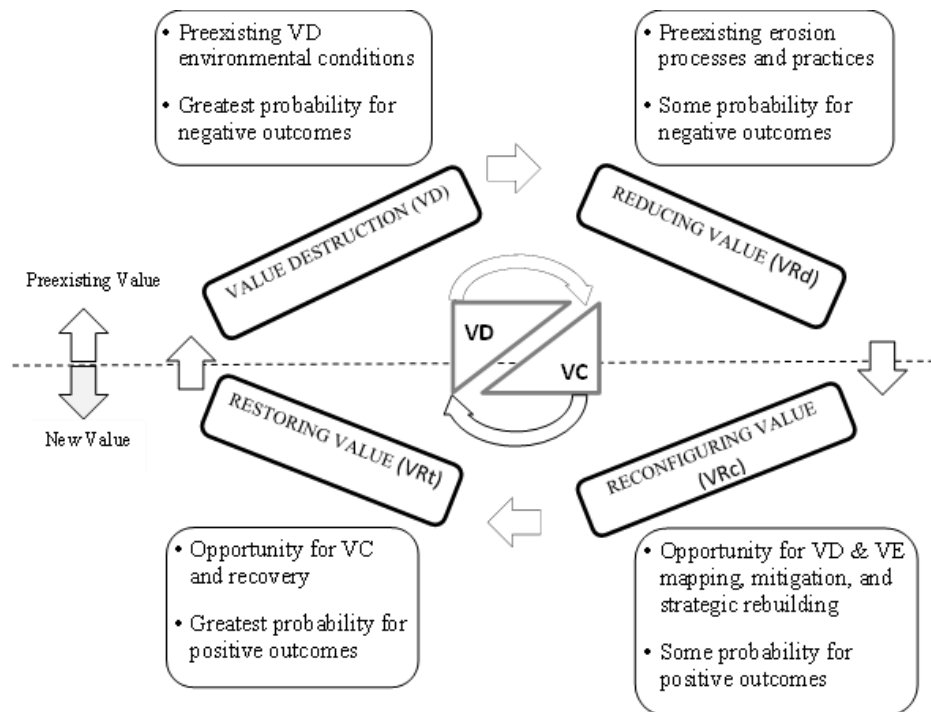


Figure 1. Conceptual model

Source: elaborated by the authors

## 5. Theoretical and Managerial Implications

Considering our data, we agree with Turnbull et al that “resource allocation decisions are often taken without full assessment of the potential of and threats to each relationship” (Turnbull et al., 1996, pp. 51,52). Quite often, as our data show, outsourcing decisions did not benefit from a comprehensive assessment of SG integration requirements and the (mostly internal) barriers that might impede or alter VC. Each relationship within a large organization, notably in Brazil, given the high investments required at early stages, does not usually benefit from earlier interactions; therefore, there are no consolidated commitments. When they do exist, they might not be diffused in all hierarchical levels, where the potential SG-based OCT value is unlikely to be readily perceived. As value trickles down the anecdotal corporate ladder, managers from both networks might need to support continuously and (re)sell the OCT benefits to stakeholders.

### 5.1 Theoretical Implications

In this study, we have explored the roles that COs, interacting with outsourced SGDs, play in a dyadic relationship, each of which is seen to display failure (VD, VRd) drivers and the pathway to recovery in OCT initiatives. Following Järvi et al.'s view, the extant literature has been less frequently exploring VD from a supplier perspective, where we consider it should be sourced between dyadic organizations (2020). Concerning VC and VD fluctuations, which generate or reduce value through actor interplay, we focus specifically on the CO, its internal dynamics, and its external interactions with the SGD. The study answers an ongoing demand for further exploration on SG training value for employee development, and knowledge transferability to the workplace, focused on the corporate employee's adoption pertaining all organizational levels, within and across organizations to the need of studying service recovery in transactions where value was intended to be co-created (Baptista & Oliveira, 2019; Pomper et al., 2009; Ranchhod et al., 2012). To this end, this study contributes to (a) identify and understand the complementary characteristics of VD both as a concept and as an incremental process, occurring between dyadic organizations; (b) to understand how failure, traditionally seen as a negative phenomenon can, notably with SG solutions, sustain VR strategies out of preexisting VD praxis; (c) explore new incremental steps leading towards value recovery. We have identified how VD can be characterized as incipient, or 'doomed to fail', by misalignments with existing strategic maps, lack of proper coordination between service suppliers and buyers, and exploitative approaches to training development and deployment, as well as poor 'fitness-for-purpose' when standardized solutions are deployed regardless of the existing client organization's needs and requirements. The current literature is less precise in defining how value can be incrementally lost or

fail to materialize in full in situated contexts when conceptualizing, developing, and deploying digital SG solutions for corporate training initiatives. We review Westera's research to find support for issues such as inadequate planning, fit for use, and poor assessment (2022). Such are the underlying issues found in our data, concerning training-validation gaps and evidencing links with what we explored as VD practices. By adapting Echeverri and Skålén's IVF model (2021), we propose a conceptual framework that unpacks intermediate states between VC and VD, describing subcategories moving towards 'value recovery' (i.e., value co-reconfiguration and co-restoration). Our study unpacked two VR practices that would enable the organization to, as a first step, map and identify issues within the organization and between COs and outsourced SG-based development services, thereby mitigating or eliminating VD and VE sources. To our knowledge, the extant literature on SG adoption for outsourced OCTs has not covered these two-fold intermediate phases, enabling VD stoppage, revision, and reversal towards VC.

### 5.3 Managerial Implications

This study contributes to SG service purchasing organizations by mapping value destruction drivers and sources, while unpacking the iterative nature of VE in preexisting conditions, both internal and external to the firm. The multifaceted nature of VC and VC, in line with the intermediate spaces proposed by Echeverri and Skålén (2021), presents value as fluctuating in varying degrees along a continuum, which can elude SGDs and COs practitioners alike while generating considerable impact on ongoing training strategies and desired (re)upskilling outcomes. We align with Sthapit and Björk's (2020) research, outlining the dynamics between dyadic parties as they interact and influence each other's practices (or not), and considering that failed actions do not necessarily lead to VD in full but may indirectly permeate processes and cause erosion as well. Therefore, our study raises significant issues about CT initiatives, such as: (a) VD and VE root causes within the firm; (b) preexisting practices and environmental conditions that can be associated with value loss; (c) the steps needed to identify and mitigate ongoing VD and VE; (d) actionable approaches to value reconfiguration and subsequent recovery, in a three-sided perspective (employee, managerial and system solutions). By categorizing intermediate VC and VD stages, this study provided more realistic perspectives on SG development and deployment.

To illustrate how our four proposed dimensions may be applied to global industries or markets, on a case-by-case context, we outline the following instances:

- Value Destruction (VD) mitigation: managers working in certain global industries pertaining hard to adapt legacy systems (e.g.: ERPs), should prioritize a 'fit-for-purpose' architecture as a parameter for a project procurement phase, in order to prevent potential SG assets' conflicts with established institutional practices, such as data inconsistency and synchronization failures (e.g.: simulations using ERP old inventory is inconsistent with the SG's intended training capabilities), technical debts (e.g.: broken links a new AI-powered inventory forecasting SG environment integrated to an existing, rigid software suite) and hard-coded customizations (e.g.: which should reflect the SG proposed environmental transformation required over heavily customized and outdated workflows).
- Value Reduction (VRd) management: when implementing cross-cultural management training initiatives, multinational organizations should map and neutralize local biases and culture-based resistances (i.e.: evolving managerial practices derived from localized constraints), which would lead to 'gaimng as a disservice' because of employee uneven participation, for example when middle managers prioritize certain groups for training opportunities over others, given their own understanding of potential applicability in the business.
- Value Reconfiguration (VRc) strategies: in very competitive markets, such as telecommunications and software-as-a service (SaaS), some firms can adopt a more modular digital framework wick would allow for an agile integration of third-party SG content, while maintaining internal or proprietary perfoemande indicators, thus enabling fast success/failure diagnosis and more efficient actionable feedback.
- Value Restoration (VRt) sustainability: global organizations may ensure long-term OCT legitimacy through 'maintenance' processes aimed at preventing information decay (e.g.: when the proposed SG uses with market data and localized information), through dyadic relationships with suppliers.

Additionally, when considering using the model as a strategic risk prediction instrument, our framework's continuum can be used by practitioners as a predictive tool map aimed at pinpointing potential erosion sources, localized at the employee level (micro), the managerial level (mezzo) and the inter or intra-organizational level (macro), before attempting full-scale deployments.

The research study on SG adoption connects with three additional academic fields, including negotiation studies, consumer behavior analysis, and organizational value management practices. Research studies from the previous years have examined the processes of value creation and destruction in SGs (Carvalho, Dias, & Schmitz, 2025) and investigated digital training program adoption through qualitative methods (Carvalho & Dias, 2025a) and developed models to explain corporate adoption factors (Carvalho & Dias, 2025b). The research simultaneously examined consumer rights that emerge during negotiation activities (Tanabe & Dias, 2025), the relationship between consumer experience and product value in high-end markets (Chacur & Dias, 2025), and the factors that influence employee participation in SGs (Carvalho & Dias, 2025c). The research by Dias (2025) and Dias and Panzarini (2025) on construction negotiation and supplier-retailer relationships, consumer disputes, and CFO challenges in IT (Pereira & Dias, 2025) demonstrates that value dynamics exist across various business sectors. The research by Macedo & Dias (2025) on workplace conflict, Cima & Dias (2025) on strategic partnerships, and Saliba & Dias (2025) on health cost negotiations demonstrates how value creation and destruction affect different business organizations. The present study positions SG adoption research within the broader academic field, which future studies should use to develop value fluctuation frameworks for market negotiations, consumer market analysis, and strategic management applications across different business sectors.

## 6. Limitations and Future Research

The research includes specific qualitative study constraints that the authors need to identify. The research reached saturation with an adequate sample size, but it remained limited to a small number of participants from Brazil's Southeast region. The research findings might not apply to other countries or global settings because the study was conducted in a specific location with unique cultural characteristics. The research method of semi-structured interviews produces valuable, detailed information, but it depends on participants who are willing to give honest responses. The interview findings might have been affected by managerial bias, organizational politics, and social desirability effects, potentially masking the actual organizational systems at work. The Brazilian SG market faces a significant challenge due to its status as an emerging market. The capital-spending capabilities of most SGs that operate as small to medium-sized enterprises limit their ability to develop diverse training solutions for COs. The existing industry structural framework might have produced research findings that focus on cost, customization, and scalability issues, but fail to show how SGs function in established markets. The abductive reasoning method allows researchers to develop new theories, but it requires them to perform repeated data-literature interpretation cycles. The research process includes potential researcher influence, which affects coding and categorization activities, although researchers used transcript validation and methodological triangulation to maintain study rigor.

Future studies should conduct comparative research across different industrial sectors and geographic areas to verify the value sequence established in this study. The research would benefit from longitudinal designs that monitor organizational value creation, reduction, reconfiguration, and restoration patterns during the SG training system implementation process. The evaluation of SG adoption effects on employee retention, skill development, and organizational innovation can be achieved through quantitative methods that support findings from qualitative research. Research needs to keep investigating the mutual relationship between managerial mediation and multi-stakeholder alignment, which supports SG legitimacy. Studies could explore how leadership styles, organizational culture, and employee autonomy interact to shape engagement outcomes. Research from a developer's point of view should examine how developing-market small and medium enterprises (SMEs) can address their fundamental operational problems by forming alliances with public organizations or by creating flexible business systems that integrate official procedures with individualized approaches. Research activities should focus on integrating SG metrics with organizational performance systems to assess the value of digital platform data and enable strategic business decision-making. Research should focus on eliminating current obstacles that impede study progress to determine the effects of Serious Games on organizational training, thereby improving both theoretical knowledge and the practical applications of value creation and learning innovation across various environments.

## 7. Conclusion

In conclusion, this research investigated Brazilian COs' adoption of SGs to understand their value-creation and value-reduction processes, as well as their ability to reconfigure and restore value. The research employed qualitative abductive methods, including semi-structured interviews, to develop theoretical knowledge of organizational training value transformations, yielding four core dimensions that explain value instability. The research shows that value is a dynamic concept that emerges from the combination of established organizational practices, managers' views, staff involvement, and developer project limitations. The research shows that organizations face two significant risks that endanger their SG legitimacy: their operations fail to align with their

stated goals, and they must spend substantial amounts. The research demonstrates that managerial bias, along with cultural resistance and unequal employee performance, degrades value and affects the entire organization. Organizations need to work together to stabilize erosion through modular design and stakeholder cooperation, as outlined in *Reconfiguring Value*. The case of *Restoring Value* demonstrates that organizations can achieve long-term training legitimacy through their commitment to maintenance and experiential learning, their use of strong performance metrics, and their development of fair business relationships. The three dimensions show that SGs function as social organizational systems that require readiness and proper alignment between COs and SGDs to succeed. The research develops an abductive method to study changes in organizational training value while providing managers and developers with methods to reduce project risks and achieve better results. The Brazilian environment requires special solutions because it faces three major obstacles: high costs, underdeveloped markets, and insufficient developer expertise. Organizations across the globe face identical challenges that arise from the need to balance creative development with established operational systems and the conflict between urgent needs and future-oriented planning. Managers who understand value as an ongoing process will develop better risk prediction skills while creating flexible solutions that support enduring training systems. The research shows that SGs require more than technological advancement for successful implementation, as organizations must foster cultural acceptance and have their managers act as mediators while building strategic alliances. Future research should continue to refine this continuum across diverse contexts, enabling a deeper understanding of how SGs can contribute to organizational learning and value creation in an increasingly complex and competitive environment.

#### **Author's Contribution**

**Mathias Carvalho:** Conceptualization (leading); Project administration (Supporting); Supervision (Supporting); Validation (Equal); Writing - original draft (Lead); Writing - review & editing (Supporting).

**Murillo Dias:** Conceptualization (supporting); Project administration (Leading); Supervision (Lead); Validation (Equal); Writing - original draft (Supporting). Writing - review & editing (Leading).

**Thiago Schmitz:** Conceptualization (supporting); Validation (leading); Writing - original draft (Supporting). Writing - review & editing (leading).

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