Why Pay More for Café Coffee? Home Replication Difficulty, Outside Options, and a Conceptual DEMATEL Framework

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ABSTRACT

Consumers may willingly pay substantially more for café-prepared coffee even when they can prepare a similar beverage at home. Existing café-value research largely explains this premium through attributes of the purchased offering, including sensory quality, convenience, servicescape, and brand meaning, while the strength of the consumer's home-production alternative remains less explicit. This conceptual paper proposes home coffee replication difficulty as an outside-option mechanism: the perceived difficulty, arising from limitations in equipment, ingredient access, and preparation skill, of reproducing café-comparable beverage quality at home. It further develops a substitution logic in which stronger home-coffee capability reduces beverage-based justification for a café premium and shifts the basis of value toward experience and convenience. To structure these interdependencies, the Decision-Making Trial and Evaluation Laboratory (DEMATEL) method is adapted as a theory-structuring and proposition-generating device rather than as a substitute for empirical evidence. A transparent ordinal calibration and worked numerical illustration are used to make hypothesised directional relationships explicit and to show how direct and indirect pathways can be represented. The illustration is not interpreted as evidence of consumer behaviour; instead, it demonstrates how the conceptual architecture can be converted into an empirical design. The paper's main contribution is theoretical: café value is proposed to depend not only on what the café offers, but also on what the consumer can credibly produce without the café. The resulting framework generates testable propositions concerning sensory quality, convenience, café experience value, brand and symbolic value, home replication difficulty, and willingness to pay a café price premium. It also specifies a research agenda for expert-panel DEMATEL, scale development, structural modelling, segmentation by home-coffee capability, and monetary willingness-to-pay analysis.

Keywords: café coffee; willingness to pay; home replication difficulty; outside option; DEMATEL

INTRODUCTION

A café coffee purchase creates a deceptively simple consumer-value puzzle. A customer may own coffee equipment, have access to ingredients, and know how to prepare a satisfactory drink at home, yet still choose a substantially more expensive café alternative. The economically relevant question is not whether the café price exceeds ingredient cost. It is what additional characteristics and avoided burdens make the market-provided option worth more than the consumer's own production alternative.

Research on coffee consumption already identifies multiple sources of value. Recent studies link café choice and price tolerance to perceived quality, luxuriousness, self-congruity, servicescape, authenticity, physical environment, social interaction, sustainability attributes, and consumer expertise (Li et al., 2022; Chen et al., 2022; Artuğer et al., 2024; Mohamad Sheriff et al., 2025; Can, 2026; Putro et al., 2026). Coffee-shop studies also show that cafés function as spaces for connection, solitary consumption, work, and urban social life rather than merely points of beverage purchase (Ferreira et al., 2021; McCamley & Morland, 2021; Hanafi

et al., 2025). These streams explain important characteristics of the purchased offering, but they rarely place the quality of self-preparation inside the same café-premium model.

This omission matters because consumer value is comparative. Zeithaml's (1988) value framework emphasises what consumers receive relative to what they give, while Lancaster's (1966) characteristics approach directs attention to the bundle of attributes delivered by alternative consumption modes. Becker's (1965) household-production perspective further places the consumer's own time and productive effort alongside purchased market inputs. Applied to coffee, these foundations imply that the café should be evaluated not only against competing cafés but also against a self-produced beverage that varies in quality and feasibility across consumers. In this paper, the term outside option is used in the behavioural-choice sense of a feasible alternative available to the consumer when café purchase is not chosen; the framework does not estimate a formal reservation utility or structural choice model.

The paper therefore proposes home coffee replication difficulty as a new conceptual construct. It is defined as the perceived difficulty of reproducing café-comparable beverage quality at home because of limitations in one's own equipment, ingredient access, and preparation skills. Time, clean-up, and transaction effort are deliberately excluded from this construct and retained under convenience. The distinction is crucial: perceived sensory quality asks how good the café beverage is, whereas replication difficulty asks how capable the consumer is of producing a comparable beverage independently.

The outside-option perspective implies more than an additional direct predictor of willingness to pay. It implies substitution in the basis of the premium. When home-coffee capability is weak, beverage replication difficulty can itself support the café premium. As capability strengthens, beverage-based differentiation should become harder to sustain and the relative importance of experiential and convenience benefits should increase. A consumer with an espresso machine, appropriate beans, milk-texturing skill, and recipe knowledge may still pay a café premium, but increasingly for place-based experience, social utility, specialised preparation, or avoided effort rather than for basic beverage reproducibility. Home coffee capability is therefore treated as an antecedent and boundary condition in the theoretical framework, while home coffee replication difficulty remains the corresponding six-factor DEMATEL construct in the worked illustration.

DEMATEL is used to make this conceptual architecture explicit. Conventional DEMATEL normally aggregates expert judgments about interrelated factors; the present paper adapts its structural logic for a non-empirical worked illustration. The purpose is not to discover consumer behaviour from author-assigned scores. It is to force every proposed direct relationship into an explicit directional matrix, trace indirect pathways, and generate a finite set of relationships for later empirical testing. This use is consistent with conceptual research designs that prioritise transparent theory construction and with problem-structuring traditions that use influence maps to clarify interdependence (Jaakkola, 2020; Chen, 2021).

The paper makes two contributions. First, it introduces an outside-option mechanism to café-price-premium research by explicitly modelling the consumer's ability to self-produce a comparable beverage. Second, it demonstrates a transparent, deliberately limited use of DEMATEL as a theory-structuring device rather than an empirical estimation substitute. The numerical illustration is subordinate to these theoretical aims.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Theoretical Foundation: Value, Household Production, and Outside Options

The conceptual foundation combines three complementary ideas. First, consumer value is relational rather than absolute: perceived benefits are evaluated against monetary and non-monetary sacrifices (Zeithaml, 1988; Sweeney & Soutar, 2001). Second, Lancaster (1966) argues that consumers derive utility from characteristics delivered by goods rather than from goods as undifferentiated objects. A home-prepared cappuccino and a café cappuccino can therefore be substitutes while delivering different bundles of sensory quality, convenience, social use, and symbolic meaning. Third, Becker's (1965) household-production

framework treats consumers as producers who combine market goods with their own time and capabilities. The relevant choice is consequently not simply between two menu prices, but between alternative modes of producing the desired consumption outcome.

These foundations also clarify the role of convenience and place. Service convenience concerns the time and effort consumers expend to obtain and use a service (Berry et al., 2002), whereas servicescape theory explains how physical surroundings shape responses in service encounters (Bitner, 1992). The proposed framework therefore separates the consumer's production capability from the time and effort avoided by outsourcing preparation and from the experiential value created by the café setting.

Perceived Sensory Quality

Perceived sensory quality refers to the consumer's evaluation of taste, aroma, freshness, texture, temperature, milk integration, and preparation consistency. Coffee liking changes with brew strength, extraction yield, brew ratio, and preparation conditions, and consumer preference can cluster around distinct sensory profiles (Guinard et al., 2023). Reproducibility is also sensitive to brewing method and human execution, indicating that beverage quality is not mechanically guaranteed (Santanatoglia et al., 2023).

Sensory quality has clear economic relevance. Consumers value specialty and quality cues, while coffee-shop design can alter inferred quality and premium willingness (Laurico et al., 2021; Li et al., 2022). Recent choice research further shows that coffee quality competes with origin, certification, sustainability, and price cues in preference formation (Putro et al., 2026). The framework therefore treats sensory quality as a beverage-based value source while keeping it distinct from the consumer's own capability to reproduce that quality.

Convenience

Convenience captures the time and effort saved by purchasing café-prepared coffee rather than preparing, serving, and cleaning up a comparable drink. This construct follows the service-convenience tradition, which treats time and effort as consumer costs across acquisition and use (Berry et al., 2002). In the café context, convenience can include avoiding grinding, dosing, milk preparation, equipment set-up, washing, and the coordination required to obtain a drink while commuting, working, shopping, or meeting others.

Malaysian evidence confirms that convenience remains relevant to coffee preference, while outlet patronage is influenced by physical environment and service-related factors (Buda et al., 2025; Mohamad Sheriff et al., 2025). The rise of alternative home-brewing technologies also changes the attractiveness of home production, demonstrating that convenience is comparative rather than fixed (Gayle & Lin, 2022).

Café Experience Value

Café experience value is treated as a higher-order conceptual category combining physical servicescape and place-use benefits for parsimony. It covers ambience, aesthetics, seating, spatial usability, social atmosphere, and the utility of using the café to sit, work, relax, or interact. This treatment does not claim that all subdimensions are identical; an empirical measurement study may separate them if discriminant validity requires it.

The coffee-shop literature provides strong support for this domain. Perceived luxuriousness generated by visual design and atmosphere can increase perceived quality, self-congruity, and willingness to pay a premium (Li et al., 2022). Social servicescape can shape price-fairness judgments through employee-customer interaction (Artuğer et al., 2024). Specialty-coffee and hospitality studies also show that perceived service quality, servicescape, and experiencescape affect value, engagement, loyalty, patronage, customer experience, and revisit intentions (Ge et al., 2021; NasarAmini Jeloudarlou et al., 2022; Kwame Opoku et al., 2023; Mohamad Sheriff et al., 2025; Hanafi et al., 2025). Can (2026) directly links servicescape dimensions to hedonic value, well-being, and willingness to pay more.

Brand and Symbolic Value

Brand and symbolic value is likewise treated as a higher-order conceptual category. It combines brand assurance and reputation with authenticity, self-expression, lifestyle fit, prestige, and symbolic meaning. The aggregation is used only to keep the conceptual architecture parsimonious; future consumer-level scale validation may separate functional brand assurance from symbolic dimensions.

Coffee-shop evidence indicates that authenticity and self-congruity can shape attachment and premium willingness. Chen et al. (2022) show how brand authenticity in a global coffeehouse chain relates to self-enhancement and brand attachment, while Li et al. (2022) identify self-congruity as a mechanism linking luxuriousness to price-premium willingness. More generally, brand authenticity can increase engagement and willingness to pay a premium (Kumar & Kaushik, 2022). Packaging and other extrinsic cues also shape quality and price expectations in coffee contexts (Mabalay, 2024).

Home Coffee Replication Difficulty As An Outside-Option Mechanism

Home coffee replication difficulty is the central proposed construct. It refers to the perceived difficulty of reproducing café-comparable beverage quality at home because of limitations in the consumer's equipment, ingredient access, and preparation skills. It explicitly excludes the time required to prepare the beverage and excludes café ambience, social space, seating, and workspace. These exclusions preserve construct distinctiveness: convenience owns time and effort; café experience owns place-based benefits; replication difficulty owns self-production capability constraints.

Recent evidence supports the heterogeneity underlying this construct. New brew-at-home technologies change demand and willingness to pay within the home-coffee market (Gayle & Lin, 2022). Brewing reproducibility depends on method and human execution (Santanatoglia et al., 2023), sensory outcomes vary materially with brewing conditions (Guinard et al., 2023), and validated expertise measures distinguish novices from coffee professionals (Junge et al., 2025). These findings do not validate home coffee replication difficulty as a scale; rather, they support the premise that the consumer's self-production capability is heterogeneous and therefore potentially relevant to the café premium.

The construct is consequently presented as a proposed theoretical variable requiring scale development. A future measure should capture perceived equipment adequacy, ingredient access, preparation competence, consistency, and confidence in reproducing café-comparable beverage quality. Its empirical distinctiveness from sensory quality and convenience must be demonstrated rather than assumed.

Willingness to pay a Café Price Premium

Willingness to pay a café price premium is defined narrowly as willingness to pay more for café-prepared coffee than for a self-prepared beverage of the same broad type and serving size. 'Comparable' does not imply identical sensory quality; quality differences are part of the mechanism being studied. The benchmark simply prevents the premium from being defined against an unspecified cheaper café, a different beverage category, or ingredient cost alone.

Premium willingness can arise from multiple value sources. Foundational work links perceived quality and brand equity to premium willingness (Netemeyer et al., 2004), while recent coffee research shows that luxuriousness, quality perceptions, sustainability attributes, servicescape, and certification cues can alter willingness to pay (Li et al., 2022; Can, 2026; Putro et al., 2026; Rifai et al., 2026). In the present framework, WTP is therefore an endpoint that accumulates the consequences of the other dimensions rather than a causal antecedent.

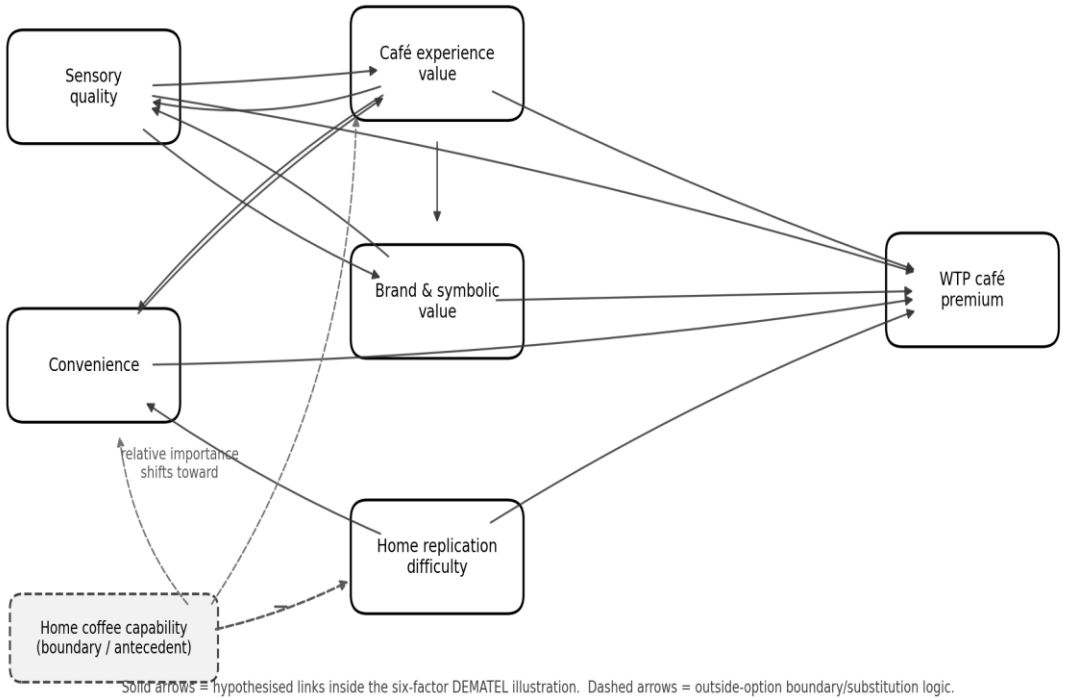
Synthesis, Gap, and Substitution Logic

Across the studies reviewed here, the emphasis is predominantly offering-centred: researchers examine product quality, atmosphere, branding, sustainability, service, and price as characteristics of the purchased

option. Home coffee appears mainly as a separate preparation context or product market rather than as an explicit reference alternative inside a café-price-premium model. The authors identified limited explicit treatment of self-preparation capability as part of the premium mechanism.

The framework addresses that gap by combining offering-side value with the strength of the consumer's outside option. It also proposes a substitution logic: as home-coffee capability rises, replication difficulty should fall, weakening beverage-replication justification for the café premium and increasing the relative importance of café experience and convenience. This is the paper's central theoretical proposition and is separable from the worked DEMATEL illustration.

Figure 1. Conceptual interdependence and outside-option logic



Note: Home coffee capability is an antecedent/boundary variable outside the six-factor DEMATEL illustration. It is proposed to reduce home replication difficulty and to shift the relative basis of the café premium toward experience and convenience as capability strengthens. Solid arrows show hypothesised direct relationships within the DEMATEL framework; dashed arrows show the outside-option substitution logic. WTP is modelled as a terminal outcome.

Conceptual Research Design and Dematel Procedure

Conceptual Research Design

This is a conceptual model paper rather than an empirical consumer study. Following guidance on conceptual research design, the paper synthesises established value, convenience, servicescape, brand, household-production, and recent coffee-consumer evidence into a new model centred on the outside-option mechanism (Jaakkola, 2020). The worked numerical component is included only to make the proposed influence architecture transparent and operational.

DEMATEL is conventionally applied using expert judgments to represent interdependence among system factors. Here, its matrix logic is adapted for conceptual illustration. This adaptation should not be confused with conventional expert-panel DEMATEL: no participant ratings were collected, and the author-assigned

values are not observations. Accordingly, neither the illustrative direct-relation matrix nor the derived DEMATEL summaries should be interpreted as observed rankings, behavioural estimates, or validated effect magnitudes. DEMATEL is used because its directional matrix forces proposed links to be explicit and because the total-relation transformation reveals indirect pathways that remain implicit in a narrative model (Chen, 2021; Si et al., 2018).

Factors and operational definitions

Table 1. Factors and operational definitions

Code	Factor	Operational definition
C1	Perceived sensory quality	Perceived superiority of café coffee in taste, aroma, freshness, texture, temperature, and preparation consistency.
C2	Convenience	Time and effort saved by purchasing café-prepared coffee rather than preparing, serving, and cleaning up a comparable drink oneself.
C3	Café experience value	Higher-order category capturing physical servicescape and place-use benefits such as ambience, comfort, seating, work, relaxation, and social use.
C4	Brand and symbolic value	Higher-order category covering reputation, authenticity, familiarity, identity, lifestyle fit, prestige, and symbolic benefits associated with a café or coffee brand.
C5	Home coffee replication difficulty	Perceived difficulty of reproducing café-comparable beverage quality at home because of limitations in equipment, ingredient access, and preparation skills.
C6	Willingness to pay a café price premium	Willingness to pay more for café-prepared coffee than for a self-prepared coffee of the same broad beverage type and serving size.

Literature-Informed Calibration Protocol

The direct-relation matrix uses a predefined 0-4 ordinal rubric solely for demonstration. A non-zero score is assigned only when a plausible direct mechanism can be stated and linked to literature; ambiguous or conceptually inappropriate links are set to zero. WTP is fixed as a terminal outcome and therefore has no outgoing direct effects. The calibration is intentionally sparse to avoid creating a dense network simply for numerical interest. Within the six-factor illustration, C5 is treated as exogenous because the capability dimensions that generate replication difficulty—equipment adequacy, ingredient access, and preparation skill—sit outside the DEMATEL system and are reserved for subsequent empirical measurement.

The scores are ordinal illustrative intensities, not effect sizes. A score of 4 does not mean that a relationship is twice as strong as a score of 2, and the resulting ordering should not be interpreted as evidence that one factor is empirically more important than another. The worked example is included to demonstrate propagation of the conceptual architecture through DEMATEL; no substantive ordering among the five explanatory drivers is proposed.

Table 2. Calibration rubric

Score	Interpretation	Calibration rule
0	No direct influence	No sufficiently defensible direct mechanism, or the link is intentionally excluded by model

		design.
1	Low	A plausible direct mechanism with limited conceptual strength.
2	Moderate	A clear direct mechanism supported by relevant evidence.
3	High	A strong direct mechanism supported by convergent evidence.
4	Very high	A central relationship in the conceptual framework with strong direct justification.

Table 3. Link-by-link rationale for non-zero direct relations

Link	Score	Conceptual rationale	Supporting literature
C1→C3	1	Beverage quality can contribute to the overall café experience while remaining distinct from the setting.	Guinard et al. (2023); Can (2026)
C1→C4	2	Consistent perceived quality can strengthen brand evaluation and quality-signalling associations.	Li et al. (2022); Mabalay (2024)
C1→C6	4	Perceived coffee quality can support acceptance of higher prices and price premiums.	Laurico et al. (2021); Li et al. (2022); Putro et al. (2026)
C2→C3	1	Low-friction purchase and service ease can improve the overall café-use experience.	Berry et al. (2002); Mohamad Sheriff et al. (2025)
C2→C6	3	Time and effort savings can add value to purchasing a prepared service.	Berry et al. (2002); Buda et al. (2025)
C3→C1	2	Atmospherics and luxuriousness can shape perceived product quality.	Li et al. (2022)
C3→C2	2	Physical environment and service design can alter ease and usability of the visit.	Mohamad Sheriff et al. (2025); Can (2026)
C3→C4	3	A distinctive environment can reinforce authenticity, self-congruity, and symbolic brand meaning.	Chen et al. (2022); Li et al. (2022)
C3→C6	3	Coffee-shop experience and servicescape can increase willingness to pay more.	Li et al. (2022); Can (2026)
C4→C1	2	Brand and symbolic cues can shape expectations and perceived product quality.	Li et al. (2022); Mabalay (2024)
C4→C6	2	Brand authenticity, self-congruity, and symbolic value can support premium willingness.	Kumar & Kaushik (2022); Li et al. (2022)
C5→C2	2	Limited home-production capability increases the relative convenience of outsourcing preparation.	Gayle & Lin (2022); Santanatoglia et al. (2023)
C5→C6	3	A weaker self-production alternative can increase the relative attractiveness of paying for the café option.	Gayle & Lin (2022); Junge et al. (2025)

DEMATEL Procedure

Let Z denote the illustrative direct-relation matrix, where z_{ij} is the ordinal direct influence assigned from factor i to factor j and $z_{ii} = 0$. Z is normalised as X = Z/s, where s is the larger of the maximum row sum and maximum column sum. The total-relation matrix is then $T = X(I - X)^{-1}$. Row sums of T give D, the total influence exerted, while column sums give R, the total influence received. Prominence is D + R and net influence is D - R. A network display threshold is calculated as the mean of all elements in T; an off-diagonal mean is used only as a display comparison. These quantities are interpreted solely as consequences of the stated calibration assumptions.

Worked Methodological Illustration

This section demonstrates how the conceptual architecture propagates through DEMATEL. It does not estimate consumer behaviour, rank the real-world importance of café-value drivers, or validate the proposed construct. Any apparent ordering in the numerical outputs is conditional on the illustrative calibration and should not be read substantively.

Table 4. Illustrative direct-relation matrix (Z)

Source	C1	C2	C3	C4	C5	C6	Row sum
C1	0.0000	0.0000	1.0000	2.0000	0.0000	4.0000	7.0000
C2	0.0000	0.0000	1.0000	0.0000	0.0000	3.0000	4.0000
C3	2.0000	2.0000	0.0000	3.0000	0.0000	3.0000	10.0000
C4	2.0000	0.0000	0.0000	0.0000	0.0000	2.0000	4.0000
C5	0.0000	2.0000	0.0000	0.0000	0.0000	3.0000	5.0000
C6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Column sum	4.0000	4.0000	2.0000	5.0000	0.0000	15.0000	-

Note: Values are author-assigned ordinal illustration scores, not observed expert ratings or estimated behavioural effects.

For this illustration, the normalisation factor is s = 15.0000. The total-relation transformation produces the system summaries shown in Table 5. Because C6 is fixed as a terminal outcome, its net-receiver position is partly determined by model design; the table is therefore reported for methodological transparency rather than substantive ranking.

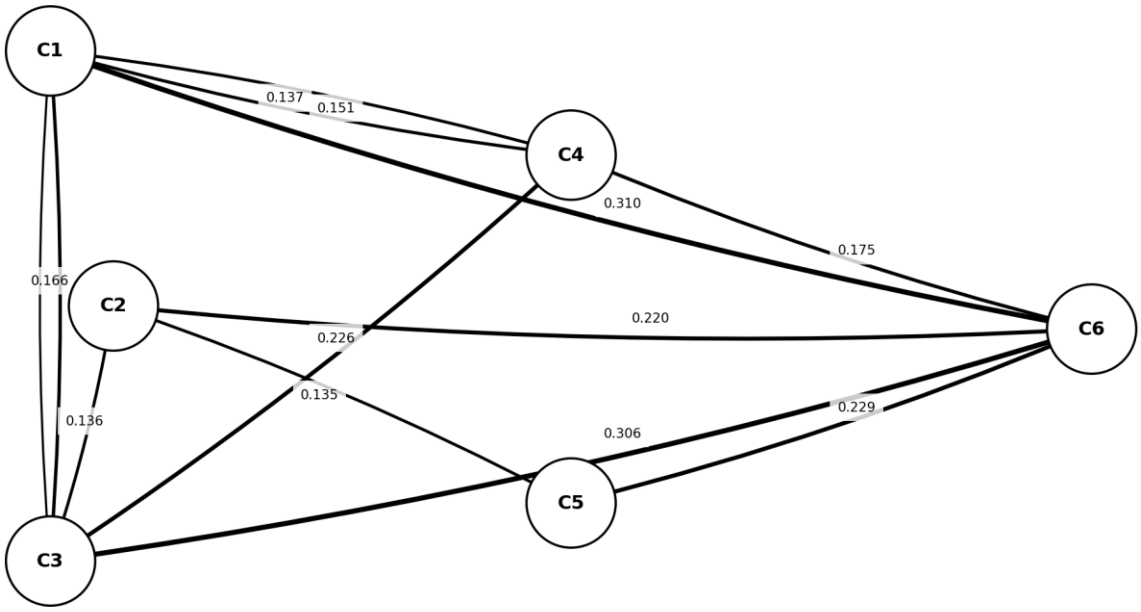
Table 5. Illustrative DEMATEL system summary (no empirical ranking implied)

Code	Factor	D	R	D + R	D - R	Illustrative role
C1	Perceived sensory quality	0.5693	0.3454	0.9147	0.2239	Net giver
C2	Convenience	0.3236	0.2901	0.6137	0.0335	Net giver
C3	Café experience value	0.8542	0.1757	1.0299	0.6785	Net giver
C4	Brand and symbolic value	0.3426	0.4145	0.7571	-0.0719	Net receiver
C5	Home coffee replication difficulty	0.3765	0.0000	0.3765	0.3765	Net giver
C6	WTP café price premium	0.0000	1.2405	1.2405	-1.2405	Net receiver

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Using the mean of all elements in T gives a display threshold of 0.0685; the off-diagonal mean is 0.0796. The primary threshold retains 12 off-diagonal links, while the stricter comparison removes the weakest retained pathway. No separate robustness claim is made from this threshold comparison.

Figure 2. Illustrative directed influence network



Note: Arrows are displayed when total influence meets the primary threshold. Numerical labels are shown only for links at or above the off-diagonal mean.

The figure's value is structural rather than inferential. It makes visible which assumptions create direct and indirect routes to WTP and which cross-links among value dimensions require future evidence. In particular, the network separates home replication difficulty from sensory quality: C5 does not arise mechanically from a high C1 score in the illustrative matrix, but enters as a distinct outside-option constraint that can affect relative convenience and WTP.

DISCUSSION

What DEMATEL adds—and what it does not

The numerical illustration does not establish that any one driver is more important for real consumers. Its contribution is to discipline the conceptual argument. A narrative model can say that taste, convenience, café experience, brand value, and home capability all matter while leaving reciprocal assumptions unexamined. The matrix forces each proposed direct link to be stated, justified, or excluded; the total-relation transformation then shows which indirect pathways follow from those assumptions. This makes the model easier to criticise, revise, and test.

This positioning also places a clear boundary around the method. DEMATEL is not being used to manufacture evidence from theory. The worked values are a transparent demonstration layer beneath a conceptual model. Conventional expert-panel DEMATEL remains a logical next step, but only expert judgments or consumer data can support empirical claims about relative importance, net influence, or effect magnitude.

The outside-option mechanism and substitution in the basis of the premium

The paper's central claim is not that home replication difficulty outranks taste, ambience, or brand value. It is that the café premium is evaluated against an alternative whose strength differs across consumers. This

introduces a relational mechanism that offering-centred models can miss. A café's beverage advantage is more economically meaningful when the consumer lacks the capability to reproduce it than when the same consumer can create a comparable drink reliably at home.

The stronger theoretical implication is substitution. As home-coffee capability rises, the café need not lose all premium value; rather, the source of that value may shift. Consumers with strong home capability may place relatively more weight on hard-to-reproduce experience, social use of space, specialised beans or techniques, and the convenience of outsourcing preparation. The framework therefore predicts heterogeneity not only in the level of WTP but in the composition of the value bundle that supports it.

Sensory Quality and Café Experience as Distinct but Interacting Sources

Separating beverage quality from place-based value is important because both can justify a premium through different routes. Sensory research shows that coffee outcomes depend on preparation parameters and human skill (Guinard et al., 2023; Santanatoglia et al., 2023), while coffee-shop research shows that luxuriousness, social servicescape, physical environment, and experiencescape shape quality perceptions, customer experience, patronage, and willingness to pay (Li et al., 2022; Artuğer et al., 2024; Kwame Opoku et al., 2023; Hanafi et al., 2025; Can, 2026). The framework allows these domains to interact without collapsing them into a single 'overall experience' construct.

Brand and Symbolic Value as A Parsimonious Higher-Order Category

Brand and symbolic value is intentionally broad. Authenticity, self-congruity, reputation, familiarity, and prestige can operate through different psychological mechanisms, and an empirical scale should not assume unidimensionality. Their aggregation here serves model parsimony and keeps the focus on the outside-option contribution. Future studies can disaggregate the category if measurement validation shows that functional assurance and symbolic meaning behave differently.

Reframing the Café Coffee Price Puzzle

The framework shifts the question away from ingredient-cost arithmetic. A café drink can cost several times more than its home-prepared counterpart without the purchase being irrational because the alternatives deliver different bundles of beverage quality, avoided effort, place-based utility, symbolic value, and self-production feasibility. The relevant empirical question is which bundle of advantages makes the café worth the premium for consumers with different home-production capabilities.

Propositions And Empirical Research Agenda

P1: Perceived sensory quality positively influences willingness to pay a café price premium relative to a comparable self-prepared beverage.

P2: Convenience positively influences willingness to pay a café price premium.

P3: Café experience value positively influences willingness to pay a café price premium and can shape perceived sensory quality and brand-symbolic value.

P4: Brand and symbolic value positively influences willingness to pay a café price premium.

P5: Home coffee replication difficulty positively influences willingness to pay a café price premium and increases the relative convenience of purchasing café-prepared coffee.

P6: Home-coffee capability is a boundary condition: stronger capability reduces replication difficulty and shifts the basis of the café premium away from beverage reproducibility toward experiential and convenience benefits.

The immediate empirical programme has three stages. First, a qualified expert panel can rate the 25 admissible directional relationships among the six factors using the conventional 0-4 DEMATEL influence scale; the five outgoing paths from WTP remain structurally fixed at zero because WTP is specified as a terminal outcome. The resulting observed average matrix can replace the illustrative Z matrix. Second, consumer-level research can develop and validate a multi-item scale for home coffee replication difficulty and test discriminant validity against sensory quality and convenience; once measurement validity is established, structural modelling can test the propositions at consumer level. Third, willingness-to-pay studies can use contingent valuation, discrete choice, or experimental price tasks with a clearly specified home-prepared reference beverage. Together, these stages would move the present conceptual architecture from theory structuring toward empirical validation without treating the current illustration as behavioural evidence.

Segmentation should be central rather than incidental. Consumers can be grouped by equipment ownership, ingredient access, preparation skill, and validated coffee expertise (Junge et al., 2025). Comparisons across consumers with espresso machines, capsule systems, advanced manual brewers, or minimal home equipment can test whether the composition of the café premium changes as the outside option strengthens. Scale development should also maintain directional consistency: items should measure replication difficulty rather than mix difficulty statements with positively worded capability items within the same construct.

Cautious Managerial Interpretation

Because the present scores are illustrative, the framework does not prescribe which café investment should receive priority. It instead identifies categories that managers can test: sensory differentiation, time and effort savings, place-based experience, brand meaning, and the strength of customers' home-production alternative. A premium proposition should therefore be evaluated not only against competitors' menu prices but also against what target consumers can already reproduce for themselves.

This perspective is especially relevant as home coffee technologies and consumer expertise improve. A café serving highly capable home brewers may need to compete less on basic reproducibility and more on distinctive beans, advanced preparation, social atmosphere, workspace, hospitality, or other benefits that are difficult or inconvenient to reproduce independently.

CONCLUSION

This paper proposes that the café coffee price premium may depend not only on what the café provides but also on the strength of the consumer's self-production alternative. Home coffee replication difficulty is introduced as a distinct outside-option construct grounded in limitations of equipment, ingredient access, and preparation skill, while time and effort are retained under convenience and place-based benefits under café experience value.

The paper's central theoretical contribution is a substitution logic: as home-coffee capability strengthens, the basis of the café premium should shift away from beverage reproducibility and toward experiential and convenience benefits. The DEMATEL component is deliberately secondary. It provides a transparent worked representation of interdependence and a bridge to empirical testing, but it does not convert conceptual scores into behavioural evidence.

LIMITATIONS

The framework has five principal limitations. First, the direct-relation matrix is author-calibrated and illustrative, not an empirical average of expert or consumer ratings. Second, home coffee replication difficulty is a newly proposed construct whose dimensionality, reliability, and validity are not yet established. Third, café experience value and brand-symbolic value are intentionally higher-order categories that may require disaggregation in empirical measurement. Fourth, the six-factor architecture omits income, location, loyalty programmes, sustainability orientation, menu innovation, social influence, and other

plausible determinants. These omissions reflect deliberate theoretical parsimony rather than an assumption that the excluded factors are unimportant. Fifth, the framework is static and does not model learning, repeat purchase, changing equipment ownership, or improving preparation skill over time.

Ethical Considerations

No human participants or animals were involved in the conceptual illustration; therefore, human-subject or animal ethics approval was not applicable to this paper. Any future empirical expert-panel or consumer study should follow applicable institutional and journal requirements for informed consent and ethics review or exemption.

Data Availability

No empirical dataset was generated for this conceptual paper. The author-assigned direct-relation matrix and the worked DEMATEL calculations are reported in the manuscript and appendix for reproducibility.

Conflict Of Interest

The authors declare that there is no conflict of interest.

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APPENDIX A

Reproducibility Matrices for the Worked Illustration

The matrices below are included for reproducibility and are not interpreted as empirical results. Moving them to the appendix keeps the main text focused on the theoretical contribution rather than on author-calibrated numerical detail.

Table A1. Normalised direct-relation matrix (X)

Source	C1	C2	C3	C4	C5	C6	Row sum
C1	0.0000	0.0000	0.0667	0.1333	0.0000	0.2667	0.4667
C2	0.0000	0.0000	0.0667	0.0000	0.0000	0.2000	0.2667
C3	0.1333	0.1333	0.0000	0.2000	0.0000	0.2000	0.6667
C4	0.1333	0.0000	0.0000	0.0000	0.0000	0.1333	0.2667
C5	0.0000	0.1333	0.0000	0.0000	0.0000	0.2000	0.3333
C6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Column sum	0.2667	0.2667	0.1333	0.3333	0.0000	1.0000	-

Table A2. Total-relation matrix (T)

Source	C1	C2	C3	C4	C5	C6	D
C1	0.0294	0.0092	0.0692	0.1511	0.0000	0.3103	0.5693
C2	0.0111	0.0091	0.0680	0.0151	0.0000	0.2204	0.3236
C3	0.1662	0.1360	0.0201	0.2262	0.0000	0.3057	0.8542
C4	0.1373	0.0012	0.0092	0.0201	0.0000	0.1747	0.3426
C5	0.0015	0.1345	0.0091	0.0020	0.0000	0.2294	0.3765
C6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R	0.3454	0.2901	0.1757	0.4145	0.0000	1.2405	-