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Co-branding as a Multi-Level Coordination System for Joint Demand Creation, Value Appropriation, and Dynamic Brand Capital Allocation

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Abstract

Brands increasingly operate in environments where growth depends less on isolated product claims and more on the careful orchestration of complementary meanings, capabilities, and market access. Co-branding emerges in this setting as a structured form of interfirm coordination in which two brands jointly govern a market-facing offer while preserving separate legal and strategic identities. The arrangement can enlarge demand, sharpen category narratives, and reallocate risk, yet it can also intensify dependence, dilute symbolic distinctiveness, and redistribute value in ways that neither partner fully controls. This paper develops a technical framework that treats co-branding as a multi-level system linking consumer inference, contractual design, organizational capability, and financial valuation. The analysis integrates a geometric representation of brand meaning, a demand system with compatibility and mismatch effects, a bargaining architecture for surplus division, and a dynamic law of motion for brand capital. The framework shows that co-branding performance depends not only on the absolute strength of partner brands, but also on the distance between their meaning structures, the sequencing of investments, the governance of exclusivity, and the rate at which joint commercialization consumes scarce symbolic resources. The paper further explains why an alliance that expands category demand can still produce uneven gains across partners, why short-run market enthusiasm may coexist with medium-run brand strain, and why portfolio-level governance matters more than event-level announcement quality. The resulting account positions co-branding as neither an inherently value-enhancing tactic nor a purely communicative label, but as an intertemporal allocation problem in which joint demand creation must remain compatible with the preservation of future standalone option value.

1. Introduction

Co-branding is often discussed as a visible marketing tactic, yet its deeper structure is closer to a temporary constitution for joint value creation [11]. Two firms allow a single market object to carry two reputational systems at once, and this dual inscription changes the economics of demand, the politics of control, and the time path of brand capital accumulation. Once two brands are placed on the same offer, the market no longer prices product attributes in isolation. Consumers infer compatibility from shared presentation, investors revise expectations about future cash flow volatility, retailers update beliefs about shelf productivity, and the partner firms themselves become partially exposed to each other's judgment quality. The alliance therefore functions simultaneously as a signal, a production arrangement, a distribution technology, and a governance mechanism.

A narrow treatment of co-branding as a communication device is inadequate because the joint offer usually alters more than the message. It may modify physical formulation, quality assurance procedures, packaging architecture, retail placement, channel bargaining, and the internal sequencing of design decisions. Even when the second brand contributes only symbolic endorsement, the focal product is no longer evaluated under the same cognitive rule that governs a solitary brand. The consumer now faces a composite object whose value depends on whether the two brands seem additive, redundant, hierarchical, or contradictory. In some markets the secondary brand reduces uncertainty by certifying a latent attribute; in others it introduces semantic overload and raises suspicion that the primary brand lacks sufficient authority to stand alone [2]. The relevant unit of analysis is therefore not a product, a message, or a contract by itself, but a coupled system in which symbolic and operational complementarities can reinforce or offset one another.

This system perspective also changes how performance should be understood. Unit sales and immediate margin expansion remain important, but they do not exhaust the consequences of a co-branding arrangement. A successful alliance may improve the conversion rate of a launch while weakening the uniqueness of one partner's longer-run brand narrative. Conversely, an alliance that appears operationally costly at inception may create a durable category template that later reduces future launch costs. Hence the outcome space is fundamentally intertemporal. Co-branding reallocates present demand, but it also perturbs the stock variables

that determine future pricing power, the elasticity of later line extensions, and the ease with which each firm can negotiate subsequent alliances. This paper addresses that broader problem by modeling co-branding as an allocation of current cash flows under a constraint of future symbolic scarcity.

The financial relevance of this perspective is not hypothetical. Cao and Sorescu (2013) document a positive average stock market response of roughly 1% around announcements of cobranded products and show that consistency between partner images, innovativeness, and exclusivity materially shape that response [4]. That result is consequential because it implies that investors treat co-branding not as routine packaging noise, but as information about future economic rents. At the same time, the result should not be misread as evidence that any dual-label strategy is desirable. A positive mean response in event time leaves open several structural questions. It does not tell us when the joint product enlarges category demand rather than merely reallocating existing demand. It does not explain how the gains are divided across partners, nor whether the observed valuation incorporates long-horizon deterioration in brand autonomy. It also does not fully resolve why some alliances display persistent performance while others generate a short-lived announcement premium followed by mediocre portfolio outcomes.

The present study develops a technical research paper around those unresolved issues. Its central claim is that co-branding should be treated as a multi-level coordination problem with four linked layers. The first layer is semantic geometry: each brand occupies a position in a latent meaning space, and the alliance changes consumer beliefs according to the distance, covariance structure, and interpretive weights associated with those positions [29]. The second layer is microeconomic demand formation: the joint offer changes expected utility through quality certification, complementarity, novelty, and perceived fit, while also generating mismatch penalties and cannibalization risks. The third layer is contractual appropriation: because the partners contribute different tangible and intangible resources, the rent generated by the alliance depends on bargaining power, observability, exclusivity, and outside options. The fourth layer is dynamic capital evolution: repeated use of a brand in alliances can either sharpen its market productivity or erode its distinctiveness, depending on the replenishment rate of brand capital relative to the extraction rate imposed by the portfolio.

This paper is organized accordingly. The next section develops the conceptual grounding of co-branding as a coupled resource system. The following section specifies a formal demand architecture using brand-state vectors, compatibility metrics, and a consumer utility model. The paper then turns to contractual design and value appropriation, showing how governance parameters transform gross joint value into partner-specific returns. A subsequent section connects the operating model to capital-market valuation and clarifies why event-time gains may differ from realized long-run benefits. The dynamic section introduces a state-transition model for brand capital and establishes the conditions under which alliance portfolios remain sustainable. The penultimate sections translate the framework into an empirical architecture and discuss implications for theory development and managerial design [38]. The conclusion returns to the broader issue: co-branding is best understood not as an inherently favorable union, but as a structured negotiation between present complementarity and future separability.

2. Conceptual Grounding

A useful starting point is to define co-branding in a manner that is analytically strict. The phenomenon of interest is not any generic collaboration between firms with recognizable names. It is the case in which two brands are jointly inscribed on a focal market offer such that at least one side expects some transfer of demand, meaning, or quality belief from the other, and such that this transfer is economically relevant for pricing, adoption, or valuation. This definition includes ingredient co-branding, endorsement arrangements, and more deeply composite products, but it excludes loose promotional adjacency that does not materially alter consumer inference about the focal offer. Once defined this way, co-branding can be situated within the broader theory of market-based assets.

Brand capital differs from many tangible assets because it is productive through interpretation. A production line increases output by processing inputs directly; a brand increases output by altering the beliefs through which markets interpret attributes, promises, and risk. The productivity of brand capital is therefore relational. Its value depends on what consumers already know, what uncertainty remains unresolved, what alternatives are salient, and how category codes assign meaning to signs [47]. When two brands are combined, the productive mechanism is no longer unilateral. One brand conditions the marginal product of the other. The same secondary brand can create substantial incremental value when paired with a weakly diagnostic primary brand and almost no value when paired with a highly resolved one. Likewise, a prestigious primary brand can either absorb and elevate a partner signal or suppress it so completely that the alliance becomes decorative rather than substantive.

The resource-based interpretation of co-branding remains useful, but it requires careful refinement. It is insufficient to say that each partner contributes resources and that superior combinations create rents. The critical issue is that the relevant resources are partially nonseparable. The value of one partner's brand cannot be fully measured outside the interpretive environment produced by the other partner, the category, and the alliance architecture. This nonseparability generates three kinds of asymmetry [10]. There is asymmetry in contribution, because one partner may provide formulation capability while the other provides symbolic leverage. There is asymmetry in observability, because investors and consumers do not always see the same contribution weights. There is asymmetry in recoverability, because one partner may be able to redeploy its brand without lasting damage while the other incurs persistent dilution or overexposure.

The conceptual consequence is that co-branding must be modeled as a joint technology with endogenous weights rather than as a simple sum of brand equities. Let the primary brand contribute manufacturing credibility, distribution control, and category-specific routines, while the secondary brand contributes certifying value, borrowed affect, or access to a distinct audience. Those contributions may be complementary, but they can also be partially substitutable. A strong certifying brand may reduce the need for extensive primary-side advertising. Yet the same certifier may also appropriate cognitive attention that would otherwise accrue to the primary brand, lowering the latter's retention of value after the alliance ends. This tension between complementarity and attention capture is central. Joint branding can enlarge the pie

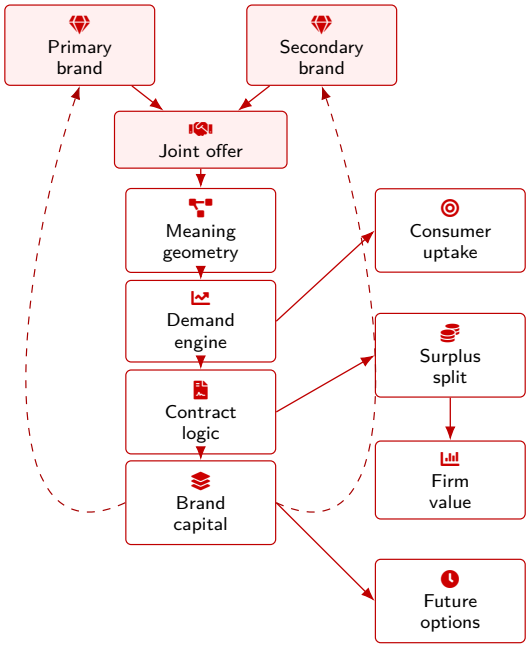


Figure 1. Multi-level view of co-branding as a coupled system. Two distinct brands generate a joint offer, which is filtered through meaning geometry, demand formation, contractual appropriation, and brand-capital dynamics before appearing in consumer response, surplus division, valuation, and future standalone option value.

Table 1. Semantic Geometry Metrics for Co-branding Evaluation

Metric	Definition	Range	Interpretation
Alignment (κ_t)	Weighted cosine similarity	[-1,1]	Consistency of meanings
Complementarity (ζ_t)	Orthogonal projection norm	≥ 0	Nonredundant addition
Distance	$\|b_p - b_s\|$	≥ 0	Raw semantic gap
Covariance (Σ)	Weight matrix	–	Category salience

while simultaneously shifting the residual claim on consumer memory [39].

Co-branding also differs from ordinary alliances because the object that travels through the market is visibly composite. This visible compositeness modifies accountability. If a standalone product fails, attribution is usually concentrated. If a co-branded product fails, blame can spread asymmetrically depending on prior expectations and the apparent relevance of each brand to the defect. If the joint product succeeds, the same asymmetry shapes the pattern of credit. Consequently, perceived fit is not merely a demand-side variable; it is also a liability-allocation mechanism in the minds of consumers and investors. High fit can raise adoption because the alliance looks coherent, but it can also tighten contagion channels because observers find it easier to treat the two brands as jointly responsible for the outcome.

These features imply that brand distance must be interpreted with care. Greater distance can be beneficial when it signals genuine complementarity, category bridging, or novel recombination [33]. Greater distance can be harmful when it produces semantic conflict, incoherent quality expectations, or audience fragmentation. The relevant object is not raw difference but structured difference. A luxury brand paired with an engineering-intensive component brand may yield a coherent division of symbolic labor; a luxury brand paired with an unrelated entertainment character may create high awareness without stable willingness to pay. The formal model below therefore distinguishes between distance that lowers redundancy and distance that raises mismatch cost.

Finally, the conceptual grounding must accommodate time. Brands are not inert endowments used once and restored at no cost. Repeated collaboration changes the state of each brand by altering its associations, its accessibility in memory, the breadth of categories in which it is considered legitimate, and the expectations that outside partners form about its willingness to ally. This dynamic aspect is especially important when co-branding becomes frequent rather than occasional. A single alliance may look accretive while the portfolio of alliances gradually converts the brand from a distinctive identity into a widely licensed sign. The distinction between episodic and programmatic co-branding is therefore not marginal [42]. It separates a one-time production of complementarity from an ongoing business model of symbolic extraction.

3. Demand Formation and Brand-State Geometry

To model the consumer side of co-branding, consider two firms, indexed by p and s, that jointly offer a product in

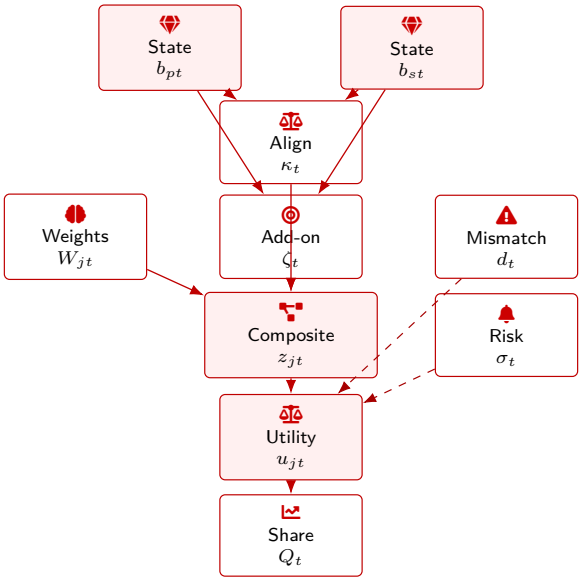


Figure 2. Brand-state geometry on the consumer side. Alignment raises interpretive coherence, nonredundant addition contributes novel value, heterogeneous weighting creates different composite readings, and mismatch or perceived risk compresses utility before market share is realized.

Table 2. Consumer Utility Components in Co-branded Demand

Component	Symbol	Effect	Role
Base preference	α_j	$+$	Baseline utility
Meaning match	$x_j^\top z_{jt}$	$+$	Taste alignment
Consistency	κ_t	$\pm$	Fit perception
Novelty	n_t	$+$	Differentiation
Mismatch cost	d_t	$-$	Cognitive penalty

period t. Each brand is represented by a vector in an m-dimensional latent meaning space, denoted by $b_{pt}, b_{st} \in \mathbb{R}^m$. The dimensions can be interpreted broadly as quality expectations, affective tone, functional competence, category legitimacy, prestige, playfulness, authenticity, or any other stable semantic coordinates relevant to consumer judgment. Let Σ be a positive definite weighting matrix that captures the salience and covariance of these dimensions in the focal category. The matrix is needed because not every semantic difference matters equally and because dimensions may be statistically correlated in the interpretive process.

A convenient measure of alliance consistency is a normalized alignment score,

$$\kappa_t = \frac{b_{pt}^\top \Sigma b_{st}}{\sqrt{b_{pt}^\top \Sigma b_{pt}}\sqrt{b_{st}^\top \Sigma b_{st}}}.$$

This score lies between -1 and 1 and summarizes how compatible the brands appear after accounting for the category-specific weighting of meanings. Yet consistency by itself is not enough. Consumers may value novelty arising from nonoverlapping competencies, so the model must also capture productive difference [22]. Define a complementarity index

$$\zeta_t = \|P_\perp(b_{st} \mid b_{pt})\|_\Sigma ,$$

where $P_\perp(b_{st} \mid b_{pt})$ denotes the projection of the secondary brand onto the orthogonal complement of the primary brand under the Σ-inner product. Intuitively, ζ_t measures what the secondary brand adds that the primary brand does not already communicate. High κ_t with low ζ_t implies redundancy. Moderate or high κ_t with positive ζ_t implies compatible novelty. Low κ_t with high ζ_t may signal innovation or confusion depending on the category.

Let consumer j possess a taste vector $x_j \in \mathbb{R}^m$, a risk sensitivity parameter $\rho_j > 0$, and an attention allocation rule that converts the two brand signals into a composite representation. The perceived co-branded meaning can be written as

$$z_{jt} = W_{jt} \begin{bmatrix} b_{pt} \\ b_{st} \end{bmatrix},$$

where W_{jt} is a consumer-specific weighting operator with nonnegative elements summing to one across brands on each semantic dimension. This formulation allows the same alliance to be interpreted differently across consumers [28]. A category expert may place more weight on the engineering brand, whereas a casual buyer may respond primarily to the expressive brand. The heterogeneity matters because it determines whether the alliance expands the market by attracting new users or merely reshuffles demand among existing buyers.

Consumer utility from the co-branded offer can then be writ-

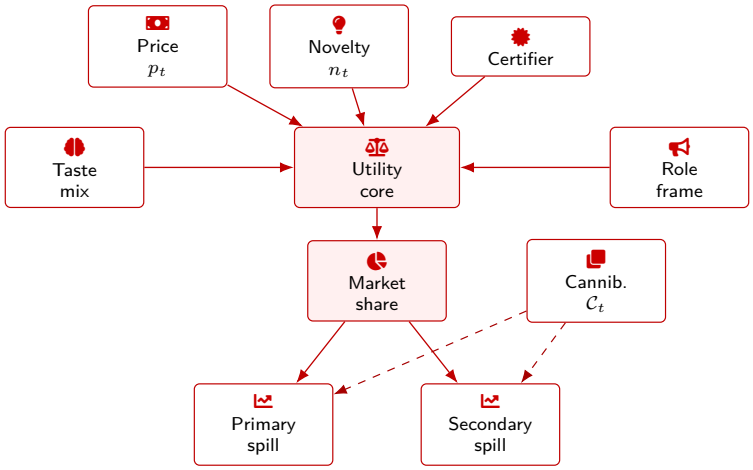


Figure 3. Demand formation as a structured utility engine. Price, novelty, certification, framing, and heterogeneous interpretation shape joint share, while the realized launch also propagates spillovers or cannibalization into the partners' standalone portfolios.

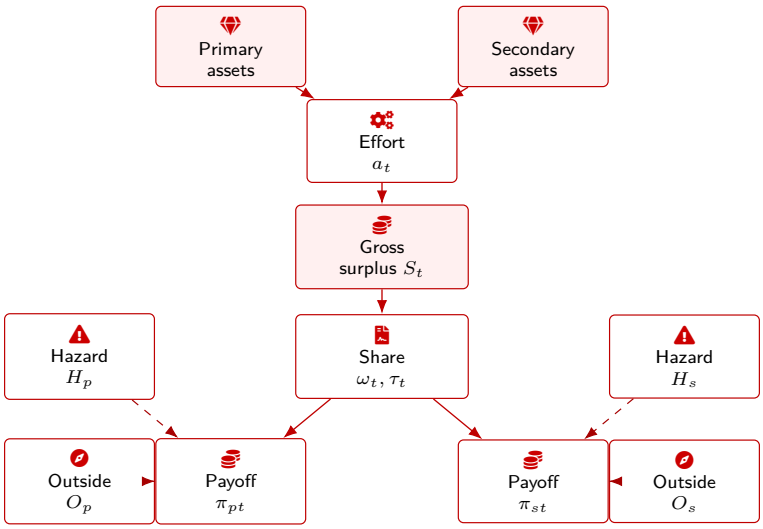


Figure 4. Value appropriation under incomplete contracting. Observable and hard-to-observe partner efforts create gross surplus, but realized partner payoffs are filtered by revenue sharing, transfers, appropriation hazards, and outside-option constraints rather than by gross demand alone.

ten as

$$\begin{aligned} u_{jt} = \alpha_j + x_j^\top z_{jt} - p_t \\ + \lambda_1 \kappa_t + \lambda_2 \zeta_t + \lambda_3 n_t \\ - \lambda_4 d_t - \lambda_5 \rho_j \sigma_t + \varepsilon_{jt}, \end{aligned} \tag{1}$$

where p_t is price, n_t is perceived novelty, d_t is semantic mismatch cost, σ_t is perceived performance uncertainty, and ε_{jt} is an idiosyncratic shock. The parameters $\lambda_1, \ldots, \lambda_5$ are category-specific sensitivities. The term d_t can be defined as a convex penalty in the weighted distance between role expectations and observed alliance structure. For example, if consumers expect the secondary brand to authenticate a hidden ingredient but instead encounter a loosely decorative endorsement, the mismatch between role expectation and execution raises d_t even if raw awareness increases.

The uncertainty term is especially important because one major function of co-branding is certification. A secondary brand with strong diagnostic power can reduce σ_t, thereby increasing adoption even when the direct addition to product meaning is modest. This mechanism distinguishes co-branding from ordinary feature addition. Two products with identical objective performance can produce different demand if the partner brand changes the subjective variance of expected quality [15]. The reduction in uncertainty is more valuable for risk-sensitive consumers and in categories with delayed consumption feedback, high search cost, or quality credence characteristics.

Aggregate demand follows by integrating over the population. Under a logit-type approximation with a normalized outside option, co-branded market share can be written as

$$Q_t = M_t \int \frac{\exp(u_{jt})}{1 + \exp(u_{jt})} \, dF(x_j, \rho_j, \varepsilon_{jt}),$$

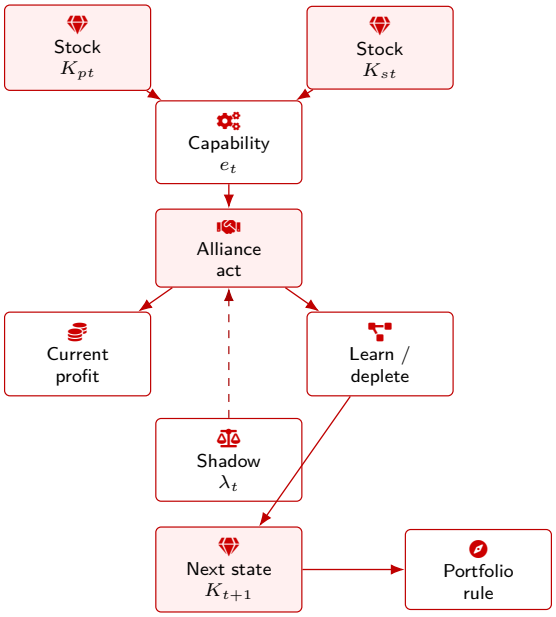


Figure 5. Dynamic equilibrium of a co-branding portfolio. Current brand stocks and capability shape the alliance action, which generates immediate profit and learning or depletion, while the shadow value of brand capital disciplines how much present gain can be accepted without damaging the next-period state.

Table 3. Spillover and Cannibalization Effects

Effect Type	Parameter	Direction	Driver
Primary gain	θ_{pp}	$+$	Awareness transfer
Secondary gain	θ_{ss}	$+$	Trust spillover
Cross loss	θ_{ps}	$-$	Substitution
Cannibalization	$\mathcal{C}_t$	$-$	Product proximity
Distance factor	Δ_t	$\pm$	Portfolio overlap

where M_t is the relevant market size. This expression highlights the channels through which co-branding works. It can shift the mean utility through added meaning or novelty, compress uncertainty for risk-sensitive consumers, and alter the slope of adoption by redistributing attention across dimensions. The alliance is therefore not merely a level effect. It can change the shape of demand.

Stand-alone demand for each partner should also be modeled because co-branding rarely operates without spillovers [18]. Let q_{pt}^0 and q_{st}^0 denote the contemporaneous demands for the partners' stand-alone offers. The co-branded launch can raise or lower these quantities depending on the direction of spillover. A convenient reduced-form representation is

$$\begin{aligned} q_{pt}^{0,+} &= q_{pt}^0 + \theta_{pp} Q_t - \theta_{ps} \mathcal{C}_t, \\ q_{st}^{0,+} &= q_{st}^0 + \theta_{ss} Q_t - \theta_{sp} \mathcal{C}_t, \end{aligned} \tag{2}$$

where $\mathcal{C}_t$ is an endogenous cannibalization term and the θ parameters represent net spillover strengths. Positive spillovers arise when trial of the joint product increases familiarity, category legitimacy, or trust in the stand-alone brand. Negative spillovers arise when the joint product substitutes for the stand-alone offer or when the alliance reshapes category expectations in a way that makes the stand-alone product seem incomplete. The sign and magnitude of these effects depend on whether the alliance is read as an enhancement, a temporary collaboration, or an admission of insufficiency.

The cannibalization term may be written as a function of product proximity:

$$\mathcal{C}_t = \varphi_1 \exp(-\varphi_2 \Delta_{p,t}) + \varphi_3 \exp(-\varphi_4 \Delta_{s,t}),$$

where $\Delta_{p,t}$ and $\Delta_{s,t}$ measure the distance between the co-branded product and each partner's stand-alone portfolio. When the joint offer sits extremely close to one partner's existing product line, cannibalization is strong. When it occupies a new semantic or functional location, cannibalization weakens and demand expansion becomes more plausible.

This framework clarifies why the relation between fit and performance is nonlinear. At very low consistency, mismatch costs dominate and certification value is weak because consumers cannot infer a coherent role structure [20]. At very high consistency with negligible complementarity, the alliance may become redundant, adding little beyond what the primary brand already conveys. Intermediate-to-high consistency with meaningful complementarity tends to be more favorable because the alliance looks legitimate while still contributing nonoverlapping value. The resulting response surface is curved rather than monotonic.

The geometry also sheds light on the role of exclusivity. An

Table 4. Contracting Elements and Incentive Structure

Element	Symbol	Function	Risk Mitigated
Revenue share	ω_t	Profit split	Imbalance
Transfer payment	τ_t	Adjustment	Mispricing
Contribution effort	a_t	Value creation	Shirking
Hazard cost	H_i	Dependency cost	Opportunism
Outside option	O_i	Participation	Exit threat

Table 5. Capability and Surplus Drivers

Driver	Symbol	Impact	Description
Primary capability	e_{pt}	+	Execution quality
Secondary capability	e_{st}	+	Signal credibility
Exclusivity	η_t	+	Differentiation durability
Coordination quality	–	+	Error reduction
Information asymmetry	–	–	Monitoring difficulty

exclusive alliance changes demand not only by limiting rival access, but also by altering beliefs about commitment. If the secondary brand is unavailable to competitors, consumers infer that the joint offer contains a more protected configuration of capabilities or meanings. This increases the expected durability of the differentiation. By contrast, if the same secondary brand appears promiscuously across many primary brands, the certifying and differentiating effects are weakened. In the model, exclusivity enters through both n_t and σ_t: it can raise novelty and reduce uncertainty about imitability.

The analysis thus far has remained cross-sectional [12]. Yet even within a single period, the weights W_{jt} are endogenous to communication strategy. The partners can frame the alliance as hierarchical, balanced, ingredient-led, story-led, or function-led. Different framings change the effective composition of z_{jt}. A useful representation is

$$W_{jt} = \bar{W}_j + G(a_t, \ell_t, r_t),$$

where a_t denotes advertising intensity, ℓ_t denotes labeling architecture, and r_t denotes the verbal role assignment embedded in the communication. A packaging design that visually subordinates the secondary brand can preserve primary ownership of meaning while still borrowing certification. A symmetric visual design may create higher launch salience but a greater risk that consumers remember the alliance rather than the primary brand alone.

The main implication of this section is that co-branding demand cannot be reduced to a scalar notion of partner strength. It is generated by the joint geometry of meanings, the heterogeneity of interpretation, the uncertainty-reduction value of the partner signal, and the proximity of the co-branded offer to each partner's stand-alone portfolio. Once these elements are specified, alliance design becomes a choice over demand shape rather than a binary decision to pair brands.

4. Contracting, Capability, and Value Appropriation

Gross demand does not determine partner returns by itself [31]. Even when the alliance creates substantial category value, the distribution of that value depends on contract form, asset specificity, information asymmetry, and capability asymmetry. Co-branding therefore requires a second model layer in which the jointly generated surplus is divided under incomplete observability. The central question is not merely whether the alliance creates value, but which firm can retain that value after transfers, support costs, and opportunity costs are accounted for.

Let the period-t gross operating surplus from the co-branded offer be

$$S_t = p_t Q_t - c_t Q_t - F_t,$$

where c_t is unit cost and F_t is fixed alliance cost, including design coordination, legal review, quality assurance, and joint planning. Suppose the partners choose a transfer rule τ_t and a contribution profile $a_t = (a_{pt}, a_{st})$, where the contributions include expenditures as well as less observable efforts such as creative discipline, selective access to channel relationships, or brand stewardship. Then partner payoffs can be written as

$$\begin{aligned} \pi_{pt} &= \omega_t S_t + \tau_t - C_p(a_{pt}) - H_p(a_{st}; \xi_t), \\ \pi_{st} &= (1-\omega_t) S_t - \tau_t - C_s(a_{st}) - H_s(a_{pt}; \xi_t), \end{aligned} \tag{3}$$

where ω_t is the nominal revenue share, $C_i(\cdot)$ are own contribution costs, and $H_i(\cdot)$ are hazard costs arising from dependence on the other partner under state ξ_t. These hazard costs capture appropriation risk, monitoring burden, and the possibility that one partner's behavior harms the other's future brand state.

In many alliances the most important contributions are difficult to verify [40]. A secondary brand may promise careful use of its symbols, but the actual degree of restraint, responsiveness, and reputational vigilance is not fully contractible. Similarly, the primary partner may promise manufacturing discipline or channel investment that the secondary partner cannot perfectly observe. This generates bilateral moral hazard. The partners can reduce the problem through audits,

Table 6. Capital Market Reaction Components

Factor	Symbol	Effect	Interpretation
Demand revision	$\Delta\hat{Q}$	$+$	Sales expectations
Margin revision	$\Delta\hat{M}$	$+$	Pricing power
Risk change	$\Delta\hat{\sigma}$	$-$	Volatility shift
Option value	$\Delta\hat{\Omega}$	$+$	Future alliances
Noise	ν	$\pm$	Market uncertainty

Table 7. Brand Capital State Transition Variables

Variable	Symbol	Effect	Role
Investment	I_t	$+$	Capital building
Learning	L_t	$+$	Capability gain
Extraction	X_t	$-$	Overuse cost
Noise	N_t	$-$	Dilution
Decay	δ	$-$	Natural erosion

milestone clauses, staged payments, and termination rights, but complete elimination is unrealistic. A co-branding contract is therefore best understood as a device that shapes incentives around partially observable stewardship.

Bargaining power enters through outside options. Let O_{pt} and O_{st} denote the continuation values of each partner if no agreement is reached. The feasible transfer and share rules must satisfy participation constraints,

$$\pi_{pt} \geq O_{pt}, \qquad \pi_{st} \geq O_{st}.$$

The key point is that outside options are not static. A primary brand with broad manufacturing reach and strong retailer relationships may have many potential secondary partners [26]. A distinctive secondary brand with scarce certifying power may also enjoy wide partnering options. Relative scarcity therefore shapes the equilibrium split. Yet scarcity is itself affected by prior alliance behavior. A secondary brand that has appeared across too many primary offers may no longer be scarce in a meaningful sense, even if its raw awareness remains high.

Capability asymmetry further complicates appropriation. Some firms are better than others at extracting value from a partner's brand without exhausting it. Others are better at translating borrowed meaning into effective product architecture or channel execution. These differences can be modeled as capability parameters e_{pt} and e_{st} that shift the surplus function:

$$S_t = S(a_t, \kappa_t, \zeta_t, e_{pt}, e_{st}, \eta_t),$$

where η_t denotes exclusivity. Higher capability raises the elasticity of surplus with respect to investment because it improves coordination quality, lowers execution error, and makes role assignment more intelligible to the market [7]. Capability also changes hazard costs. A capable primary partner can make a secondary brand more comfortable with deeper integration because the expected misuse probability is lower.

An important asymmetry concerns exploitation versus cultivation. The secondary partner may face a temptation to license broadly and capitalize on immediate demand opportunities, but repeated deployment can reduce marginal alliance value if consumers begin to treat the signal as generic. The primary partner faces a parallel temptation to overuse borrowed symbolism rather than investing in its own meaning production. In equilibrium, both temptations generate a common problem: alliance rents are extracted from a stock of brand capital that needs periodic replenishment. Contracting can partially address this through exclusivity windows, category restrictions, quality thresholds, and review rights, but not all future contingencies are specifiable.

This logic resonates with the empirical finding that partner-specific brand characteristics shape not only own returns but also the partner's returns. Cao and Yan (2017) show that higher partner brand value is associated with stronger stock market gains, while large brand value differentials weaken the positive influence of that value, primary-side alliance experience strengthens the effect of primary brand value on the secondary partner's return, and extensive secondary-brand exploitation attenuates the positive effect of the secondary brand on the primary partner [5]. In structural terms, those patterns imply that surplus generation and surplus transmission are both moderated by asymmetry and dynamic capability [24]. A powerful partner does not automatically create proportional gains for the other side because the effective transfer of value depends on distance in resource position, on the managerially accumulated routines that make joint use efficient, and on whether the contributing brand has already been overdrawn by prior collaborations.

A natural contracting response is to convert a single scalar royalty into a state-contingent transfer schedule. If the secondary brand contributes diagnostic quality certification early in the launch but the primary brand bears most of the long-run operational risk, then the transfer should reflect time-varying marginal contributions rather than a flat percentage. Let

$$\tau_t = \tau_0 + \tau_1 Q_t + \tau_2 \mathbb{I}\{m_t \geq \bar{m}\} - \tau_3 \mathbb{I}\{\delta K_{st} > \bar{\delta}\},$$

where m_t is a performance milestone and δK_{st} is the estimated depletion of secondary brand capital. Such a structure is rare in simple licensing agreements but conceptually appropriate for co-branding because it links compensation to realized demand, outcome quality, and resource consumption. When the alliance burns brand capital faster than expected,

Table 8. Alliance Design Dimensions

Dimension	Options	Impact	Trade-off
Depth	Endorsement/Composite	$\pm$	Cost vs learning
Exclusivity	High/Low	$+$	Scarcity vs reach
Role clarity	Clear/Ambiguous	$+$	Control vs flexibility
Framing	Symmetric/Hierarchical	$\pm$	Attention allocation
Frequency	Low/High	$\pm$	Value vs depletion

Table 9. Dynamic Trade-offs in Co-branding Strategy

Trade-off	Short-run Effect	Long-run Effect	Condition
Demand vs dilution	$+$	$-$	High frequency
Learning vs cost	$\pm$	$+$	Deep integration
Exclusivity vs scale	$+$	$\pm$	Limited partners
Fit vs novelty	$\pm$	$+$	Moderate distance
Extraction vs capital	$+$	$-$	Weak replenishment

the compensation rule can adjust, thereby discouraging over-exploitation.

Another mechanism is role specificity. The more clearly the contract identifies which partner controls formulation, narrative framing, quality review, and channel placement, the lower the ambiguity in attribution and the lower the hazard cost. Role ambiguity may seem appealing because it keeps options open, but it often undermines discipline. In co-branding, ambiguity can create a transient perception of seamless integration while producing internal delays, diluted accountability, and inefficient approval loops [34]. Since consumers infer partner roles even when firms do not explicitly define them, internally unresolved role structure is especially costly.

The contracting perspective also explains why some visually similar alliances behave very differently. Two agreements may place the same logos on similar products, yet one generates stable returns while the other degrades into tactical merchandising. The difference lies in the hidden architecture: exclusivity boundaries, veto rights, approval sequence, quality standards, resource commitment, and adaptation clauses. Those design elements do not guarantee success, but they determine whether the jointly created surplus can survive the frictions of incomplete information and divergent temporal incentives.

5. Capital-Market Valuation and Information Transmission

The operating model becomes fully relevant only when linked to valuation. Financial markets do not observe the latent demand function or the complete contract, yet they form beliefs about both. A co-branding announcement therefore acts as a compressed signal that bundles information about future cash flows, volatility, managerial quality, and strategic intent. Understanding the valuation effect requires unpacking what investors infer from an announcement and why those inferences may differ from realized operating outcomes.

Let the market value of firm i at time t be the discounted expectation of future free cash flows, [17]

$$V_{it} = \mathbb{E}_t \left[\sum_{\tau=0}^{\infty} \beta^{\tau} \mathsf{FCF}_{i,t+\tau} \right].$$

A co-branding announcement changes V_{it} by altering beliefs about at least five objects: expected revenue level, cash-flow persistence, execution risk, competitive insulation, and the option value of future alliances. The announcement premium is thus a belief revision, not a realized profit measure. If the market interprets the alliance as a credible indication of differentiated demand and improved category access, valuation rises even before operational performance materializes. If the alliance signals desperation, weak stand-alone capability, or fragile role compatibility, valuation may remain muted or even decline despite short-run promotional lift.

The informational problem is sharpened by the fact that investors observe different proxies than consumers. Consumers experience packaging, positioning, and product form. Investors receive a mediated message, often through managerial disclosure and external reporting, about what the alliance is supposed to accomplish. Consequently, some alliance attributes are more legible to capital markets than others. Exclusivity is legible because it implies bounded imitation [14]. Partner prestige is legible because it can be compared with known benchmarks. Deep formulation complementarities may be less legible unless management articulates them clearly. The event-time reaction is therefore a function of both economic substance and communicative intelligibility.

A parsimonious reduced-form expression for abnormal return around the announcement is

$$\begin{aligned} AR_{it} = \phi_0 + \phi_1 \Delta \widehat{Q}_{it} + \phi_2 \Delta \widehat{M}_{it} \\ - \phi_3 \Delta \widehat{\sigma}_{it} + \phi_4 \Delta \widehat{\Omega}_{it} + \nu_{it}, \end{aligned} \tag{4}$$

where $\Delta \widehat{Q}_{it}$ is the revision in expected demand, $\Delta \widehat{M}_{it}$ is the revision in expected margin or pricing power, $\Delta \widehat{\sigma}_{it}$ is the revision in risk, and $\Delta \widehat{\Omega}_{it}$ is the revision in future option value. The error term ν_{it} reflects confounds, disclosure quality, and market noise. This decomposition makes it clear that a fa-

vorable abnormal return can arise from multiple paths. An alliance may increase expected demand, reduce uncertainty, or signal access to a productive partner network that raises future option value even if the immediate product itself is not radically innovative.

Because the market prices expectation changes, the same alliance can have opposite announcement effects for the two partners. Suppose the secondary brand is extremely strong but heavily exploited. Investors in the primary partner may react positively because the alliance imports a recognized signal into the focal category [41]. Investors in the secondary partner may react less positively if they view the new partnership as incremental, commoditized, or risky for distinctiveness. This asymmetry does not imply disagreement about the alliance's operational quality. It reflects the different baseline expectations, opportunity costs, and exposure profiles of the two firms.

The market-finance interface also clarifies why co-branding cannot be judged solely by event-study evidence. Abnormal returns measure the surprise component relative to prior expectations. If the market already anticipated an alliance, the announcement effect may be small even when long-run operating value is high. Conversely, an unexpectedly prestigious partner can generate a strong announcement premium that later mean-reverts if execution disappoints. Event studies are therefore most informative when combined with models of expectation formation and subsequent operating follow-through.

The role of brand value enters here as a discount-rate issue as much as a cash-flow issue. Strong brands do not merely sell more; they can stabilize expectations, lower perceived vulnerability to competitive imitation, and shape the covariance of future cash flows with broader market conditions [6]. A co-branding announcement involving a high-value partner can therefore affect valuation by changing both numerator and denominator. Expected cash flows may rise, and the market may apply a different risk assessment to those cash flows if the alliance appears to reduce uncertainty or strengthen defensibility. Yet the reverse is also possible when the alliance looks like opportunistic brand monetization without durable capability integration.

A further complication concerns interpretive lag. Investors may quickly price visible attributes such as partner identity and exclusivity, while taking longer to assess whether the alliance is truly additive or merely cosmetic. This lag implies that some valuation consequences unfold beyond the narrow event window. If follow-up disclosures reveal production depth, distribution breadth, or cross-category sequencing, the initial abnormal return may understate the alliance's eventual valuation effect. If, however, the early excitement was driven by borrowed attention rather than substantive complementarity, later revisions may be negative.

In this setting, announcement design becomes part of alliance economics [30]. Managers who clearly specify partner roles, category scope, exclusivity boundaries, and the logic of complementarity reduce the inferential noise faced by investors. Vague celebratory language may boost media coverage but weaken valuation efficiency because it leaves the market to guess whether the alliance is operationally meaningful. A technically informative announcement does not guarantee a higher return, but it aligns valuation more closely with the alliance's actual structure.

The section's broader implication is that capital-market response should be modeled as a filtered reading of the underlying coordination system. Investors are not valuing logos on a package. They are valuing a probabilistic claim about future demand, risk, and strategic flexibility. The quality of that claim depends on partner strength, but also on asymmetry, legibility, governance, and the market's belief about whether the alliance extracts from or builds future brand capital.

6. Dynamic Equilibrium of Co-branding Portfolios

A static view treats each alliance as an isolated event. A dynamic view recognizes that co-branding decisions accumulate into a portfolio process that changes the state variables from which future performance is drawn. The central state variable is brand capital, which includes awareness, trust, diagnostic precision, symbolic distinctiveness, category elasticity, and reputational resilience [1]. Co-branding can either augment or deplete this capital depending on how often the brand is used, where it is used, and how the alliance is framed.

Let K_{pt} and K_{st} denote the effective brand-capital stocks of the primary and secondary partners. These are not directly observable accounting quantities, but latent stocks that influence demand, bargaining power, and valuation. Their evolution can be represented as

$$\begin{aligned} K_{p,t+1} &= (1-\delta_p)K_{pt} + \phi_p I_{pt} + \psi_p L_{pt} \\ &\quad - \mu_p N_{pt} - \nu_p X_{pt}, \\ K_{s,t+1} &= (1-\delta_s)K_{st} + \phi_s I_{st} + \psi_s L_{st} \\ &\quad - \mu_s N_{st} - \nu_s X_{st}, \end{aligned} \tag{5}$$

where δ_i is passive decay, I_{it} is brand investment, L_{it} is learning from alliance execution, N_{it} is noise introduced by category stretching or message clutter, and X_{it} is extraction through alliance usage. The signs are intuitive: investment and learning can build brand capital, while overuse and interpretive noise can erode it. The coefficients differ across partners because the same alliance may teach one firm more than the other or consume one brand's scarcity faster than the other's.

The dynamic planning problem is then

$$\begin{aligned} V(\mathbf{K}_t, \mathbf{e}_t) = \max_{\mathcal{A}_t} \Big\{ & \Pi_t(\mathbf{K}_t, \mathbf{e}_t, \mathcal{A}_t) \\ & + \beta \mathbb{E}_t \big[V(\mathbf{K}_{t+1}, \mathbf{e}_{t+1}) \big] \Big\}, \end{aligned} \tag{6}$$

where $\mathbf{K}_t = (K_{pt}, K_{st})$, $\mathbf{e}_t$ collects dynamic capabilities, and $\mathcal{A}_t$ denotes the alliance action set, including whether to launch, which partner architecture to use, what level of exclusivity to impose, and how much support to provide. The Bellman representation makes explicit that an alliance should be evaluated by the sum of current profit and the continuation value of the resulting brand states.

This dynamic view yields several important implications. First, the optimal alliance frequency is generally interior rather than maximal. Even profitable alliances can become suboptimal when the marginal extraction of brand capital exceeds the discounted benefit of current cash flow and learning [9]. The reason is not simply dilution in the vague sense.

Rather, repeated collaboration changes consumer priors. A secondary brand that appears too widely loses its power to reduce uncertainty and to differentiate any one offer. A primary brand that repeatedly leans on borrowed symbolism may teach consumers to expect outside validation, weakening its future stand-alone authority.

Second, there is path dependence. If a brand begins with high distinctiveness and uses co-branding sparingly, it may convert the alliance into a selective signal of innovation or certification. If the same brand begins from a state of diffuse meaning and engages in frequent partnerships, the market may interpret later alliances as routine traffic rather than exceptional value creation. The identical alliance, with identical design, can therefore have different marginal effects depending on the prior path of brand usage. This path dependence helps explain why alliance portfolios are not scalable in a linear manner [32].

Third, dynamic capability alters the trade-off. Firms learn how to structure roles, sequence approvals, manage spillovers, and communicate partner contributions. Some repeated co-branding therefore builds execution capability faster than it consumes symbolic scarcity. The net effect depends on whether learning coefficients ψ_i dominate extraction coefficients ν_i. This is precisely why alliance history is ambiguous in reduced-form data: experience can either indicate competence or overuse. The structural interpretation requires separating learning from extraction.

The asymmetry of partner quality matters especially under competition. Yan and Cao (2017) show in an analytical setting with substitute products that when brand qualities are equal, alliance formation is beneficial to both firms [48], whereas under unequal qualities the lower-quality brand benefits more reliably and the higher-quality brand can face a more delicate condition because increasing quality differential strengthens the low-quality partner's profit while reducing the high-quality partner's profit from the alliance. In dynamic terms, this means that the high-quality brand has more to lose from indiscriminate collaboration because its future standalone option value is larger. A weak brand may rationally accept asymmetrical terms to borrow quality inference today, while a strong brand should condition participation on whether the alliance preserves its future premium position [21]. The dynamic planner therefore assigns a higher shadow price to the capital stock of the high-quality brand.

To see this formally, define the shadow value of brand capital for partner i as

$$\lambda_{it} = \frac{\partial V(\mathbf{K}_t, \mathbf{e}_t)}{\partial K_{it}}.$$

An alliance is dynamically attractive for firm i only if

$$\pi_{it} - \lambda_{it}\Delta K_{it}^{-} + \beta \mathbb{E}_t \left[\lambda_{i,t+1}\Delta K_{i,t+1}^{+}\right] \geq O_{it},$$

where ΔK_{it}^{-} is current capital depletion and $\Delta K_{i,t+1}^{+}$ is future capital accretion from learning, legitimacy, or spillover. A strong brand generally has a larger λ_{it}, so the same depletion carries a larger dynamic penalty. This provides a rigorous rationale for selective partnering by dominant brands.

Portfolio interactions further complicate equilibrium. If one secondary brand is already allied with several primary brands in adjacent categories, the incremental exclusivity and diagnostic power available to any additional partner is lower. Thus the marginal value of a new alliance depends on the existing alliance network. Let m_{st} denote the number of active relevant alliances involving the secondary brand. A simple degradation function is [23]

$$\eta_t = \eta_0 \exp(-\chi m_{st}),$$

where η_t is effective exclusivity and $\chi > 0$. Even if legal exclusivity is absent, practical scarcity may still exist when category overlap is low. But as network density rises, the market increasingly interprets the secondary brand as a reusable commercial token rather than a scarce partner signal. This is a portfolio-level externality that individual deal teams may ignore if compensation is tied to deal volume rather than state preservation.

The dynamic model also helps reconcile short-run and long-run evidence. An alliance can generate favorable event returns, strong launch demand, and still reduce future brand productivity if the extraction term is large and investment is insufficient. Cao (2012) indicates that the effects of consistency, innovativeness, and exclusivity can appear not only around announcement windows but over longer horizons, and that composite co-branding tends to produce stronger financial rewards than ingredient or endorsement forms [3]. Within the present framework, that pattern is consistent with the idea that deeper forms of integration create more learning and more durable differentiation, thereby increasing the positive dynamic terms in the state equation. By contrast, shallow endorsement may create quick attention without comparable capability accumulation [36].

One practical implication follows immediately. Firms should evaluate co-branding portfolios through a state-space dashboard rather than a deal-by-deal profit scorecard. Relevant variables include partner repetition, category overlap, contribution depth, exclusivity breadth, spillover balance, and inferred capital depletion. A deal that looks attractive in isolation may be rejected once the shadow price of brand capital is properly included. Conversely, a technically complex alliance with modest immediate margin may be favored because it builds a reusable capability architecture or opens a new semantic region for the brand.

The dynamic equilibrium perspective thus reframes co-branding from episodic collaboration to controlled capital transformation. The issue is not how many alliances can be signed, but how many can be absorbed without collapsing the scarcity and coherence on which future rents depend.

7. Empirical Architecture and Identification Logic

A technical theory of co-branding should imply an empirical strategy capable of distinguishing announcement effects, operating effects, and state-transition effects. The challenge is severe because co-branding is endogenous. Firms do not randomly select partners, categories, or alliance forms [37]. They choose them in light of expected complementarities, existing capability, and strategic need. Any empirical design that ignores this endogeneity risks attributing value to co-branding that actually reflects latent product quality, managerial foresight, or favorable market timing.

A suitable empirical architecture begins by separating three units of observation: the alliance announcement, the co-branded product, and the partner-brand state. The announcement captures information arrival to investors. The product captures realized market response. The partner state captures dynamic changes in brand capital and outside options. A single alliance may produce one announcement but multiple product introductions; conversely, a continuing alliance program may create several announcements with overlapping informational content. These distinctions matter because identification differs across layers.

For event-time valuation, the conventional abnormal-return framework remains useful if paired with careful control for confounds and expectation leakage [27]. The object of interest is the surprise component of the alliance signal conditional on available information. Yet even a clean event study does not estimate the causal operating value of co-branding relative to feasible alternatives. To approach that question, one must construct matched counterfactuals or structural estimates that compare the realized co-branded launch with the likely outcomes of stand-alone or differently structured launches under similar conditions. Matching on observable product and firm characteristics helps, but the structural model developed earlier suggests additional variables that should be included: semantic distance between brands, portfolio proximity, effective exclusivity, and prior partner exploitation.

A second empirical layer concerns consumer inference. Here the latent meaning-space representation offers a tractable route. Brand-state vectors can be estimated from survey embeddings, text-derived semantic models, or joint analysis of communications and consumer associations. Once these vectors are estimated, one can compute consistency and complementarity indices directly rather than relying on coarse managerial classifications. This permits the testing of a nonlinear response surface in which performance depends on both alignment and nonredundant addition. Such a design would move beyond the simple intuition that more fit is always better [8].

A third layer tracks dynamic brand capital. This is harder because the state is latent and evolves slowly. One practical approach is to estimate a state-space model in which multiple noisy indicators load onto the underlying capital stock: price premium retention, advertising elasticity, cross-category extendibility, search intensity quality, and the volatility of consumer sentiment. The law of motion can then incorporate alliance usage frequency, depth of collaboration, and partner repetition. The objective is not merely to show that alliances correlate with later brand outcomes, but to estimate whether a given alliance replenishes or depletes the latent stock after controlling for investment and category shocks.

The model also implies several identification challenges that deserve explicit treatment. The first is selection on unobservable opportunity. Firms may pursue co-branding precisely when they possess a high-quality pipeline or favorable retailer support. This can exaggerate the apparent value of co-branding. The second is reverse signaling [46]. A prestigious partner may join not because the primary product is weak, but because it privately observes strong product potential. Without instruments or structural assumptions, one may incorrectly attribute the resulting success to brand borrowing rather than to shared private information about product quality. The third is heterogeneity in role depth. Not all co-branding labels indicate the same level of operational integration. Failure to measure role depth can attenuate estimated effects and obscure the distinction between endorsement and genuine capability combination.

The present framework suggests a way forward. Measure role architecture directly. Estimate whether the secondary brand affects formulation, certification, distribution, or merely symbolic framing. Measure exclusivity as a category-bounded resource rather than a binary contractual label [19]. Estimate partner-state variables that distinguish prior experience from prior overuse. Then embed these variables in a joint model where announcement returns, product demand, and brand-capital transitions are linked through shared latent factors. Such a system would allow researchers to ask whether the market is correctly pricing future depletion, whether the benefits of strong partner brands are conditioned by asymmetry, and whether certain alliance forms build more reusable capability than others.

Even without full structural estimation, the theory changes how empirical results should be read. A positive announcement return does not prove favorable dynamic value. A negative or insignificant operating spillover for one partner does not imply the absence of joint demand creation if the contract allocates value elsewhere. Likewise, a shallow endorsement may look efficient in the short run because its fixed costs are low, yet a deeper composite arrangement may dominate once learning and future option value are counted. The empirical architecture must therefore follow the theoretical decomposition rather than forcing all outcomes into a single metric.

An additional benefit of the framework is interpretive discipline. Researchers often describe co-branding outcomes using broad terms such as fit, equity transfer, or synergy [13]. These labels are intuitively appealing but analytically loose. By decomposing performance into geometric compatibility, uncertainty reduction, contribution depth, bargaining structure, and dynamic capital change, the model makes competing explanations empirically distinguishable. An alliance may succeed because it reduced perceived variance, because it created nonredundant semantic value, because it signaled exclusivity, or because it unlocked channel access. These mechanisms do not have identical implications for future portfolio design.

The empirical challenge is therefore demanding but manageable. The key is to resist collapsing co-branding into a binary treatment. It is a structured intervention with multiple margins of variation, each carrying different consequences for demand, appropriation, and capital evolution. Once those margins are measured, a more coherent research program becomes possible.

8. Discussion

The analysis developed in this paper leads to a more restrained and more technical understanding of co-branding [35]. The central result is that co-branding is not a single phenomenon with a single performance logic. It is a family of governance choices over shared market meaning. The value of the arrangement depends on whether the alliance creates compatible novelty, whether the partners can contract around stewardship problems, whether the market can read the alliance as durable rather than decorative, and whether the resulting portfolio preserves future stand-alone option value.

This perspective helps reconcile several observations that can otherwise seem contradictory. First, the market may react favorably to co-branding even when managers later judge some alliances to be disappointing. The difference arises because investors price expectation changes under incomplete information, whereas managers eventually observe the realized balance between demand creation and resource consumption. Second, weaker brands may appear more enthusiastic about alliances not merely because they lack alternatives, but because the shadow price of their remaining brand capital is lower and the borrowed certification benefit is larger. Third, dominant brands may alternate between highly selective collaborations and long periods of restraint because the dynamic opportunity cost of misuse is substantial.

The paper also clarifies the role of alliance depth. Shallow endorsement arrangements are attractive when rapid attention, low fixed cost, and limited operational disruption are the priorities [25]. Yet they often offer less learning and weaker durable differentiation. Deeper composite arrangements are harder to negotiate and execute, but they can generate a stronger combination of novelty, role clarity, and future capability accumulation. Ingredient alliances occupy an intermediate position, with value depending heavily on the diagnostic relevance of the ingredient to perceived quality. None of these forms is uniformly superior. Their desirability depends on category uncertainty, the semantic geometry of the partner brands, and the dynamic state of each partner's capital stock.

A further implication concerns organizational design. Firms should avoid letting co-branding decisions fragment across licensing, marketing, product development, and finance without a shared state model. A deal that looks sensible to a licensing team may impose an unpriced burden on future brand coherence. A design team may pursue semantic symmetry that improves launch aesthetics but weakens attribution of credit to the primary brand. Finance may celebrate the announcement premium while overlooking the depletion of exclusivity capacity [43]. Cross-functional coordination is therefore not a generic good practice in this setting; it is a prerequisite for correctly pricing the intertemporal consequences of the alliance.

The framework also suggests a more precise language for managerial judgment. Instead of asking whether two brands fit, managers should ask how much weighted semantic overlap is desirable given the need for nonredundant addition. Instead of asking whether the partner is strong, they should ask whether the partner's strength is still scarce, how that strength is interpreted in the focal category, and whether its prior alliance footprint has reduced its certifying power. Instead of asking whether the alliance is profitable, they should ask whether current profit exceeds the shadow value of the brand capital it consumes. These questions are stricter, but they are closer to the actual economic problem.

For future theory development, one promising extension lies in network effects across alliance ecosystems. Some brands become hubs whose meaning depends partly on the pattern of their partnerships rather than on any single partnership. Another extension concerns machine-mediated consumer inference, where digital recommendation systems and search interfaces may alter how co-branded signals are processed [44]. A third concerns international variation, since semantic compatibility and the value of borrowed certification likely differ across institutional and cultural contexts. None of these extensions requires abandoning the present framework. They require enriching the state variables and the inference mechanism.

Taken together, the results support a view of co-branding as disciplined joint design under symbolic scarcity. The gains can be real and sometimes substantial, but they arise when alliance architecture aligns with the geometry of demand and with the dynamic preservation of brand capital. When that alignment is absent, co-branding becomes an expensive way to borrow attention.

9. Conclusion

Co-branding is often treated as a visible marketplace tactic, but its deeper structure is economic and intertemporal. Two brands do not merely appear together; they temporarily pool selected parts of their demand-generating machinery while retaining separate claims on future value. That arrangement can create meaningful benefits through uncertainty reduction, compatible novelty, access to complementary audiences, and more credible differentiation. It can also produce hidden costs through mismatch, opportunism, cannibalization, and the depletion of symbolic scarcity [45].

This paper has developed a technical account that links those possibilities through a unified framework. Brand-state geometry explains how consumers interpret joint meaning. The demand model shows how fit, complementarity, novelty, and uncertainty interact. The contractual layer explains why gross joint value is not equivalent to partner-specific gain. The valuation layer shows how financial markets price alliance signals under imperfect observability. The dynamic model clarifies why repeated collaboration may either build or drain future brand productivity depending on the balance between learning and extraction.

The resulting view is measured. Co-branding should not be presumed to create a happy marriage, nor should it be dismissed as superficial label borrowing. It is a coordination problem in which present complementarities are worthwhile only when they remain compatible with future autonomy. The most useful analytical question is therefore not whether to co-brand in general, but under what state conditions, role structures, and contribution depths the joint offer creates demand without consuming more brand capital than it returns [16].

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