

Demand side shifts, business heterogeneity, and strategic responses in the South African wine value chain

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Abstract

Changes in consumer behaviour are driving structural transformation in the global wine industry, with slowing demand in mature markets, increasing sustainability pressures, and shifting preferences among younger consumers reshaping wine consumption and value creation. This study examines how South African wineries are responding to these demand-side changes and whether their strategies enhance resilience. Using a systems thinking approach, we conducted in-depth interviews with 17 wineries and industry stakeholders and applied causal loop diagramming to identify feedback mechanisms shaping strategic decisions. The findings show that wineries do not respond uniformly; instead, business model differences influence adaptation strategies. Some wineries become trapped in discounting cycles that erode margins, while others protect profitability through premium branding, tourism and experiential offerings, market diversification, and pricing discipline. The study concludes that wineries' capacity to maintain profitability, as an important economic dimension of resilience, depends less on reacting to declining consumption and more on a winery's structural position within reinforcing and balancing feedback loops that shape strategic responses.

Key Words: Demand-side shifts, structural transformation, strategic responses, causal loop diagrams, wine value chain, South African wine industry

1. Introduction

The global wine industry is undergoing structural transformation amid shifting consumer behaviour, stagnating demand in mature markets, and pressures around sustainability, innovation, and value creation. While wine consumption peaked around 2007, per capita and absolute consumption have since plateaued or declined in key markets [1]. Old World markets such as France and Italy have experienced long-term declines, while consumption in the United States has begun to taper [2, 3]. These trends are accompanied by rising demand for premium, organic, low- and no-alcohol wines, signalling realignment of consumer preferences [4, 5]. Younger segments (Gen Z and Millennials) are driving this shift, favouring experiential quality, digital engagement, health-conscious offerings, alternative packaging, and lower-alcohol options [2, 6]. Recent literature suggests these changes reflect deeper structural and generational shifts, with younger consumers showing weaker attachment to wine-drinking occasions and greater openness to alternative beverages and experiences [2, 3, 5]. Wineries

must compete through differentiated experiences, direct-to-consumer engagement, premium positioning, and diversified value propositions [7].

In response, wine-producing countries pursued adaptations. European producers shifted toward quality and sustainability to differentiate in export markets [8], while Australian and American wineries invested in direct-to-consumer channels, innovation, and value chain repositioning [9]. Wine tourism and experiential diversification emerged as strategies through which wineries strengthen engagement, diversify revenue streams, and reduce dependence on retail and export channels [10, 11, 12]. Beyond promoting wine sales, cellar doors, wine routes, hospitality offerings, events, gastronomy, and accommodation are recognised as mechanisms for value capture and model innovation within the wine value chain [15, 16, 17]. These cases illustrate how value chains are reconfiguring in response to structural shifts in wine demand.

Although total domestic wine consumption has increased since the 1980s and recovered after COVID-19, peaking in 2023, it has since declined considerably [16]. Per capita consumption has steadily declined from around 8 litres per year in the late 1990s to 6 litres more recently [16]. Vineyard area has contracted, the number of primary producers has declined, and private cellars have expanded their production share, indicating consolidation and repositioning [16, 17]. Packaging trends have evolved, with rising bag-in-box, canned wine, and aseptic cartons (Tetra Packs®), driven by cost-conscious consumers and product innovations [16, 18]. After exports peaked at almost 60% of total production in 2013, volumes have stagnated and value has remained flat since 2015 [16]. Moreover, the growing prevalence of bulk exports over higher-value packaged wines signals erosion in the industry's value-capture capacity and reinforces dependence on buyer-driven export channels [16]. This challenge is compounded by the global wine value chain's governance structure, in which upstream producers remain exposed to buyer power, retailer concentration, and margin squeeze despite improvements in quality, sustainability compliance, and competitiveness [19, 20, 21]. As an export-oriented producer in a segmented domestic market, the South African wine industry faces global and local challenges, prompting strategic realignment across the wine value chain.

Wine tourism and its related experiences has become significant within the South African wine industry. The Cape winelands have evolved into recognised winescapes with dense wine route networks, experiential offerings, hospitality integration, and destination branding centred around Stellenbosch, Franschhoek, Paarl and surrounding areas [10, 11]. Studies show that cellar doors and wine routes in South Africa operate as income-generating units that facilitate direct-to-consumer engagement, strengthen brand identity, and create differentiated experiential value [10, 12]. Recent research highlights how many wineries are extending

beyond production-centric business models into hospitality, tourism, events, accommodation, and visitor experiences as part of innovation and resilience-building strategies [13, 15]. Here, resilience refers to wineries' ability to sustain long-term viability, adapt to market change, protect market access, and maintain or improve value-capture potential under demand and governance conditions [22, 23]. Within this broader conceptualisation, profitability represents an important economic dimension of resilience, reflecting wineries' capacity to sustain financial viability and value capture under changing market conditions. Many wineries operate as hybrid production, hospitality, tourism, and lifestyle enterprises.

These changes raise questions about how South African wineries are responding to demand pressures locally and internationally, and how business models are restructuring value-capture strategies in response to shifts in wine consumption. Importantly, are tourism and experiential diversification marketing activities or forms of strategic repositioning through which wineries seek value capture, resilience, and reduced dependence on weakening demand and buyer-driven distribution channels? This study addresses this gap by examining South African wineries' responses to these structural shifts. Specifically, it aims to (i) identify demand-side shifts, (ii) investigate how wineries respond through their business models and orientations, (iii) map the reinforcing and balancing feedback structures underpinning their responses using causal loop diagrams, and (iv) assess how strategies, including premiumisation, tourism and experiential diversification, operational flexibility, and market diversification, contribute to long-term resilience or reinforce structural vulnerabilities within the South African wine value chain.

Next, we discuss the conceptual framework and theories underpinning the research. Section 3 summarises the research design, the sample, and analytical methods. Section 4 presents the results, highlighting the significance of the study's findings for strategic planning, sector resilience, and market orientation in an increasingly competitive and uncertain environment. We conclude with final remarks and recommendations for future research in Section 5.

2. Conceptual framework

The study is underpinned by systems thinking, which views industries as complex, interconnected systems in which structure shapes behaviour over time [22, 23]. In the wine industry, this lens explains how demand-side shifts interact with business models, resource configurations, and strategic responses to generate reinforcing and balancing feedback within the value chain. Causal loop diagrams enable analysis of how adaptation pathways emerge

through relationships between market pressures, organisational capabilities, tourism and experiential diversification, pricing strategies, and value-capture mechanisms, rather than linear correlations between variables. This approach has been applied in wine research to analyse value-chain complexity, interdependencies, and adaptive dynamics [24, 25, 26]. Systems thinking is relevant because production cycles, vineyard lifecycles, brand equity, tourism, infrastructure investments, and governance relationships constrain how quickly and flexibly wineries can reposition in response to market signals. To frame the study, we integrate systems thinking with global value chain theory, the resource-based view, dynamic capabilities theory, and experiential economy literature to explain how heterogeneous wineries reposition amid demand transformation (Figure 1).

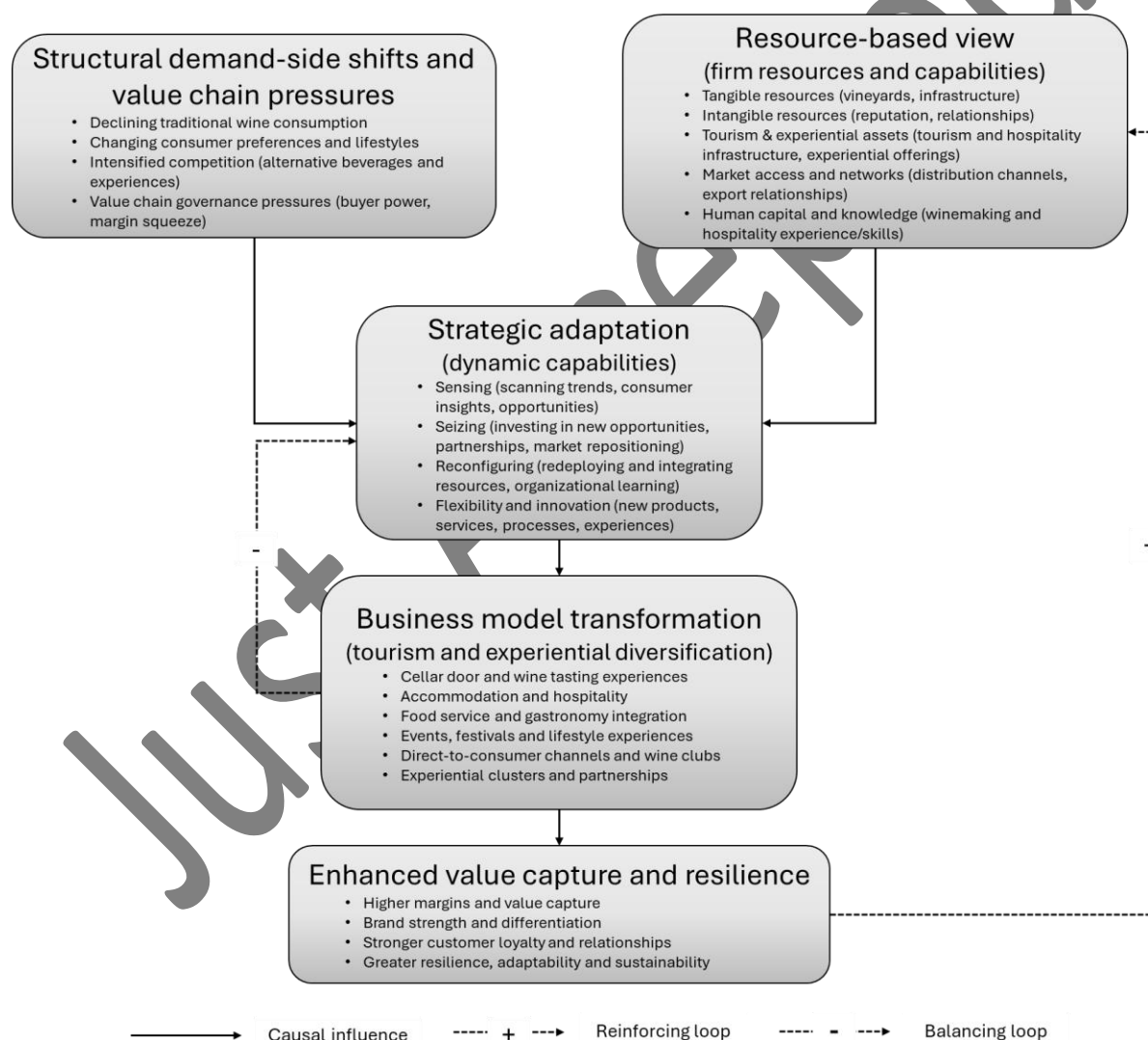


Figure 1: Conceptual framework

First, global value chain theory shows how governance structures, buyer power, and downstream control shape value distribution and strategic positioning in the wine industry [12, 13]. In South Africa, this is relevant given concerns about margin squeeze, uneven value capture, and limits to conventional upgrading in export-oriented wine chains [12, 19]. Governance structures in bulk and lower-value markets often constrain profitability and reinforce price-based competition, increasing pressure on wineries to pursue alternative value capture and downstream engagement. Second, the resource-based view explains why wineries differ strategically, as firms possess heterogeneous resources and capabilities shaping competitive advantage [14, 20]. In the wine industry, these extend beyond vineyards and production assets to brand heritage, tourism, hospitality, direct-to-consumer channels, export relationships, digital engagement capabilities, and location-specific attributes [15], enabling repositioning.

Third, dynamic capabilities theory complements the resource-based view by explaining how wineries adapt and reconfigure resources and business models to changing environments [9, 15, 19]. This lens helps explain strategic diversification, market repositioning, and operational flexibility amid industry change [19]. In mature markets with shifting consumption, wineries require sensing, seizing, and reconfiguring capabilities to restructure value propositions.

Within this framework, tourism and experiential diversification are downstream strategic repositioning methods that restructure how value is created and captured [9, 27]. By expanding direct-to-consumer experiences, hospitality, and events, wineries reduce dependence on constrained markets while strengthening margins, loyalty, and brand differentiation. Tourism thus functions as an alternative means of capturing value, allowing wineries greater control over customer relationships [13, 15].

This perspective aligns with experiential economy literature, which emphasises the importance of emotional engagement and symbolic value in contemporary markets [9, 12]. In the wine industry, cellar-door experiences and hospitality serve to differentiate wineries, strengthen brand identity, and build resilience against structural demand declines [15, 17].

From a systems-thinking perspective, these shifts generate reinforcing and balancing feedback dynamics. Investments in tourism and experiential assets may strengthen brand equity, increase footfall, improve direct sales, support premium pricing, and enhance customer loyalty, generating resources for further investment and diversification. At the same time, balancing dynamics may emerge from financial constraints, infrastructure limitations, and intensifying competition within the experiential economy. These mechanisms explain why wineries pursue different strategies under structural demand transformation. The framework, therefore,

positions strategic adaptation in the South African wine industry as an evolving systemic process, recognising heterogeneous pathways shaped by resource configurations, governance constraints, market positioning, and the ability to create value beyond conventional wine production.

3. Materials and methods

Research in agri-food sectors demonstrates that systems thinking, such as causal loop diagrams, reveals feedback mechanisms, trade-offs, and strategic responses in complex value chains [28, 29, 30]. This framework is appropriate because demand-side shifts trigger varied strategic responses across winery business models. Traditional value chain analysis is often static and fails to capture dynamic, feedback-driven behaviour [31]. Conversely, systems thinking suits the wine industry's structural transformation, where strategic responses emerge from interactions among demand pressures, governance, organisational capabilities, tourism, and value-capture mechanisms.

This study engages wineries and industry representatives via purposive and snowball sampling [32]. Purposive sampling ensures variation across winery characteristics and strategic orientation. This process continues until data saturation is reached [33]. Cross-case comparisons identify how wineries with different business models respond to structural demand pressures. Key individuals from industry bodies are selected for their strategic roles. The study captures a heterogeneous mix of South African wineries by ensuring variation across cultivars, wine type, market focus, size, location, tourism intensity, hospitality integration, direct-to-consumer orientation, and experiential diversification.

Data were gathered through in-person, semi-structured interviews with informants at each participating winery (e.g., owners, winemakers, or managers) and representatives from industry bodies. An interview guide with open-ended questions guided conversations while allowing flexibility to explore topics. Each interview lasted between 90 and 150 minutes, and all were audio-recorded with participants' informed consent. To uphold ethical standards, recordings were transcribed verbatim and anonymised by replacing identifying information (such as individuals' names or specific wine estates) with pseudonyms or descriptions to ensure confidentiality. Recording and transcribing interviews ensured an accurate record of participants' words, enabling reliable analysis. Interview excerpts were used to support and illustrate relationships identified within the causal loop diagrams.

Table 1 summarises the analytical procedure used to move from interview data to system variables, causal relationships, and feedback structures. The procedure was adapted from established systems-thinking, participatory modelling, and qualitative coding approaches and outlines how interview excerpts were coded, grouped into themes, translated into causal relationships, and ultimately incorporated into reinforcing and balancing feedback loops. The table also highlights the role of participant validation and iterative refinement in strengthening the credibility and interpretive rigour of the causal loop diagrams.

Table 1: Analytical procedure used to construct the causal loop diagrams

Step	Analytical activity	Input data	Decision rule	Output
1	Interview familiarisation	Verbatim interview transcripts	Transcripts were read repeatedly to identify recurring statements on demand shifts, strategic responses, value capture, tourism, pricing, and resilience.	Initial analytical notes
2	Initial coding	Interview excerpts	Statements were coded when they described a perceived pressure, a strategic response, a constraint, an outcome, or a relationship between two factors.	First-order codes
3	Theme development	First-order codes	Related codes were grouped into broader themes such as demand pressure, pricing discipline, tourism diversification, brand positioning, operational flexibility, and value-capture strategies.	Thematic categories
4	CLD variable identification	Themes and repeated codes	Themes were converted into CLD variables when they represented a changeable condition, pressure, strategy, capability, or outcome.	System variables
5	Causal link identification	Interview excerpts and cross-case comparison	A causal link was included when participants described one factor influencing another, or when similar strategic dynamics appeared across multiple interviews.	Variable-to-variable links
6	Polarity assignment	Causal statements	A positive link (+) was assigned when movement in one variable was interpreted to move the second variable in the same direction. A negative link (–) was assigned when movement in one variable was interpreted to move the second variable in the opposite direction.	Link polarities
7	Loop identification	Linked CLD variables	Closed chains of causal relationships were classified as reinforcing when they amplified change over time, and balancing when they constrained, moderated, or stabilised change.	R and B feedback loops
8	Interpretation and validation	Draft CLDs and participant feedback	Draft diagrams were reviewed against the interview evidence and participant validation to assess whether the feedback structures resonated with industry experience.	Refined CLDs
9	Reporting	Final CLDs and supporting excerpts	CLDs were reported as structured qualitative interpretations of perceived feedback dynamics, not as statistically verified causal mechanisms.	Final diagrams and narrative interpretation

Source: Adapted from systems-thinking and qualitative coding approaches [24, 25, 26, 27]

As part of the validation process, the draft causal loop diagrams were shared individually with two participating wineries and one industry stakeholder. Participants were asked to assess whether the variables, causal relationships, and feedback structures represented in the diagrams were consistent with their experience of the South African wine industry. All three participants supported the interpretation and structure of the causal loop diagrams, and no suggestions for modification were received. Consequently, no changes to the diagrams were required following participant validation.

To translate qualitative findings into system dynamic constructs, we employed an evidence-to-variable mapping procedure. Interview excerpts were coded and grouped into first-order concepts representing strategic responses, operational constraints, perceived consumer trends, governance mechanisms, and value-capture activities. Similar codes were iteratively compared and consolidated to reduce redundancy and ensure each system variable represented a distinct strategic, operational, or market-related construct. For each relationship, direction of influence and polarity were identified from participants' descriptions of how changes in one variable affected another. The mapping process created an analytical link between interview evidence, thematic codes, system variables, and the feedback structures presented in the causal loop diagrams.

The higher-order system variables and strategic adaptation mechanisms identified through thematic coding, and the evidence-to-variable mapping procedure were then used to construct causal loop diagrams in Vensim PLE 10.4 to explain interactions among themes [10]. A causal loop diagram is a systems thinking tool that represents variables and cause-and-effect relationships, allowing researchers to identify reinforcing and balancing feedback structures that shape system behaviour over time [10, 22, 25]. In this study, the diagrams represent qualitative interpretations of the feedback structures perceived by participants rather than empirically verified causal mechanisms. Variables, causal relationships, and loop classifications were derived iteratively through comparisons among interview transcripts, thematic coding outputs, the existing literature, and the researcher's interpretation. Relationships were included only when sufficient qualitative evidence emerged across multiple interviews or participants consistently described similar strategic dynamics. Reinforcing loops capture self-amplifying processes that accelerate growth or decline, whereas balancing loops counteract change and promote system stability [22].

Appendix Table A provides examples of how recurring interview evidence informed the identification and refinement of reinforcing and balancing feedback structures.

In parallel with causal loop diagram development, cross-case comparison identified recurring patterns in wineries' strategic orientation, tourism intensity, market positioning, operational scale, and value-capture strategies. These patterns informed winery typologies, subsequently used as a lens for interpreting differences in strategic response pathways across business models. Building on these typologies, transcripts were coded to identify phrases, ideas, and causal statements related to wineries' responses to structural demand transformation and changing consumption patterns. Coding was partly deductive, informed by literature on industry strategy, systems thinking, tourism diversification, and value-chain governance, and partly inductive, allowing patterns to emerge from data. Through iterative comparison and refinement, codes were grouped into broader themes reflecting strategic responses, constraints, and business model transformation. These relationships informed causal loop diagrams.

4. Results and discussion

The final sample comprises 17 wineries across South African wine-producing regions, supplemented by engagement with two representatives from industry bodies. Snowball and purposive sampling yielded convergence across interviews, with repeated patterns regarding consumer preferences, pricing strategies, export positioning, experiential offerings and responses to market conditions, but theoretical saturation was not reached. This was due to the harvest season, which constrained participation; however, redundancy in themes emerged before data collection was interrupted. Table 2 presents some characteristics of the wineries. The sample reflects heterogeneity across production orientation, market orientation, and pricing architecture, allowing exploration of strategies rather than assuming a single industry response to changing demand.

Table 2: Key characteristics of participating wineries

Winery code	Region	Producer type	Production orientation	Market orientation	Average price/bottle ¹
W1	Darling	Private cellar	Red 50% White 50%	Export 20% Domestic 65%	\$20,88
W2	Stellenbosch	Private cellar	Red 80% White 20% Fortified <1%	Export 50% Domestic 50%	\$16,48
W3	Stellenbosch	Private cellar	Red 100% Fortified <1%	Domestic 100%	\$23,63
W4	Stellenbosch	Private cellar	Red 64% White 30% CC 6%	Export 80% Domestic 20%	\$13,19

Winery code	Region	Producer type	Production orientation	Market orientation	Average price/bottle ¹
W5	Paarl	Producer cellar	Red 45% White 52% CC 3%	Export 90% Domestic 10%	\$6,04
W6	Wellington	Negotiant	Red 55% White 45%	Export 95% Domestic 5%	\$34,07
W7	Botrivier	Private cellar	Red 30% White 70% Sweet <1%	Export 50% Domestic 50%	\$25,82
W8	Stellenbosch	Private cellar	Red 50% White 45% CC 4% Fortified <1%	Export 30% Domestic 70%	\$70,33
W9	Hermanus	Private cellar	Red 45% White 50% CC 2% Fortified 3%	Export 30% Domestic 70%	\$27,20
W10	Stellenbosch	Private cellar	Red 92% Rose 8%	Export 55% Domestic 45%	\$48,35
W11	Calitzdorp	Private cellar	Red 30% White 40% Semi Sweet White 3% Semi Sweet Red 3% Fortified and Spirits 24%	Export 10% Domestic 90%	\$18,13
W12	Calitzdorp	Private cellar	Red 35% White 62% Fortified 3%	Export 75% Domestic 25%	\$10,44
W13	Hermanus	Private cellar	Red 50% White 50%	Export 50% Domestic 50%	\$28,57
W14	Paarl	Producer cellar	Red 49% White 51%	Export 90% Domestic 10%	\$9,89
W15	Stellenbosch	Producing wholesaler	Red 30% White 25% Rose 25% Sparkling 10% Fortified 10%	Export 20% Domestic 80%	\$8,79
W16	Stellenbosch	Private cellar	Red 80% White 20%	Export 99% Domestic 1%	\$19,23
W17	Stellenbosch	Private cellar	Red 55% White 45% CC 5%	Export 70% Domestic 30%	\$9,89

¹ USD values were calculated using an exchange rate of R18.20/US\$1 as of June 2026.

The majority (n=13) of the wineries are private cellars¹, with two producer cellars, one producing wholesaler, and one negotiant brand represented. Respondents held senior roles, including CEOs, owners, winemakers, and sales or marketing managers, reflecting high-level decision-making. Most reported experience, with the majority having more than 15 years. Regarding production orientation, the sample is slightly skewed toward red wine production (n=7), with two wineries exceeding 90% red composition, unlike the industry as a whole, where 65% of grape production consists of white cultivars. Others have balanced portfolios (n=5), while a subset is white-dominant (n=5). Many wineries (n=7) produce fortified wines, but only in very small quantities (1 to 3% of total production), except one producing 24%. Six wineries are diversified into rosé, natural sweet, and sparkling (including Cap Classique²) wines. The sample is predominantly premium-positioned, spanning entry or mid-range to high-end and, in several cases, icon-level offerings. It covers the full price spectrum, from around \$2,75 per bottle to more than \$329,67, with an average price of \$22,99, reflecting heterogeneity in price positioning, portfolio tiering, and business model.

The wineries showed export orientation differences. Four exported between 40% and 60% of production, while four exported more than 90%, indicating dependence on international markets. Conversely, six were domestic-oriented, exporting less than 40% of production. The split was 50:50, with exports diversified across EU, UK, USA, the East, and Africa. Most offered direct-to-consumer domestic and international delivery, through an international agent; only one had a limited presence, fulfilling orders via direct enquiry. Table 3 illustrates business models beyond wine production.

Table 3: Winery tourism, hospitality and lifestyle offerings

Winery code	Tasting room	Restaurant(s)	Wine club	Accommodation	Experiential diversification categories
W1	Yes	Yes	Yes	No	Wine experiences; Food and gastronomy; Outdoor recreation
W2	Yes	Yes	Yes	No	Wine experiences; Outdoor and recreation
W3	Yes	Yes	Yes	No	Wine experiences; Food and gastronomy; Events and conferencing

¹ Private cellars are wineries in the traditional sense; Producer cellars originated in wine cooperative. While they are now incorporated as joint stock companies, they mostly function in a manner similar to cooperatives, sourcing grapes mostly from shareholders and either making wine under their own label or selling it to producer wholesalers; Producer wholesalers buy both grapes and wine from primary producers and producer cellars; Negotiants mostly buy in grapes and often rent cellar space to produce branded wine.

² The South African version of wine made with the Champagne method and in that style.

Winery code	Tasting room	Restaurant(s)	Wine club	Accommodation	Experiential diversification categories
W4	Yes	Yes	Yes	No	Wine experiences; Food and gastronomy
W5	Yes - multiple	No	Yes	No	Wine experiences; Food and gastronomy; Family and leisure
W6	No	No	Yes	No	Limited/no tourism offerings
W7	Yes	Yes	Yes	Yes	Wine experiences; Food and gastronomy; Outdoor recreation; Hospitality and accommodation
W8	Yes	Yes - multiple	Yes	Yes	Wine experiences; Food and gastronomy; Hospitality and accommodation; Arts and culture; Wellness and lifestyle
W9	Yes	Yes	Yes	Yes	Wine experiences; Food and gastronomy; Outdoor recreation; Hospitality and accommodation
W10	Yes	Yes	Yes	No	Wine experiences; Arts and culture
W11	Yes	Yes - multiple	Yes	No	Wine experiences; Events and conferencing
W12	No	No	No	No	Limited/no tourism offerings
W13	Yes	Yes	Yes	No	Wine experiences; Food and gastronomy
W14	Yes	Yes	Yes	No	Wine experiences; Food and gastronomy
W15	No	No	No	No	Limited/no tourism offerings
W16	Yes	Yes - multiple	Yes	Yes	Wine experiences; Food and gastronomy
W17	Yes	Yes - multiple	Yes	Yes	Wine experiences; Food and gastronomy; Outdoor recreation; Hospitality and accommodation; Arts and culture; Wellness and lifestyle; Family and leisure; Events and conferencing

While wine experiences³ (n=14) and wine clubs (n=14) were common, the breadth and sophistication of experiential infrastructure varied. Fourteen wineries operated tasting rooms, and eleven integrated food and gastronomy into experiences. Smaller subsets expanded into hospitality and accommodation (n=4), arts and cultural experiences (n=3), events and conferencing (n=4), wellness and lifestyle offerings (n=2), and family-oriented leisure activities (n=2). By contrast, three wineries offered limited or no tourism infrastructure. These

³ These wine experiences include curated wine tastings, wine pairings, wine blending, cellar tours, harvest workshops, and vineyard tours.

findings suggest tourism and experiential diversification are increasingly embedded in winery business models, although diversification varies across firms. Some wineries rely mainly on wine production and sales, whereas others have evolved into destination-based businesses generating value through integrated offerings.

Variation in production orientation, market focus, pricing strategies, and experiential diversification indicates that South African wineries are not homogeneous. Instead, they exhibit distinct business models and strategic approaches to value creation and capture. To understand these differences, thematic coding and cross-case comparison identified recurring patterns in strategic orientation, tourism intensity, market positioning, operational scale, and diversification strategies. Wineries were compared across six dimensions from the thematic analysis: experiential intensity, premium positioning, portfolio breadth, revenue diversification, brand heritage and storytelling, and distribution breadth. Using these dimensions, similar wineries were grouped into five typologies within the South African wine industry (Table 4), viewed as dominant rather than exclusive.

Table 4: Winery typologies and classification characteristics

Typology	Winery	Tourism intensity	Product diversification	Market orientation	Scale/ positioning	Defining characteristics
Luxury destination wineries (n=4)	W8, W9, W16, W17	High	Medium–High	Domestic and export	Premium to ultra-premium	Strong experiential focus, hospitality infrastructure, destination branding, visitor experiences integrated into value capture
Premium heritage wineries (n=5)	W2, W3, W4, W10, W13	Medium	Low–Medium	Domestic and export	Premium	Strong terroir, heritage, reputation and quality signals; emphasis on wine identity rather than extensive tourism diversification
Scaled portfolio marketers (n=4)	W5, W6, W14, W15	Low–Medium	Medium	Strong export and channel orientation	Multiple price tiers	Portfolio management across segments, broader

Typology	Winery	Tourism intensity	Product diversification	Market orientation	Scale/ positioning	Defining characteristics
						channel penetration, active management of market and distribution risks
Diversified wineries (n=2)	W7, W11	Medium–High	High	Primarily domestic with export exposure	Premium	Revenue diversification through hospitality, food offerings, fortified wines, spirits and complementary products
Boutique wineries (n=2)	W1, W12	Low	Low	Niche domestic/export	Small-scale premium	Limited production, selective distribution, artisanal positioning, scarcity and relationship-based marketing

Luxury destination wineries (n=4) feature high experiential intensity, strong brand narratives, and ultra-premium wines. They integrate hospitality to capture value through differentiation. Respondents highlighted investments in tourism infrastructure and experiences to strengthen brand equity and direct sales, noting that consumers now seek “full experiences such as pairing menus, storytelling and vineyard immersion” (W9).

Premium heritage wineries (n=5) feature strong origin, terroir, or winemaking storytelling. They rely less on luxury infrastructure and more on reputational capital, emphasizing authenticity, family heritage, and consumer trust (W10).

Scaled portfolio marketers (n=4) operate multi-tier product ranges, using promotions and channel penetration. Their volume-driven strategy balances margins and manages risk through diversified price tiers. These wineries manage complex portfolios, adjusting offerings to market signals; for example, one reduced its range from 31 to 19 SKUs (W5).

Diversified wineries (n=2) extend into fortified products and spirits, broadening revenue and visitor propositions. This model responds to margin pressures and shifting consumer

348 preferences. One business added “brandy, whisky, gin, and rum to stay ahead of the spirits
349 trend” (W11), reducing dependence on wine.

350 Boutique wineries (n=2) offer niche, limited-production wines with minimal infrastructure.
351 They compete through scarcity and relationships; one was “too small to respond to specific
352 trends” (W1), while another relied on restaurant relationships and targeted distribution (W12).
353 Although these typologies do not capture all of the diversity in the industry, they do support
354 heterogeneity in business models and strategic positioning. Two senior representatives from
355 industry bodies confirmed that they mirror national patterns, reinforcing relevance. The
356 findings also suggest that wineries pursue different approaches to value creation and capture.
357 Nevertheless, while this diversity increases the industry’s ability to adapt, it may also contribute
358 to fragmentation, weakening brand-building efforts and causing inconsistent positioning in
359 international markets. The typologies also provide a lens for interpreting the analysis, as
360 business models shape decision-making. Consequently, market signals may trigger responses
361 and feedback mechanisms across wineries, as reflected in the causal loop diagram (Figure 2),
362 which shows demand-side shifts interacting with winery-specific characteristics to generate
363 reinforcing and balancing dynamics within the South African wine value chain.

364 Across the interviews, participants described market conditions aligned with demand-side
365 shifts identified in the literature. These included lower consumption frequency, rising price
366 sensitivity, competition from alternative beverages, demand for lighter wine styles, and greater
367 emphasis on experiences and engagement. One participant observed that “there are trends
368 towards health and wellness...people drink less” (W4, W5), while another noted consumers
369 are increasingly “moving away from heavier wines towards lighter, brighter and fresher styles”
370 (W6, W9, W14). Participants highlighted experiential consumption, with one winery
371 explaining younger consumers are “more experience-driven” (W4, W9) and engage through
372 tasting-room experiences. These observations mirror changes reported in wine literature, which
373 highlights moderation, premiumisation, experiential consumption, and changing generational
374 preferences as forces reshaping wine markets [1, 3, 7]. However, because the study draws on
375 winery interviews rather than consumer research, these trends are interpreted as perceived
376 market signals underpinning strategic response pathways explored in causal loop diagrams.

377 Figure 2 provides an overview of how participants described wineries responding to demand-
378 side shifts through feedback structures across the interviews. Three response pathways emerge
379 from the analysis: tourism and experiential diversification, brand and premium positioning, and
380 pricing/operational adaptation. While presented separately for analytical purposes (see Figures
381 3-5), these pathways are interconnected and supported by market diversification strategies,

particularly export expansion and channel diversification, which respondents identified as mechanisms for spreading risk, accessing consumer segments, and strengthening profitability. Given the number of interconnected feedback relationships identified in the analysis, the integrated CLD necessarily contains substantial visual complexity. Figure 2 therefore provides a holistic representation of the system, while Figures 3–5 decompose the integrated structure into its principal strategic response pathways to facilitate interpretation without removing relationships from the overall system.

To aid interpretation, Figure 2 should be read from a profitability perspective, with profitability representing the principle economic outcome within the causal loop diagram. While resilience is conceptualised more broadly in this study as encompassing long-term viability, adaptability and market access, and value capture, profitability represents one important economic dimension of winery resilience. the system's outcome variable. Three pathways emerge from this point. The tourism and experiential diversification pathway (right-hand side of the figure) links hospitality investments and direct-to-consumer engagement to profitability by enhancing experiences and value capture. The brand and premium positioning pathway (left section) links brand identity, brand-price alignment, and premium positioning to profitability through differentiation and margin protection. The pricing and operational adaptation pathway (upper section) links operational flexibility, market diversification, production volume decisions, inventory pressures, and discounting dynamics to profitability.

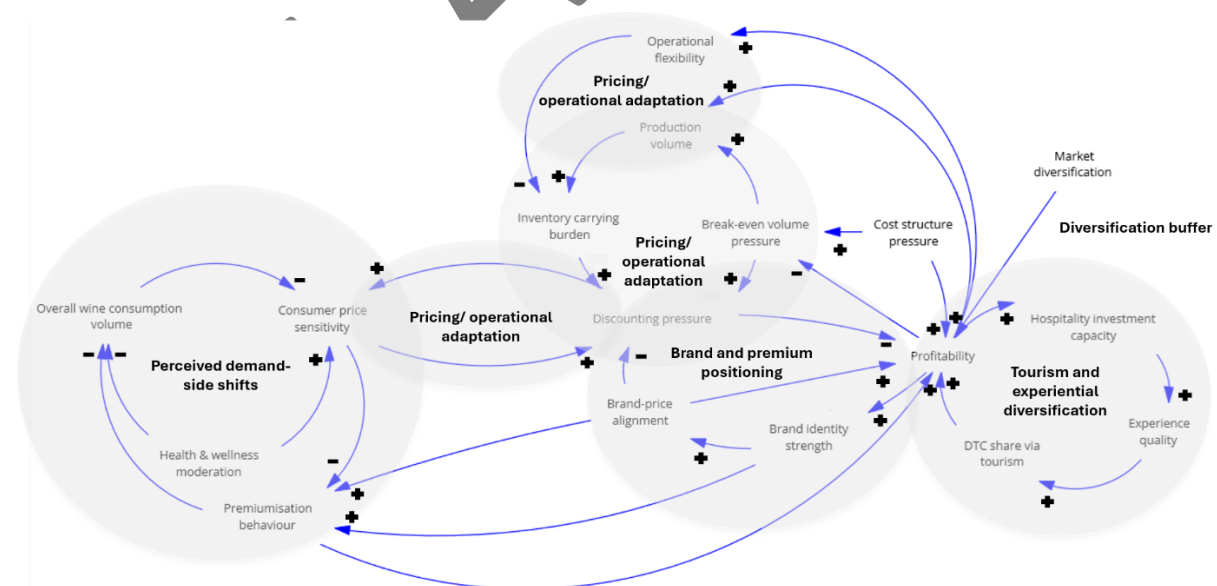


Figure 2: Integrated causal loop diagram of winery strategic response pathways to perceived demand-side shifts

Note: DTC: direct-to-consumer

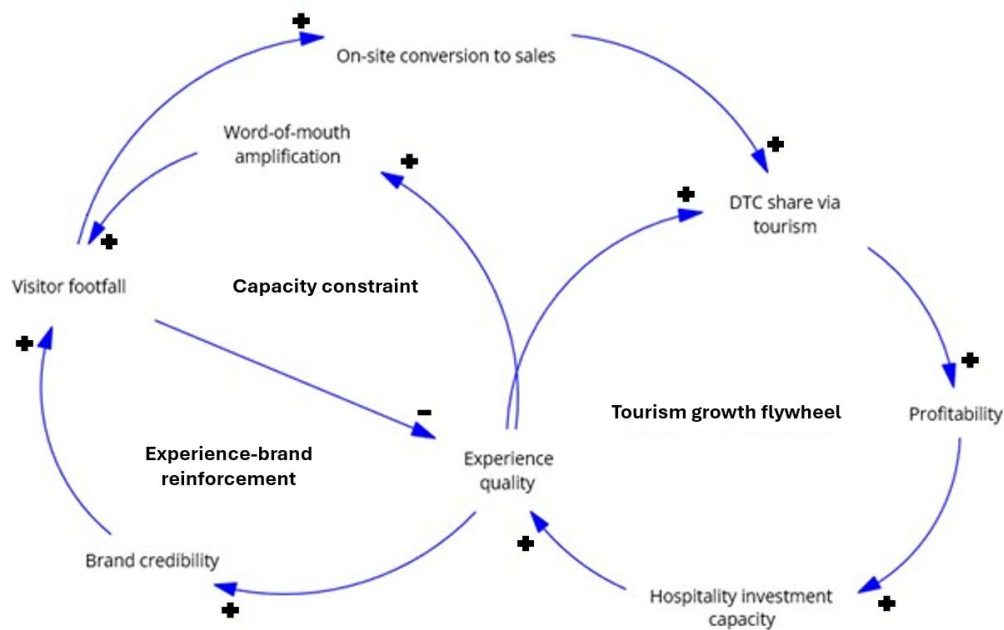
First, luxury destination (n=4), together with several premium heritage (n=5), and diversified wineries (n=2), reinforce profitability through tourism and experiential value creation, with hospitality investments strengthening direct-to-consumer engagement, brand equity, and visitor spending. Second, premium heritage (n=5) and boutique wineries (n=2) reinforce profitability through strong brand identities, premium positioning, reputation, and customer loyalty. Third, scaled portfolio marketers (n=4) and other volume-oriented business models rely more heavily on operational flexibility, market diversification, and pricing discipline to manage cost pressures and avoid erosion of profitability. The relative importance of these pathways differs across typologies, highlighting how business model configuration shapes strategic responses perceived to demand-side shifts.

The pathways were not equally represented across the sample. Tourism and experiential value creation were most prominent among luxury destination wineries (n=4), as well as among several premium heritage (n=5) and diversified wineries (n=2), reflecting the importance of hospitality, tasting-room experiences, accommodation, and food offerings as complementary revenue streams. Brand reinforcement was particularly evident among premium heritage (n=5) and boutique wineries (n=2), where authenticity, scarcity, and storytelling were key components of value creation. In contrast, scaled portfolio marketers (n=4) were more strongly influenced by pricing discipline, operational flexibility, and portfolio management strategies to maintain profitability in highly competitive markets. Collectively, these pathways suggest that wineries are responding to perceived demand-side shifts not through a single industry-wide strategy but through business-model-specific mechanisms shaped by their resources, capabilities, and value-creation logic.

The following sections unpack each of these pathways in greater detail. Figure 3 expands the tourism and experiential diversification pathway, Figure 4 focuses on brand and premium positioning, and Figure 5 examines pricing and operational adaptation. Together, these figures illustrate the perceived feedback structures through which different winery typologies rely on distinct feedback structures to sustain profitability under changing market conditions.

The tourism and experiential diversification pathway (Figure 3) emerged as the most widely observed strategic response across the sample. This pathway was particularly evident among luxury destination wineries (n=4), and was also observed among premium heritage (n=5) and diversified wineries (n=2). Participants repeatedly described investments in “full experiences” (W9) such as hospitality, food offerings, accommodation, and visitor experiences as mechanisms through which they sought to increase direct-to-consumer engagement, strengthen

brand visibility, and reduce reliance on wine sales alone. One participant explained that expanding hospitality offerings increased visitor numbers from “five people a day to sixty people a day” (W7), illustrating the potential of tourism investments to reshape revenue generation. While another noted that “young consumers are more experience-driven” (W3), suggesting that wineries increasingly compete through experiences rather than product attributes alone.



Note: DTC: direct-to-consumer

Figure 3: Tourism and experience-based dynamics

Figure 3 shows the relationship between investments in experience and profitability while catalysing brand reinforcement and premium positioning. The tourism growth flywheel shows how hospitality investment improves experience quality, enhancing direct-to-consumer sales and profitability, which drives hospitality investment. Improved experiences reinforce brand credibility and word-of-mouth, increasing visitation and direct-to-consumer sales. However, capacity constraints at wineries, where excessive visitors may harm the visitor experience, balance the system. This pathway is especially relevant for luxury destination wineries focused on tourism and experiential offerings rather than product volume.

The brand identity and premium positioning pathway (Figure 4) shows that participants perceived that wineries use identity, reputation, and authenticity to strengthen premium positioning and protect margins in a changing market environment. This pathway was evident

among premium heritage wineries (n=5) and boutique wineries (n=2), where participants emphasised maintaining a clear brand vision rather than responding to short-term market trends. A premium heritage winery said they focus on quality, not trends, leading to “consumers trusting the brand” (W10), while a boutique winery stated that “we are too small to respond to a trend” (W1). This highlights winery structure and brand identity.

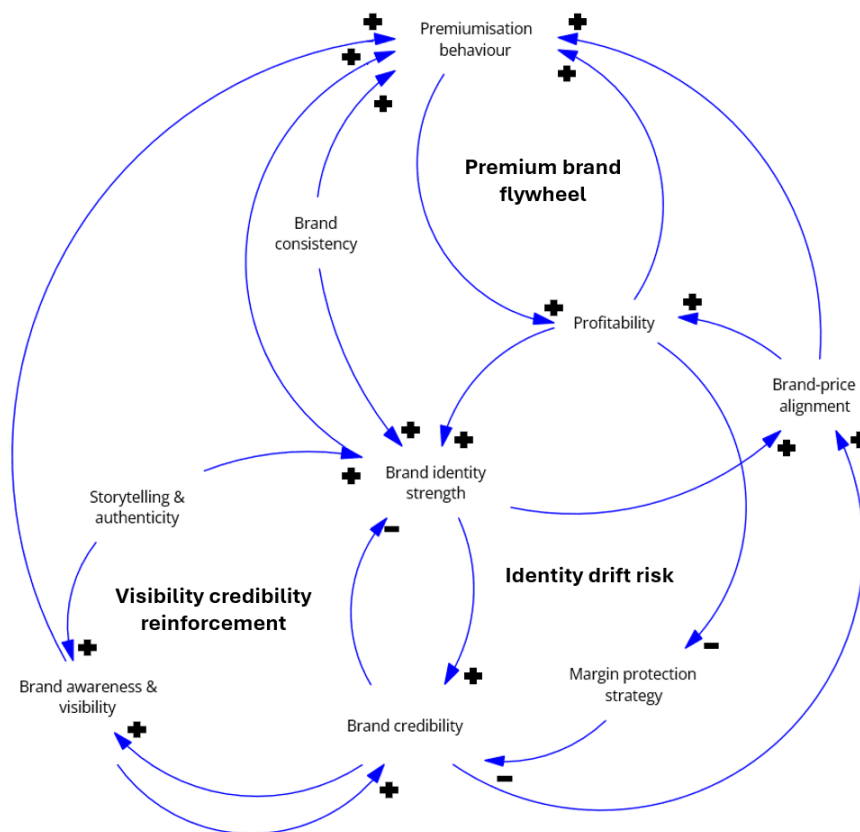


Figure 4: Brand identity and premium dynamics

Almost all wineries indicated that an articulated brand vision prevented pursuit of short-term trends. Within the causal loop diagram, the premium brand flywheel shows strong brand identity and brand-price alignment, which participants associated with maintaining price integrity and premium positioning. Increased profitability was perceived to reinforce this pathway through reinvestment in brand building. Similarly, storytelling and authenticity were associated with greater visibility and credibility, supporting premiumisation.

The causal loop diagram shows a balancing force (identity drift risk): deviation from brand identity undermines credibility and weakens price support. As one winery said: “We don’t respond to trends, we focus on making the best wine possible – consumers trust the brand”

(W10). Strategic consistency therefore emerges as a stabilising mechanism within the premium segment.

The pricing and operational pathway (Figure 5) highlights challenges in responding to market conditions. This pathway was evident among portfolio marketers (n=4) and volume-oriented business models, where profitability depends on break-even volumes, inventory management, and pricing discipline. One winery said, “we export in bulk and outsource bottling to destination markets to support margins” (W15), while another mentioned bulk exports contributing to sustainable profits (W5). Participants highlighted risks of competing on price and volume, where “discounting by big competitors increases competition and erodes margins” (W7).

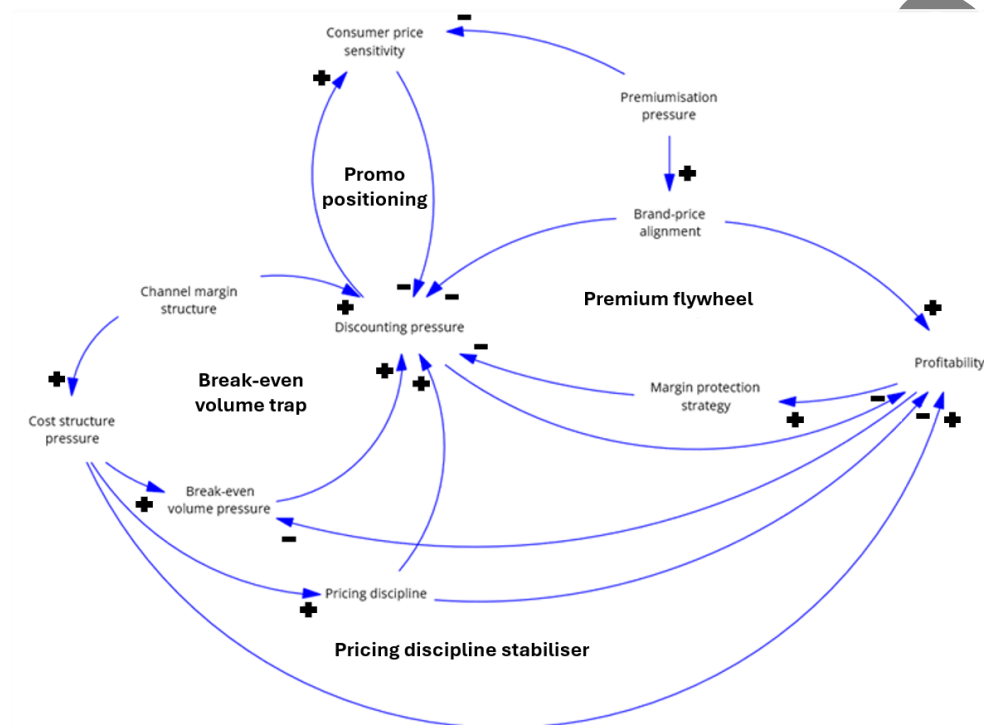


Figure 5: Pricing under demand side shifts

The break-even trap represents participants’ perceptions of how cost pressures may increase break-even volume pressures, encouraging expansion and discounting. Within this feedback structure, discounting is associated with lower realised margins and profitability, potentially reinforcing cost and volume pressures. The price conditioning loop reinforces this: persistent discounting conditions customers to expect lower prices, creating pressure for further discounting. Pricing discipline balances the system by preventing reactive responses to short-term volume pressure. Disciplined wineries resist excessive discounting, “maintain price integrity and protect margins” (W9) despite competition. In large producer or wholesale cellars,

formal reporting and return-on-investment requirements embed this discipline, limiting discounting (W14, W15). Pricing outcomes therefore reflect market pressures, winery governance, and cost management practices.

Results suggest responses to perceived demand-side shifts are shaped by wineries' structures and business models. Tourism-oriented wineries pursue resilience through experiential value and direct-to-consumer engagement; brand-oriented wineries rely on identity, reputation, and premium positioning; while volume-oriented wineries depend on pricing discipline and operational flexibility. The findings suggest that strategic resilience may depend less on the nature of the demand-side shifts itself than on wineries' structural positioning and capacity to respond.

5. Conclusion

This study examined how South African wineries respond to demand-side shifts and whether these responses enhance long-term resilience or reinforce vulnerabilities. Drawing on systems thinking and interviews with 17 wineries representing diverse regions, business models, price tiers, and export orientations, causal loop diagramming were used to identify feedback mechanisms shaping strategic responses to changing market conditions.

Findings demonstrate that demand-side shifts do not elicit uniform industry responses. Wineries pursue distinct pathways shaped by business model configurations and structural positioning within the value chain. Tourism and experiential diversification, brand identity and premium positioning, and operational adaptation, emerged as three dominant pathways. While some wineries strengthened resilience through direct-to-consumer engagement, hospitality, brand authenticity, and premium positioning, others relied on operational flexibility, market diversification, and pricing discipline to maintain profitability. These differences across winery typologies highlight that resilience is shaped not by firm size, but by how wineries create, deliver, and capture value.

The study makes empirical and practical contributions. Empirically, it contributes to the limited system-based research on the South African wine industry by combining business model typologies with causal loop analysis to explain how structural differences generate distinct reinforcing and balancing dynamics. The findings further demonstrate the usefulness of systems thinking for analysing agri-food industries characterised by long production cycles, high fixed investments, and delayed feedback effects. Practically, the results suggest that resilience is strengthened when wineries align strategic responses with their underlying

business model logic rather than reacting opportunistically to short-term market trends. Tourism-orientated wineries benefit from experiential value creation and direct-to-consumer engagement, premium-oriented wineries derive resilience from strong brand identities and price integrity, while volume-oriented wineries depend more heavily on operational flexibility, diversified channels, and disciplined cost management.

Several limitations should be acknowledged. The study is qualitative in nature and therefore does not seek statistical generalisation. Rather, it provides an analytical framework for understanding how wineries perceive and respond to changing market conditions. The winery typologies were also developed through qualitative cross-case comparison rather than a formal scoring system or decision matrix. Classification therefore reflects the dominant characteristics of each winery across the identified dimensions, and some wineries may exhibit characteristics associated with more than one typology. The typologies should consequently be interpreted as analytical groupings that support comparison of strategic response pathways rather than as mutually exclusive or statistically derived categories.

Future research could extend this work in three ways. First, quantitative studies could test and validate the causal relationships identified in the causal loop diagrams. For example, future research could examine whether investments in tourism and hospitality infrastructure are associated with higher direct-to-consumer sales, stronger brand equity, and improved profitability. Similarly, the relationship between brand identity and strength and price integrity could be tested to determine whether wineries with stronger brand positioning are better able to maintain premium prices and avoid discounting pressures. Further research could also investigate whether operational flexibility, diversified market access, and asset-light business models are associated with greater resilience to demand-side shocks and improved financial performance. Finally, the proposed break-even and discounting dynamics could be examined quantitatively to determine whether pricing discipline moderates the relationship between cost pressures and profitability erosion. Second, future research could refine and validate the proposed winery typologies using larger samples and more formal classification procedures. The dimensions identified in this study could be operationalised into measurable criteria to assess the robustness of the typologies, identify potential overlap between categories, and examine the prevalence of the identified pathways across winery types. Lastly, comparative studies across wine regions or international contexts could explore how place-specific conditions influence the relative importance of tourism, branding, and pricing mechanisms in shaping winery resilience.

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570 **Declarations of interest**

571 None

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573 **AI declaration**

574 During the preparation of this work, the authors used Paperpal in order to shorten the
575 manuscript. After using this tool/service, the authors reviewed and edited the content as needed
576 and take full responsibility for the content of the published article.

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Just Accepted

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Appendix

Table A: Interview evidence to CLD variables and feedback loops

Evidence excerpt	Initial code	CLD Variable A	Polarity	CLD Variable B	Feedback structure
"Consumers buy less due to the economy and available disposable income"	Price-sensitive demand	Health & wellness moderation / disposable income pressure	–	Overall wine consumption volume	Perceived demand-side shift
"Consumers buy less"	Reduced demand	Overall wine consumption volume	–	Consumer price sensitivity	Perceived demand-side shift
"Drink less but better"	Premiumisation	Consumer price sensitivity	–	Premiumisation behaviour	Perceived demand-side shift
"Consumers are willing to spend more on fewer bottles"	Trading up	Premiumisation behaviour	+	Brand-price alignment	Premium brand flywheel
"Consumers are moving towards fresher styles"	Style shift	Style preference shift	+	Premiumisation behaviour	Perceived demand-side shift
"Consumers no longer want heavy wines"	Lighter style preference	Style preference shift	+	Premiumisation behaviour	Perceived demand-side shift
"Wine tourism is often the first engagement"	Tourism entry point	Hospitality investment capacity	+	Experience quality	Tourism growth flywheel
"Improvements in hospitality increase the experience of tourists"	Experience upgrading	Experience quality	+	Visitor footfall	Tourism growth flywheel

"Satisfied visitors tell others about the experience"	Reputation spillover	Experience quality	+	Word-of-mouth amplification	Experience-credibility reinforcement
"Word of mouth increases visitation"	Visitor attraction	Word-of-mouth amplification	+	Visitor footfall	Experience-credibility reinforcement
"Visitors often buy wine after tastings"	Visitor conversion	Visitor footfall	+	On-site conversion to sales	Tourism growth flywheel
"More visitors result in more sales"	Visitor conversion	On-site conversion to sales	+	DTC share via tourism	Tourism growth flywheel
"Tourism allows us to reinvest and improve hospitality"	Reinvestment cycle	Profitability	+	Hospitality investment capacity	Tourism growth flywheel
"Tourism builds awareness and trust in the brand"	Tourism branding	Experience quality	+	Brand credibility	Experience-credibility reinforcement
"Too many visitors can negatively affect the experience"	Capacity constraint	Visitor footfall	–	Experience quality	Capacity constraint
"Price integrity is more important than discounting"	Premium discipline	Brand identity strength	+	Brand-price alignment	Premium brand flywheel
"We do not chase every trend"	Brand consistency	Brand consistency	+	Brand identity strength	Premium brand flywheel
"Too many changes confuse consumers"	Identity protection	Brand consistency	+	Brand credibility	Identity drift risk
"Awards help consumers trust the wine"	External validation	Brand credibility	+	Brand identity strength	Visibility-credibility reinforcement
"Our story is central to the brand"	Storytelling	Storytelling & authenticity	+	Brand identity strength	Visibility-credibility reinforcement

"Consumers buy into authenticity"	Authenticity signal	Storytelling & authenticity	+	Brand credibility	Visibility-credibility reinforcement
"Tourism builds awareness of the brand"	Visibility effect	Brand awareness & visibility	+	Brand credibility	Visibility-credibility reinforcement
"We want to remain true to the brand"	Vision protection	Brand consistency	+	Brand identity strength	Identity drift risk
"We protect margins rather than discount"	Margin protection	Margin protection strategy	+	Brand-price alignment	Identity drift risk
"Premium wines can carry higher prices"	Premium positioning	Brand-price alignment	+	Profitability	Premium brand flywheel
"Strong brands remain profitable"	Brand premium	Brand identity strength	+	Profitability	Premium brand flywheel
"Discounts hold great risk"	Discounting risk	Discounting pressure	-	Profitability	Pricing/operational flexibility
"Retailers demand promotions"	Retail pressure	Consumer price sensitivity	+	Discounting pressure	Promo conditioning
"Consumers become conditioned to promotions"	Promotion dependence	Discounting pressure	+	Consumer price sensitivity	Promo conditioning
"We produce more to break even"	Volume recovery strategy	Break-even volume pressure	+	Discounting pressure	Break-even volume trap
"The more we produce the more we lose"	Overproduction trap	Production volume	+	Inventory carrying burden	Break-even volume trap
"Inventory becomes expensive to hold"	Carrying cost	Inventory carrying burden	+	Cost structure pressure	Break-even volume trap
"We only sell older vintages"	Slow inventory movement	Inventory carrying burden	+	Break-even volume pressure	Break-even volume trap

"Input costs continue to increase"	Cost inflation	Cost structure pressure	+	Break-even volume pressure	Break-even volume trap
"Retail and distributor margins are significant"	Channel pressure	Channel margin structure	+	Discounting pressure	Promo conditioning
"We need to recover all our costs"	Cost recovery	Pricing discipline	+	Profitability	Pricing discipline stabiliser
"Margins are protected by sticking to our price"	Pricing discipline	Pricing discipline	–	Discounting pressure	Pricing discipline stabiliser
"Higher profitability allows us to maintain pricing discipline"	Strategic discipline	Profitability	+	Pricing discipline	Pricing discipline stabiliser
"Working capital limits our ability to follow trends"	Financial constraint	Working capital constraint	–	Operational flexibility	Pricing/operational flexibility
"We are too small to respond to trends"	Scale limitation	Small winery size	–	Operational flexibility	Pricing/operational flexibility
"Buying grapes allows us to pivot faster"	Sourcing flexibility	Operational flexibility	+	Ability to respond to trends	Pricing/operational flexibility
"We outsource bottling rather than invest in infrastructure"	Asset-light strategy	Operational flexibility	+	Profitability	Pricing/operational flexibility
"Bulk wine is packaged overseas"	Asset-light export strategy	Operational flexibility	+	Profitability	Pricing/operational flexibility
"Bottlers determine when we can bottle"	Bottling bottleneck	Production capacity	–	Operational flexibility	Pricing/operational flexibility

"Labels take months to arrive"	Supply delay	Packaging & dry goods lead time	–	Operational flexibility	Pricing/operational flexibility
"We invested in crushing capacity instead"	Strategic investment	Production capacity	+	Operational flexibility	Pricing/operational flexibility
"Providing services to smaller producers generates income"	Service diversification	Production capacity	+	Profitability	Pricing/operational flexibility
"Never put all your eggs in one basket"	Diversification	Market diversification	+	Profitability	Diversification buffer
"Exports protect us from local economic conditions"	Risk spreading	Market diversification	+	Profitability	Diversification buffer
"Relationships with agents are critical"	Relationship capital	International distribution infrastructure	+	Market diversification	Diversification buffer
"Being present in export markets matters"	Market presence	International distribution infrastructure	+	Brand awareness & visibility	Diversification buffer
"Holding stock in Germany improves service"	Overseas distribution	International distribution infrastructure	+	Market diversification	Diversification buffer

Note: DTC: direct-to-consumer