

Business Model Canvasses Revisited: From Static Stagnation Towards Dynamic Agile Feedback Cycles

Ulrich Schmitt

Stellenbosch Business School, Bellville, South Africa

Knowcations Start-up, Port Louis, Mauritius

schmitt@knowcations.org

Abstract: While the Business Model Canvas (BMC) is a ubiquitous tool for strategic visualization, it remains fundamentally a 'static snapshot' unsuitable for the high-velocity requirements of market dynamics and knowledge management alertness. This paper proposes a transition from static stagnation toward a dynamic, cybernetic framework by extending the traditional nine-element structure into a 12-Slot Unified Matrix (SUM). Building on the previous synthesis of sixteen dynamic models of knowledge creation (ECKM 2025), this research introduces three distinct Cybernetic Loop Agile Systemic Processes (CLASP) that transform the canvas into a dynamic iterative cycle. The model repurposes the ninth slot as a Validation Benchmark—a 'Higher Ground' sensor—to trigger feedback cycles. These cycles flow through three novel control layers: Organizational Cohesion (Slot 10) for process adaptation, Evolutionary Agility (Slot 11) for perimeter adjustment, and Scalable Integrity (Slot 12) for project adaptation and trust engineering. By integrating Axiomatic Design principles, the paper demonstrates how these loops manage goals and outcomes and strengthen the institutional knowledge heritage for organizational learning. The result is a dynamic governance system where the 'Functional Intent' of the venture is continuously re-engineered through active feedback, ensuring that the business model evolves in lockstep with the knowledge assets it seeks to leverage.

Keywords: Business model canvas (BMC), Business model innovation (BMI), Knowledge management (KM), Cybernetics, Axiomatic design, Dynamic capabilities, Knowledge co-creation

1. Dynamic KM Models Versus Business Model Canvas/Innovation (BMC/BMI)

Last year's ECKM paper presented not only a 3-dimensional map aligning sixteen renowned dynamic KM-related models (Schmitt, 2025) but also visually integrated a 12-step iterative cycle for developing more personal-centric Knowledge Management Systems (PKMS); its SICECE paradigm (seizing, imbedding, collating, encompassing, curating, and effectuating) reverses and expands Nonaka's SECI & Ba Model (Nonaka, Toyama and Konno, 2000) to address three key issues:

- As most conventional KM models were shaped by last century's information scarcity unable to anticipate today's abundance, they provide little guidance for dealing with the accelerating entropy and infoxication (Cornella, 2000) we are facing.
- As traditional KM models are focusing on organizational applications, they provide little 'digital dividends' (World Bank Group, 2016) for individuals with their diverse abilities, contexts, means, and ends (ACME) and, thus, co-facilitate widening world-wide opportunity divides (Shirazi and Hajli, 2021).
- As a combination of these two factors, they also offer no opportunities for organizations to incentivize their knowledge workers to accept organizational-focussed KMS (OKMS) initiatives due to their dilemma of appropriation-versus-participation perceptions (Rechberg and Syed, 2014).

These related findings and functional requirements are based on a longitudinal design science research trajectory with thirty WoS-indexed publications (Schmitt, 2021), which led to a start-up to realize the system (Schmitt, 2023), and culminated earlier this year in proposing a new memetic/metaphorical digital twin (MDT) category (Schmitt, 2026). The aim of this paper is to expand on the 16-KM-Map which already addressed the synergies with dynamic KM models by integrated six complementing PKMS-focused SICECE scenarios. The focus, hence, shifts to Business Model Innovation (BMI) by addressing the critique concerning the static approach of Business Model Canvasses (BMC). By 'dynamizing' these very popular approaches (especially in the start-up sphere) and by furnishing them with two cybernetic feedback mechanisms, the objective is to exemplify the versatility of the SICECE modelling approach as an enabling element in KM/MDT design spaces.

The Business Model Canvas (BMC) has established itself as the standard for strategic visualization across academic and practitioner domains. Its nine-element structure provides a clear snapshot of how an organization creates, delivers, and captures value. However, the contemporary business landscape is characterized by high-velocity shifts and a critical need for Knowledge Management (KM) alertness. In these volatile environments, the traditional BMC often serves as a 'static snapshot', capturing a moment in time that quickly becomes obsolete.

To address this 'static stagnation', there is a theoretical and practical requirement for a more dynamic framework that can respond to rapid market dynamics. This paper proposes an extension of the conventional structure into a 12-Slot Unified Matrix (SUM). Building upon the synthesis of sixteen dynamic knowledge creation models (Schmitt, 2025), this research introduces a cybernetic approach to business modelling. By incorporating three distinct Cybernetic Loops (CL0, CL1, and CL2) termed Cybernetic Loop Agile Systemic Processes (C.L.A.S.P.) and utilizing Axiomatic Design principles, the model seeks to synchronize business outcomes with an evolving institutional knowledge heritage. The objective is to move beyond simple visualization toward a dynamic governance system where the 'Functional Intent' of the institution is continuously refined through active feedback cycles. An accepted paper (Schmitt, forthcoming) applies this extended dynamic structure while preserving the intuitive grasp of the visual canvas logic; using a perceptual alignment layer, it adds further BMC layers to benefit entrepreneurs and start-up investors based on an accustomed canvas visual experience. Its intention is to exemplify the versatility of the SICECE-driven BMC approach towards a generative Architecture for Canvas Ecosystems (A.C.E.) Framework. While Business Model Innovation (BMI) is typically viewed as a series of discrete strategic shifts, the A.C.E. space would reframe BMI as a continuous, cybernetic process with the SUM providing the structural 'rigging' that motivated and rationalized the concurrent study's canvas expansion into entrepreneurship and start-up investment.

Based on conceptual analysis, systems thinking, and design science research methodologies (Schmitt, 2021), the objective is to move beyond sporadic goal-path-alignments and simple visualizations toward a dynamic governance system where the 'Functional Intent'¹ of the institution² is continuously refined and its absorptive capacity³ is strengthened through active feedback cycles. By dynamizing these logics based on CLASP's cybernetic feedback loops and tuning them to the composition of existing canvasses an Architecture for Canvas Ecosystems (ACE) is established.

2. Literature Review

2.1 Repurposing Static BMCs as Systemic Nodes and Flow Dynamics

Business Model Canvasses (BMC) afford widely adopted tools⁴ for businesses to articulate, visualize, and communicate their business models. Their initial nine-element structure offers clarity and simplicity, enabling organizations to map value propositions combining creation and delivery. Although widely used, they provide mainly static snapshot tools suitable for more stable environments (e.g., foreseeable customer needs, low-risk-technological disruption, limited transformational needs). To broaden the economic focus of the original Business Model Canvas (Osterwalder and Pigneur, 2010; Osterwalder *et al.*, 2015), it has been triple-layer-expanded (TLBMC) with an environmental life cycle and an social stakeholder layer (Joyce and Paquin, 2016).

These traditional BMCs, however, represent an inherently static approach. To address fast-changing environments with shifting consumer behaviors in competitive markets typified by technological innovation, other static BMCs have been suggested by expanding the element-count as, for example:

- The Creative Business Model Canvas (11 elements) (Carter and Carter, 2020)
- The Digital Business Model Canvas (DiBMC) (11 elements) (Matricano and Liguori, 2026)
- The Public Governance Canvas (14 elements) (Martins, Mota and Marini, 2019)
- The Flourishing Business Canvas (16 elements) ("Flourishing Business Canvas," no date)
- The Sustainable Project Management Canvas (17 elements) (Schipper and Silvius, 2017)
- The Innovation Canvas (18 elements) (Kline *et al.*, 2013),
- The Business Model Innovation Canvas (19 elements) (Jin *et al.*, 2022),
- The InnoWise Knowledge Canvas (21 elements) (Foster, no date).

¹This "Functional Intent" is closely linked to the set of Functional Requirements (FR) that the SUM is designed to satisfy and creates a clear bridge between the KM theory and the engineering logic of Suh's axiomatic design principles (Suh, 1995).

²Institutions are defined as "snapshots of a subset of the ideational field that persevere while the network itself continues to fluctuate" (Kanengisser, 2014).

³Absorptive Capacity has been defined as the "ability to recognize the value of new information, assimilate it, and apply it to commercial ends" (Cohen and Levinthal, 2000).

⁴The BMC structure has even be applied as a taxonomy in the design and classification of product-service systems design methods (Salwin *et al.*, 2022).

A survey among entrepreneurs acknowledged the BMC limitations in capturing complex or rapidly evolving business environments and the resulting demand for regular updates as a resource-intensive requirement (Kupczyk *et al.*, 2024). But, as the ‘take-make-dispose’ linear economy is considering more sustainable (Minatogawa *et al.*, 2022) and circular (Bocken *et al.*, 2019) approaches, the iterative BMI processes need to be supported by appropriate tools able to frame, fuel, and focus the transformational activities and outcomes.

With a focus on addressing such changes, the Digital Transformation Canvas (DTC) provides a conceptual framework for leading DT processes. The DTC’s 11 elements and 43 sub-categories cover (1) DT Strategy [Purpose], (2-6) DT Operational Pillars [People, Process, Platform, Partner, Project], (7-9) DT Value [Product, Performance, Planet], and (10-11) DT Pitfalls [Privacy, Protection]. In these contexts, DT actors may take up multiple roles to effectively combine social (mentor, mentee, networker), generative (pioneer, innovator), and leadership (enabler, manager) responsibilities (Elia *et al.*, 2024). The handling of the key drivers are essential and include knowledge acquisition, retention, recall, use, and transfer (Anohina-Naumeca, 2023). A sustainable BMI matrix (2022) has mapped and benchmarked the BMI tools studied into a dynamic capabilities framework along its sensing, seizing and transforming phases; while the BMCs are placed at the sensing level, the DTC (2024) would have been positioned in the top-tier (Minatogawa *et al.*, 2022).

The study of 928 core-BM publications sheds more light on the spectrum across these three tiers; although the number and landscape of their static structural elements differs considerably, key clusters have been identified as: Business Model Innovation; Sustainability and Circular Economy; Strategic Foundations and Value; Digital Transformation, Service and Platform Innovation; Energy Efficiency and Resource Optimization which share common characteristics (#123) (Schuricht, 2026):

- #1: Although the visuals are representing static boxes, a linguistic analysis exposed the action verbs applied as the implicit process-oriented operationalizers.
- #2: As explicit cluster-specific flow terminologies are absent, the ability of the underlying generic flow logic to handle the clusters’ diverse manifestations and priorities has been verified in a flow analysis.
- #3: A coding exercise assessed the tools’ holistic orchestration and balancing capabilities and proved that static elements can be repurposed as dynamic flow nodes which can be continuously managed.

With business models re-interpreted as meaningful nodes populating flow configurations, the emphasis has to shift to the explication of their connecting flow profiles (e.g., network patterns, flow directionalities, exchange types, magnitudes and constraints) (Schuricht, 2026). The #123 identifiers are applied in the following sections to indicate a close association with these three logics and logistics.

2.2 Escalating Systemic Dynamics to Dynamic Agile Feedback Cycles

Table 1 (rows or rubrics 2-4) presents the BMC/TLBMC elements (Osterwalder and Pigneur, 2010; Joyce and Paquin, 2016) elements from 0 (top right element in the canvas layout) to 8 (bottom right element). Row 5 depicts the Perceptual Alignment Layer (PAL) of common denominators added by the author; PAL adds nine generic classification terms for each column to envelop the three BMC terms (rows 2-4) and to create a distinct but complementing semantic space to synergetically position elements of further rubrics. The sequence 0-8 clearly explicates the process-orientation (#1) which is passed on to the PAL.

Table 2 presents the 12-slot-SICECE Model (row 2) which serves as the iterative flow in a novel Personal Knowledge Management System approach (PKMS) (Schmitt, 2025). The top-row (#2) shows the 12-Slot Unified Matrix (SUM) providing the columns with unique identifiers (a-l) which have been applied in row 3 to point out the CLASP’s three cybernetic loops (based on (Beer, 1979; Argyris and Schön, 1997)) already build into the iterative SICECE-cycle:

- *CL0*: The iterative loop for learning and authorship activities. In the BMC context, this represents the pathway for adhering to a given procedure.
- *CL1*: The tactical feedback loop prompted by content consolidation to awaken the system’s curating facilities for actuating process options.
- *CL2*: The strategic feedback loop for adjusting system perimeters (e.g., heuristics and boundaries) and adapting the project via new collaboration choices.

Table 2 (row 4) also accommodates a rubric depicting the Axiomatic Design Stages (CA, FR, DP, and OV) with their intermittent design matrices (DM) (Suh, 1995). As an iterative cycle, this method – like the BMC – has no explicit built-in 1st or 2nd cybernetic cycles which would allow for process or project changes; it just assumes to repeat the a-h-loop (adhering to the procedure) until the planned job is finalized without need for any 1-2-CL-

interventions. The accepted paper referred to earlier (Schmitt, forthcoming) is proposing to integrate these i-l interventions (#3) to complete the full mathematical ‘rigging’ of the SUM by axiomatic design principles.

In addition to aligning the sixteen Dynamic KM models to six SICECE scenarios (Schmitt, 2025), Table 2 (row 5 and 6) demonstrates how the extended (indicated by +) notions of KM building blocks (Probst, 1998) and KM Schools (Earl, 2001) closely align to the 12-step SICECE cycle. The next section focuses on the synthesis of these two tables as an ACE pre-requisite (Architecture for Canvas Ecosystems).

3. Towards an Architecture for Canvas Ecosystems (ACE)

Figure 1 shows the integration of table 1 into table 2 in the conventional canvas outline (0 as i, 1-8 as a-h left) with three new additional elements (jkl). Although the BMC sequence (see references to the TLBMC terms) stayed intact, its conventional starting position 0 (customer segments) has been absorbed by slot i; it became the quasi ‘ideal sensor or vantage point’ of the BMC purpose for Validation Benchmarking. Like in real-life BMC applications, if customer segments change, a new BMC assessment exercise should be triggered.

This slot i, hence, has different roles depending on the context of its accommodating rubric. In the case of the dynamic dBMC, it represents a signal which triggers an awakening or alarm to prompt a reaction or intervention (e.g., the assumptions of market conditions may have been wrong); the operator must decide to let it go and resume business-as-usual (CLO), or initiate CL1 or CL2 interventions. In a case, where routines are in place these processes are automated; when the centralized PKMS repository receives contributions from community members (slot h has produced, and slot i verifies its outcome acting as an audit gateway), it starts its curation activities with its pre-defined handling procedures.

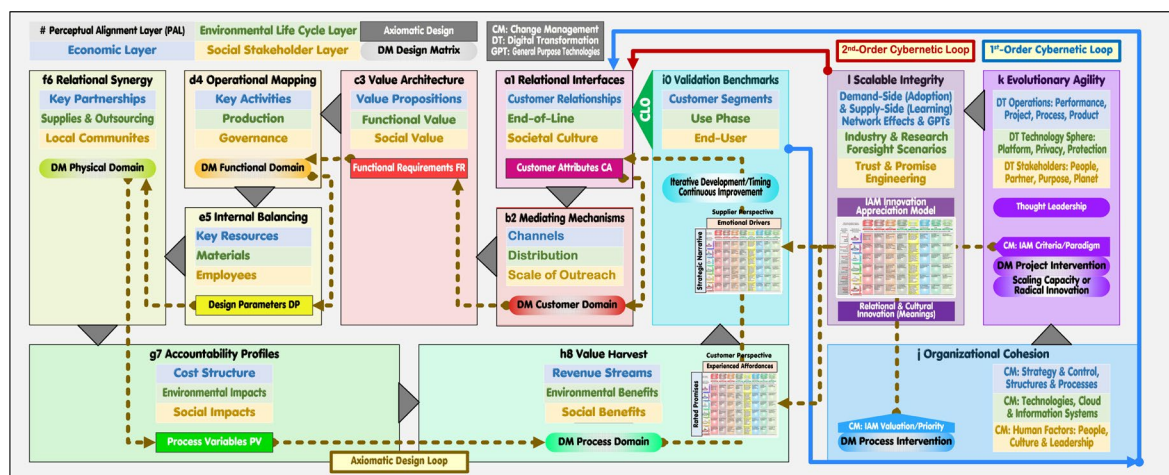


Figure 1: Traditional BMC Layout with TLBMC (left) and cybernetic loop extensions (right)

By integrating the BMC 0 with the SICECE i slot, both, the 9-element and 12-slot logic, are maintained and redundancy of separate 0 and i elements is avoided; position i is where the iterative pathway is either advanced as usual (a), or the need for interventions or contingency planning have to be at least considered, triggering minor (j CL1) or major (kl CL2) activities (#1). This includes what has been termed KM alertness in the abstract and introduction; a term indicating an aim beyond just market sensing but embracing the strengthening of absorptive capacity and organizational capability to sense and respond to knowledge shifts. In this sense, the CL1 and CL2 also act as a mechanism for maintaining an ‘Institutional Knowledge Heritage’ (#2).

Table 1: BMC/TLBMC (Osterwalder and Pigneur, 2010; Joyce and Paquin, 2016) with Perceptual Alignment Layer (PAL)

Rubrics/Slots	0 -> I	1 -> A	2 -> B	3 -> C	4 -> D	5 -> E	6 -> F	7 -> G	8 -> H
Economic Layer	Customer Segments	Customer Relationships	Channels	Value Propositions	Key Activities	Key Resources	Key Partnerships	Cost Structure	Revenue Streams
Environmental Life Cycle Layer	Use Phase	End-of-Line	Distribution	Functional Value	Production	Materials	Supplies & Outsourcing	Environmental Impacts	Environmental Benefits
Social Stakeholder Layer	End-User	Societal Culture	Scale of Outreach	Social Value	Governance	Employees	Local Communities	Social Impacts	Social Benefits
Perceptual Alignment Layer (PAL)	Validation Benchmarks	Relational Interfaces	Mediating Mechanisms	Value Architecture	Operational Mapping	Internal Balancing	Relational Synergy	Accountability Profiles	ValueHarvest

Table 2: SICECE Model, Axiomatic Design, Cybernetic Loop Agile Systemic Processes (CLASP) (based on: (Schmitt, 2025), (Suh, 1995; Beer, 1979; Argyris and Schön, 1997)

SUM: 12-Slot Unified Matrix	A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	K 11	L 12
SICECE Cycle	Seizing	Stewarding	Imbedding	Immersing	Collating	Collaborating	Encompassing	Edifying	Curating	Consolidating	Effectuating	Easing
Cybernetic Loops (CL)	CL h/j/l -> Pathway	->	->	->	->	->	->	CL0 (h->a)	-> Prompt	CL1 (j->a)	-> Perimeter	CL2 (l->a)
C.L.A.S.P.	Advancing							Procedure Adhering	Awakening	Actuating	Adjusting	Adapting
Axiomatic Design (Suh)	Customer Attributes (CA)	Customer Resourcing Design-Matrix	Functional Requirements (FR)	Functional Options Design-Matrix	Design Parameters (DP)	Physical Projections Design-Matrix	Operative Variables (OV)	Product Fitness Design-Matrix				
Digital Transformation Canvas (Elia et al., 2024)	DT 10 Pitfalls [Privacy]	DT 11 Pitfalls [Protection]	DT 4 Operational Pillars [Platform]	DT 3 Operational Pillars [Process]	DT 7 Value [Product]	DT 5 Operational Pillars [Partner]	DT 2 Operational Pillars [People]	DT 7 Value [Performance]	DT 6 Operational Pillars [Project]	DT 1 Strategy [Purpose]	DT plus DT vs. Digital Dividends for All	DT 9 Value [Planet]
KM Building Block Alignment (Probst, 1998)	Knowledge Measurement (B8)	Heritage Knowledge (B8-B1)	Knowledge Goals (B1)	K-Identification & Acquisition (B2 & B3)	Knowledge Development (B4)	Memetic K-Representation (B5+ & B6+)	Knowledge Preservation (B6)	Decentralized KM Revolution (B4+ Impact)	Knowledge Community (B1+ & B4+)	Knowledge Reengineering (B5+ & B6+)	Knowledge Use (B7)	Knowledge Distribution (B5)
KM School Alignment (Earl, 2001)	I System School (technocratic)	I Commercial School (economic)	+S: 'Generative' School	S Strategic School (behavioral)	S Cartographic School (technocratic)	S Organizational School (behavioral)	S Spatial School (Behavioral)	+I: Manufacturing Systems (SCM ERP CRM)	+I: Operations School (feeding KMS)	I Engineering School (technocratic)	S & I Integration & Scaling	Knowledge-based System Evolution
Connectivity & (Focus): S-Social (Collaboration) I-Informational (Content)	Externalization & Internalization: Domain-specific Lessons Learnt & Best-Practices	Combination: Intellectual Capital & Intangible Products	+I: 'Negentropic' School	Optimal Resource Allocation: Knowledge & Business Plans	Socialization: Relationship Capital & Smart Maps 'who knows what'	Socialization: Connectivity & Collaboration Intranet & Groupware	Socialization: Creative Conversations & Physical/Virtual Spaces 'Ba'	As-Built-Generalogies (e.g., Bill of Parts/Labor)	Product & Process Specs: Encapsulated & Org. Know-How & Workflows	Process Re-Engineering: Task-related Learning & Continuous Improvements	Knowledge Weaving (Tengö et al., 2017)	General Purpose Technologies (Cantner and Vannucci, 2012)

3.1 The Integration of Suh's Axiomatic Design Principles

The term 'Functional Intent' mentioned earlier is not only closely linked to the CL0 (j: maintenance and stability for Organizational Cohesion), CL1 (k: incremental innovation for Evolutionary Agility), and CL2 (radical re-engineering for Scalable Integrity). It is also correlated to the axiomatic design principles (Suh, 1995):

- *The Independence Axiom* - Maintain the independence of Functional Requirements (FRs): This axiom refers to the separation of concerns within a system. It postulates that multiple Functional Requirements (FRs) should be mapped to Design Parameters (DPs) in an un-or-de-coupled manner. The goal is to ensure that each DP can be adjusted to satisfy its corresponding FR without unintended interference with other requirements. From a cybernetic perspective, this structural independence ensures that feedback loops are clearly aligned. This alignment prevents 'systemic oscillation'—a failure state where a correction in one part of the process inadvertently destabilizes another.
- *The Information Axiom* – Minimize the information content of the design: This is Occam's Razor for systems; among designs that satisfy independence, the one with the least information is best because it maximizes the probability of success. From a cybernetic perspective, this minimizes entropic potential and conserves the attention required for system comprehension or management.

These principles and the a:CA-c:FR-e:DP-g:OV sequence are included in Figure 1 (icons shown in h-l account for the proposed intervention elements addressed in the concurrent study (withheld for review)) as they directly govern the fulfilment of 'Functional Intent.' This integration provides the mathematical 'rigging' for the SUM; by decoupling 'Functional Intent' from physical implementation and operation, an institution can iterate and adapt without risking systemic collapse. In this axiomatic context, the SUM is not merely an expansion of the traditional canvas; it is a 'decoupled' architectural system (ACE) grounded in Suh's Axiomatic Design (Suh, 1995). Traditional multi-element canvasses often suffer from 'coupled' logic, where a change in one area—such as a revenue shift—triggers a cascading and unmanaged collapse of other operational elements—or where the consideration of too many flow profiles causes visual/mental confusion (#3). The SUM slots h-l are dedicated nodes facilitating systemic governance:

- *Organizational Cohesion (j)*: This node functions as the system's internal stability controller. Drawing on Heisig's synthesis⁵ (Heisig, 2009) and Leavitt's diamond model⁶ (Leavitt, 1962), Slot j manages the interdependencies between human, structural, managerial, and technological knowledge assets. Within the context of the CL1 (Tactical) Loop, it acts as a stabilizing mechanism to ensure that process adjustments do not destabilize the organization's core operational flow. It is here that 'Process Actuating' occurs, aligning internal resources with the feedback sensed at the Slot i validation benchmark.
- *Evolutionary Agility (k)*: This node serves as the system's strategic interface with changing environments. It facilitates structural adaptation—the capacity to reconfigure boundaries and heuristics. By adhering to the Information Axiom, it ensures that 'Perimeter Adjustments' minimize systemic entropy.
- *Scalable Integrity (l)*: This final slot represents overarching governance and identity. It ensures the 'Institutional Knowledge Heritage' is preserved across contexts. It acts as the strategic filter for 'Project Adaptation', ensuring radical changes do not compromise foundational integrity while generating positive GPT⁷ externalities (Cantner and Vannuccini, 2012).

⁵Heisig arrived at his conclusion by comparing 119 KM Frameworks from around the world and their respective "success-critical context factors" which resulted in a total of 424 terms made use of categorized into four main clusters: human factors (culture, people, and leadership), organizational aspects (structures and processes), management processes (strategy and control) as well as information technology. He further observed, "A broad consent prevails over the fact that a one-sided implementation of only one of these factors does not correspond to KM as a holistic effort. The task of KM is to arrange these factors in such a manner that the KM activities can be achieved as smoothly as possible" (Heisig, 2009).

⁶Leavitt's Diamond Model postulates that change may affect four components and, hence, has to be approached from four different perspectives: human factors, structure, technology, managerial, and operative tasks (representing the four points of a diamond) (Leavitt, 1962).

⁷General Purpose Technology (GPT) characteristics with their focus on pervasiveness, improvement, and innovation spawning enables the system and their models to scale effectively, while 'Trust Engineering' is formalized as the consistent, reliable delivery of the 'Functional Intent' to all stakeholders and a means to generate positive GPT externalities from supply-side learning and demand-side network effects (Cantner and Vannuccini, 2012)

3.2 Cybernetic Loop Mechanics: The h-j-l to a Feedback Signal

The 12-Slot Unified Matrix (SUM) operationalizes dynamic governance by utilizing Slot i (Validation Benchmarks) as a systemic sensor. When the 'Functional Intent' is evaluated at this 'Higher Ground' position, one of three CLASP cybernetic loops is triggered:

- *CL0 (Operational Loop: i -> a)*: The 'Advancing Pathway' loop. When Slot i confirms alignment with Functional Requirements (FRs), the system signals a continuation of the existing trajectory. Knowledge is refined through iterative 'Learning-by-Doing', moving from Slot i back to Slot a.
- *CL1 (Tactical Loop: j -> a)*: Activated when Slot i detects a 'Perceptual Mismatch'. The signal flows to Slot j to 'Actuate' a process adjustment, re-aligning internal assets (Leavitt's Diamond) before the system restarts at Slot a.
- *CL2 (Strategic Loop: l -> a)*: The highest intensity loop, governing 'Project Adaptation'. Triggered by fundamental environmental shifts, the signal moves to Slot l to re-engineer the 'Functional Intent' itself, adjusting perimeters (Slot k) before initiating a radical adaptation cycle starting back at Slot a.

3.3 Axiomatic Alignment of the Feedback Cycles

By separating these loops, the Architecture for Canvas Ecosystems (ACE) adheres to the Independence Axiom. Each loop addresses a specific level of systemic complexity—Operational (CL0), Tactical (CL1), or Strategic (CL2)—ensuring that a correction in one layer does not cause unintended 'Systemic Oscillation' in another. This 'Mathematical Rigging' allows the institution to manage high-velocity knowledge shifts while maintaining a coherent and traceable Institutional Knowledge Heritage.

4. Discussion

In this framework, the 'Functional Intent' represents the domain of what the institution wants to achieve, while the slots represent how it is achieved. This decoupling allows for Knowledge Management (KM) Alertness through:

- *Decoupled Iteration*: Re-engineering specific slots (e.g., Slot 11) without disrupting core stability (Slot 3).
- *Traceability*: CLASP Cybernetic loops (CL012) mapping the transition between intent and operation.

The SUM acts as a 'Station Platform' where dynamic models of knowledge creation arrive and depart, ensuring that the knowledge heritage is systematically integrated into the institutional memory. This transforms static 'snapshot' canvases into 'living' dynamic tools, enabling institutions to move beyond static planning toward dynamic foresight and timely interventions. The plan is to integrate this logic into the 3D-Mapping mentioned which already accommodates the more generic SICECE Model where this 'Station Platform' becomes the hub offering departure and arrival gates for those other dynamic models of knowledge creation.

The stated objective, hence, has been met by evolving static linear cause-effect relationships to dynamic continuous adaptability, a familiar 'snapshot'-focus to iterative pivotabilities, and often once-off rapid fire-and-forget exercises to a more rationalizable integration of learning and transformational feedback cycles. By incorporating dynamic extensions (logically and visually), the static sBMCs with their inherent '123-potentials' are transformed into 'living' dynamic dBMC tools and credentials. By embedding adaptability and resilience into the canvas itself, the dBMC enables institutions to move beyond static planning toward dynamic foresight, strategic risk-managing scenarios, and timely interventions. Accordingly, the dBMC is particularly relevant for business ventures and start-up investors operating in volatile, uncertain, complex, and ambiguous (VUCA) contexts, where agility and trustworthiness are essential. As mentioned in the introduction, an accepted ECIE paper (Schmitt, forthcoming) transforms this dynamic structure into an Architecture for Canvas Ecosystems (ACE) and provides an Illustrative Scenario which adds further complementing dynamic dBMC layers for start-up investment and entrepreneurial perceptions.

Acknowledgements

I would like to express my deepest appreciation to the staff and institutions of the Economic Development Board (edbmauritius.org), the Mauritius Research and Innovation Council (mric.mu), and La Plage Factory Africatech Business Incubator (laplage.io). The EDB's/MRIC's policies and National SME Incubator Scheme allow entrepreneurs from Mauritius or abroad (like me) to be considered for initially operating in partnership with one of the accredited Mauritian business incubators under the MRIC's aegis.

Ethics Declaration: No ethical clearance for the research was necessary.

AI Declaration: As AI tools are increasingly used by reviewers, I applied Gemini to also check my completed submission to confirm that my proposed solutions are indeed novel in the context of academic research as well as professional applications. To the best of my knowledge, after verifying the AI-generated results, this approach has not been previously pursued in academic or commercial realms.

References

- Anohina-Naumeca, A. (2023) "The Conceptual Model of Formative Assessment of Structural Knowledge," in J.M. Spector, B.B. Lockee, and M.D. Childress (eds.) *Learning, Design, and Technology*. Cham: Springer International Publishing, pp. 2007–2047. Available at: https://doi.org/10.1007/978-3-319-17461-7_16.
- Argyris, C. and Schön, D.A. (1997) "Organizational learning: A theory of action perspective," *Reis*, (77/78), pp. 345–348.
- Beer, S. (1979) "The heart of the Enterprise, || John Wiley & Sons," *Chichester, UK et al* [Preprint].
- Bocken, N. et al. (2019) "A review and evaluation of circular business model innovation tools," *Sustainability*, 11(8), p. 2210.
- Cantner, U. and Vannuccini, S. (2012) *A new view of general purpose technologies*. Jena Economic Research Papers, Jena, Germany.
- Carter, M. and Carter, C. (2020) "The creative business model canvas," *Social Enterprise Journal*, 16(2), pp. 141–158.
- Cohen, W.M. and Levinthal, D.A. (2000) "Absorptive capacity: A new perspective on learning and innovation," *Strategic Learning in a Knowledge economy*. Elsevier, pp. 39–67.
- Cornella, A. (2000) "Cómo sobrevivir a la infoxicación," *Infonomía. com*, 8, pp. 2451–2460.
- Earl, M. (2001) "Knowledge management strategies: Toward a taxonomy," *Journal of management information systems*, 18(1), pp. 215–233.
- Elia, G. et al. (2024) "The digital transformation canvas: A conceptual framework for leading the digital transformation process," *Business Horizons*, 67(4), pp. 381–398.
- "Flourishing Business Canvas" (no date) *Flourishing Business*. Available at: <https://flourishingbusiness.org/flourishing-business-canvas/> (Accessed: April 12, 2026).
- Foster, L. (no date) "InnoWise Resources," *Innovate Wisely Pty Ltd*. Available at: <https://www.innovatewisely.com/resources/> (Accessed: April 12, 2026).
- Heisig, P. (2009) "Harmonisation of knowledge management—comparing 160 KM frameworks around the globe," *Journal of knowledge management*, 13(4), pp. 4–31.
- Jin, Y. et al. (2022) "Business model innovation canvas: a visual business model innovation model," *European Journal of Innovation Management*, 25(5), pp. 1469–1493.
- Joyce, A. and Paquin, R.L. (2016) "The triple layered business model canvas: A tool to design more sustainable business models," *Journal of cleaner production*, 135, pp. 1474–1486.
- Kanengisser, D. (2014) "How ideas change and how they change institutions: A memetic theoretical framework." *2014 Annual Meeting of the American Political Science Association*, Washington, D.C., 2014 August 28–31.
- Kline, W.A. et al. (2013) "The innovation canvas—a tool to develop integrated product designs and business models," *2013 ASEE Annual Conference & Exposition*, pp. 23–1218. Available at: <https://peer.asee.org/the-innovation-canvas-a-tool-to-develop-integrated-product-designs-and-business-models> (Accessed: April 12, 2026).
- Kupczyk, T. et al. (2024) "Business model canvas application in start-up stage business developments: constraints and challenges." Available at: <https://www.um.edu.mt/library/oar/handle/123456789/129859> (Accessed: March 15, 2026).
- Leavitt, H.J. (1962) *Applied Organizational Change in Industry: Structural, Technological and Humanistic Approaches*. Carnegie Institute of Technology, Graduate School of Industrial Administration.
- Martins, H.F., Mota, J.P. and Marini, C. (2019) "Business models in the public domain: the public governance canvas," *Cadernos EBAPE. BR*, 17, pp. 49–67.
- Matricano, D. and Liguori, E.W. (2026) "Looking to the past, considering the present and preparing for the future: digital technologies and the business model canvas," *Journal of Management History*, 32(3), pp. 345–361.
- Minatogawa, V. et al. (2022) "Towards systematic sustainable business model innovation: What can we learn from business model innovation," *Sustainability*, 14(5), p. 2939.
- Nonaka, I., Toyama, R. and Konno, N. (2000) "SECI, Ba and leadership: a unified model of dynamic knowledge creation," *Long range planning*, 33(1), pp. 5–34.
- Osterwalder, A. et al. (2015) *Value proposition design: How to create products and services customers want*. John Wiley & Sons. Available at: <https://books.google.com/books?hl=en&lr=&id=jgu5BAAAQBAJ&oi=fnd&pg=PA22&dq=%22osterwalder%22&ots=Po1dmIvYQR&sig=I2qorzmWsrGKpkDgIK39c4hOIus> (Accessed: October 9, 2024).
- Osterwalder, A. and Pigneur, Y. (2010) *Business model generation: a handbook for visionaries, game changers, and challengers*. John Wiley & Sons. Available at: https://books.google.com/books?hl=en&lr=&id=UzuTawAAQBAJ&oi=fnd&pg=PP1&dq=%22Business+Model+Generation%22&ots=yZHSwfK71B&sig=T9hQXxqmDe_IzWhfjn0YWJv974 (Accessed: December 17, 2025).
- Probst, G.J. (1998) "Practical knowledge management: A model that works," *PRISM-CAMBRIDGE MASSACHUSETTS-*, pp. 17–30.

- Rechberg, I.D. and Syed, J. (2014) "Appropriation or participation of the individual in knowledge management," *Management Decision* [Preprint].
- Salwin, M. et al. (2022) "The use of business model canvas in the design and classification of product-service systems design methods," *Sustainability*, 14(7), p. 4283.
- Schipper, R. and Silvius, G. (2017) "The sustainable project management canvas," *The journal of modern project management*, 4(3). Available at: <https://journalmodernpm.com/manuscript/index.php/jmpm/article/download/JMPM01207/248> (Accessed: June 16, 2024).
- Schmitt, U. (2021) "Projectability and Heritage Management of Design Knowledge: A Grass-Roots Artefact Perspective of a Longitudinal Research Project for Knowledge Management System Innovation," *Sustainability*, 13(23), p. 13033. Available at: <https://doi.org/10.3390/su132313033>.
- Schmitt, U. (2023) "From Academic Design Science Research to Start-up: Building a Digital Platform Ecosystem to Promote a Sustainable Knowledge Co-Creating Community," *European Conference on Management Leadership and Governance*, pp. 349–358. Available at: <https://doi.org/10.34190/ecmlg.19.1.1718>.
- Schmitt, U. (2025) "Decentralizing Knowledge Management: Affordances and Impacts - Revisited," *Proceedings of the 26th European Conference on Knowledge Management Vol. 2. ECKM 2025*, Lahti, Finland, 4-5 Sep: aci, pp. 877–887. Available at: <https://doi.org/10.34190/eckm.26.2.3846>.
- Schmitt, U. (2026) "Memetic/Metaphorical Digital Twins: Extending Knowledge Co-Creation Across Economics, Architecture, and Beyond," *Biomimetics*, 11(3). Available at: <https://doi.org/10.3390/biomimetics11030220>.
- Schmitt, U. (forthcoming) "Business Model Canvasses Revisited: Complementing Dynamic Layers for Start-up Investment and Entrepreneurial Perceptions." *21st European Conference on Innovation and Entrepreneurship (ECIE 2026)*, Lisbon, Portugal, 17-18 Sep: aci.
- Schuricht, M. (2026) "From Static Canvas to Dynamic Flow: A Grounded Theory-Based Integration of Literary Evidence with Process-Oriented Business Models," *Journal of Business and Management Studies*, 8(3), pp. 01–09.
- Shirazi, F. and Hajli, N. (2021) "IT-Enabled Sustainable Innovation and the Global Digital Divides," *Sustainability*, 13(17), p. 9711.
- Suh, N.P. (1995) "Designing-in of Quality Through Axiomatic Design," *IEEE Transactions on reliability* [Preprint].
- Tengö, M. et al. (2017) "Weaving knowledge systems in IPBES, CBD and beyond—lessons learned for sustainability," *Current opinion in environmental sustainability*, 26, pp. 17–25. Available at: <https://doi.org/10.1016/j.cosust.2016.12.005>.
- World Bank Group (2016) *World development report 2016: digital dividends*. World Bank Publications.