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Determinants of SME Adoption of Profit-and-Loss Sharing Finance in Morocco

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ABSTRACT

This study tests whether the limited deployment of profit-and-loss sharing (PLS) instruments among Moroccan small and medium enterprises (SMEs) is driven primarily by regulatory constraints or by demand-side informational gaps. A structured questionnaire was administered to 147 Moroccan SMEs between January and April 2026 (138 complete responses). A Friedman test compared regulatory, operational, and behavioural barriers; a typology validated by Spearman correlation identified latent demand; an ordinal logistic regression tested individual determinants of usage intention across fifteen variables. Contrary to the regulatory hypothesis, behavioural ($M = 4.25$) and operational ($M = 4.08$) barriers dominate the regulatory one ($M = 2.69$; $\chi^2(2) = 186.11$, $P < 0.001$). A latent-demand segment, combining strong usage intention with low instrument awareness, accounts for 58.2% of the sample, the two dimensions being statistically independent ($\rho = -0.030$, $P = 0.72$). Among fifteen predictors, only religiously motivated avoidance of conventional credit significantly predicts usage intention ($\beta = 0.875$, $P < 0.001$). These findings indicate that non-deployment stems mainly from demand-side informational and behavioural factors rather than the regulatory environment, with direct implications for financial-inclusion policy and participatory-bank product strategy.

Keywords: Profit-and-Loss Sharing, Islamic Finance, Small and Medium Enterprises Financing, Latent Demand, Ordinal Regression
JEL Classifications: G21, G23, L26, Z12

1. INTRODUCTION

More than 8 years after the licensing of participatory banks in Morocco under the 2017 reform, profit-and-loss sharing (PLS) instruments, principally Moucharaka and Moudaraba, remain marginal in these institutions' financing portfolios, which continue to rely overwhelmingly on Mourabaha, a fixed-markup, debt-equivalent contract. This asymmetry, widely documented in the international literature as the "Mourabaha syndrome" (Aggarwal and Yousef, 2000; Dar and Presley, 2000; Chong and Liu, 2009), is theoretically paradoxical: PLS contracts are generally regarded as the instruments best aligned with the risk-sharing philosophy of participatory finance and best suited to the financing needs of SMEs, which are structurally rationed by collateral-based conventional lending (Iqbal and Mirakhor, 2017; Ayub, 2013).

Two broad explanations compete for this gap. One locates the obstacle upstream: A regulatory and institutional environment that discourages banks from offering PLS at scale, an insolvency framework unsuited to equity-type risk, asymmetric tax treatment relative to conventional debt, and a specific accounting-regulatory friction known locally as the khasara paradox. The other locates it downstream, in SME awareness and behaviour: Informational opacity, low familiarity with participatory instruments, and reluctance to share governance and profits with a financing partner (Stiglitz and Weiss, 1981; Kon and Storey, 2003; Jensen and Meckling, 1976).

The relative weight of these explanations carries direct policy relevance: if the regulatory explanation dominates, priority should go to legal and fiscal reform; if the demand-side explanation

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dominates, priority should go to financial education, product design, and bank-side relationship practices. This study addresses this question through a structured survey of 147 Moroccan SMEs, testing two hypotheses. Hypothesis 1 (H_1) posits that regulatory barriers are perceived as the dominant obstacle to PLS deployment, ahead of operational and behavioural barriers. Hypothesis 2 (H_2) posits that SME demand for PLS instruments exists but remains latent, suppressed by low awareness rather than genuine disinterest.

2. LITERATURE REVIEW AND HYPOTHESES

The theoretical case for PLS financing rests on the risk-sharing philosophy central to Islamic finance (Iqbal and Mirakhor, 2017; Ayub, 2013), which in principle better matches the risk profile and equity gap of small firms than fixed-obligation debt. Empirically, however, Aggarwal and Yousef (2000) established that PLS instruments represent a small minority of Islamic bank financing, a finding replicated by Dar and Presley (2000) and Chong and Liu (2009), who attribute the gap to governance-control asymmetries: PLS contracts grant financiers limited monitoring and control rights relative to the risk assumed, discouraging banks from originating them at scale.

A complementary strand explains the SME financing gap on the demand and information side. Stiglitz and Weiss (1981) show that credit rationing arises structurally from information asymmetry between lenders and borrowers. Jensen and Meckling (1976) frame the same asymmetry as an agency problem: monitoring costs, bonding costs, and residual loss inflate the effective cost of external finance for informationally opaque firms, a description that applies with particular force to Moroccan SMEs, whose informal governance is documented in national enterprise surveys (World Bank, 2024; OMTPME, 2025). Kon and Storey (2003) add a discouraged-borrower mechanism: firms may self-ration by anticipating rejection, independent of their objective creditworthiness, a mechanism directly relevant to a low-awareness, low-trust environment such as the Moroccan participatory finance market.

On this basis:

H_1. Regulatory barriers (the khasara paradox, an insolvency framework unsuited to PLS, and asymmetric tax treatment) are perceived by Moroccan SMEs as the dominant obstacle to PLS deployment, ahead of operational barriers (bank-side capacity and dialogue) and behavioural barriers (SME-side reluctance and misunderstanding).

H_2. Demand for PLS financing among Moroccan SMEs exists but remains latent, driven by low awareness of the instruments rather than by an absence of underlying interest, such that usage intention is statistically independent of prior knowledge of PLS instruments.

3. MATERIALS AND METHODS

3.1. Research Design and Sample

The study uses a cross-sectional quantitative survey design, forming the quantitative strand of a broader explanatory sequential mixed-methods research programme (Creswell and Plano Clark, 2017). The target population is formally registered Moroccan SMEs, as defined by Bank Al-Maghrib's enterprise classification circular and the Moroccan SME Observatory (OMTPME, 2025). A quota-based convenience sample, recruited through the authors' professional network in the banking sector with personalised follow-up, yielded 147 usable questionnaires between January and April 2026, an estimated response rate of approximately 73% of invitations sent. Of the 147 respondents, 138 (93.9%) provided complete responses across all fifteen core items; per-item completion ranged from 94.6% to 99.3%. Missing values were handled by pairwise deletion per the requirements of each statistical test.

The final sample comprises small enterprises (63.9%; n = 94), medium enterprises (18.4%; n = 27), and micro-enterprises (17.7%; n = 26). This distribution under-represents micro-enterprises relative to the national SME structure, in which micro-enterprises account for approximately 75% of the population (OMTPME, 2025); this limitation is addressed in Section 5.2.

3.2. Instrument and Reliability

The questionnaire comprises fifteen core items across five thematic blocks: firm characteristics (Q1-Q3); awareness of participatory instruments, Mourabaha, Moucharaka, Moudaraba (Q4-Q6); usage intention and perceived adequacy of PLS (Q7-Q9); perceived importance of regulatory, operational, and behavioural barriers (Q10-Q12); and religious motivation and institutional trust (Q13-Q15). All perception and intention items use a uniform 5-point Likert scale. Item content was derived from established theoretical constructs (Aggarwal and Yousef, 2000; Kon and Storey, 2003; Warninda et al., 2019) rather than from the researchers' professional experience, to limit framing bias, and was validated by five experienced banking professionals prior to deployment.

Cronbach's alpha, computed *post hoc* for each thematic block, ranges from 0.35 to 0.64, below the conventional 0.70 threshold (Nunnally, 1978). Consistent with DeVellis (2017) and Hair et al. (2019), this is expected for formative constructs, in which items measure conceptually distinct, deliberately uncorrelated dimensions, as opposed to reflective constructs, for which high inter-item correlation is expected. The barrier-hierarchy block (Q10-Q12) is explicitly formative: its items are expected to vary independently, the property exploited by the Friedman test in Section 4.2.

3.3. Analytical Strategy

Analysis proceeds in four steps using Python (pandas, scipy.stats, statsmodels). Descriptive statistics first characterise the sample. H_1 is tested with a Friedman test for repeated measures, appropriate because each respondent rates all three barrier categories on an ordinal scale, followed by Wilcoxon signed-rank *post-hoc* comparisons with Bonferroni correction (adjusted $\alpha = 0.0167$). H_2 is tested through a two-dimensional typology crossing usage intention (mean of Q7 and Q8) with instrument awareness (mean of Q5 and Q6), validated by a Spearman correlation between the two dimensions. An ordinal logistic regression (Agresti, 2010)

then identifies determinants of usage intention (Q7) among fifteen explanatory variables.

4. RESULTS

4.1. Instrument Awareness

Awareness of participatory instruments is low and differentiated across instruments (Table 1 and Figure 1). Mourabaha, the most widely deployed instrument since 2017, is well known (≥4) by only 15.2% of respondents and poorly known (≤2) by 54.5%. Awareness of PLS instruments is markedly lower: 78.1% of respondents report poor or no knowledge of Moucharaka, and 86.9% of Moudaraba.

4.2. Test of H_1: Barrier Hierarchy

Observed means are: behavioural M = 4.25 (90.1% rating ≥4), operational M = 4.08 (82.5% rating ≥4), and regulatory M = 2.69 (only 19.6% rating ≥4), a hierarchy the reverse of that predicted by H_1 (Figure 2, Table 2).

The Friedman test confirms the difference is statistically significant: χ^2 (2) = 186.11, P < 0.001, n = 142. Bonferroni-corrected Wilcoxon *post-hoc* tests (adjusted α = 0.0167) show the regulatory category differs significantly from both the operational (P < 0.001) and behavioural (P < 0.001) categories, while operational and behavioural do not differ significantly after correction (P = 0.026). On this basis, H_1 is not supported.

4.3. Test of H_2: Latent Demand

Usage intention (Q7, M = 4.00, 72.3% agreement) and perceived adequacy of PLS (Q8, M = 3.96, 75.4% agreement) are both high. Willingness to share governance is not: Only 46.9% of respondents agree with Q9, the weakest of the three dimensions, consistent with agency-theoretic predictions regarding entrepreneurial control aversion (Jensen and Meckling, 1976).

A four-profile typology, crossing usage intention with awareness, identifies a latent-demand segment, high intention combined with low awareness, comprising 58.2% of respondents (n = 82), against 9.2% (n = 13) showing low intention (Table 3 and Figure 3).

A Spearman correlation between usage intention and awareness (ρ = −0.030, P = 0.72) shows no significant association, the statistical signature of latent, as opposed to informed, demand. H_2 is therefore supported: Latent and explicit demand together account for 62.5% of the sample.

4.4. Determinants of Usage Intention

An ordinal logistic regression was estimated for usage intention toward Moucharaka (Q7), with fifteen explanatory variables (n = 139; Log-Likelihood = −153.66; AIC = 345.32). Full results appear in Table 4.

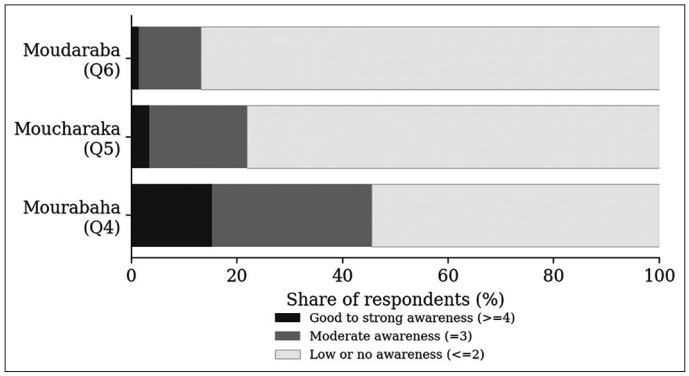
Of fifteen predictors, only Q13, religiously motivated avoidance of conventional credit, reaches statistical significance (β = 0.875, P < 0.001). All demographic, perceptual, and remaining religious/trust variables are non-significant.

Table 1: Awareness of participatory instruments among Moroccan SMEs (n=147)

Instrument	Mean (1-5)	Percentage aware (≥4)	Percentage unaware (≤2)
Mourabaha (Q4)	2.36	15.2	54.5
Moucharaka (Q5)	1.92	3.4	78.1
Moudaraba (Q6)	1.80	1.4	86.9

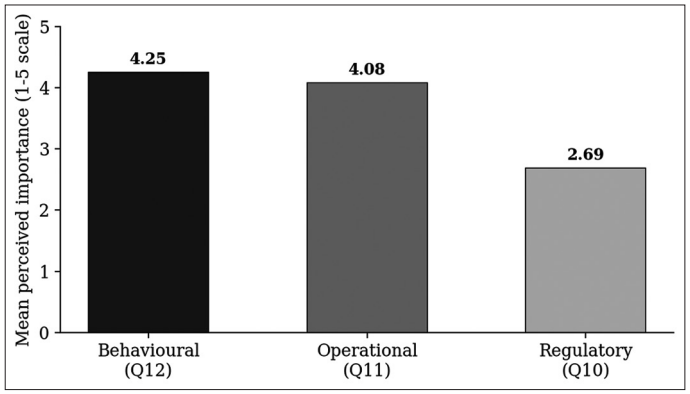
Source: Compiled by the authors from the survey data

Figure 1: Distribution of self-reported awareness, by instrument (n=147)



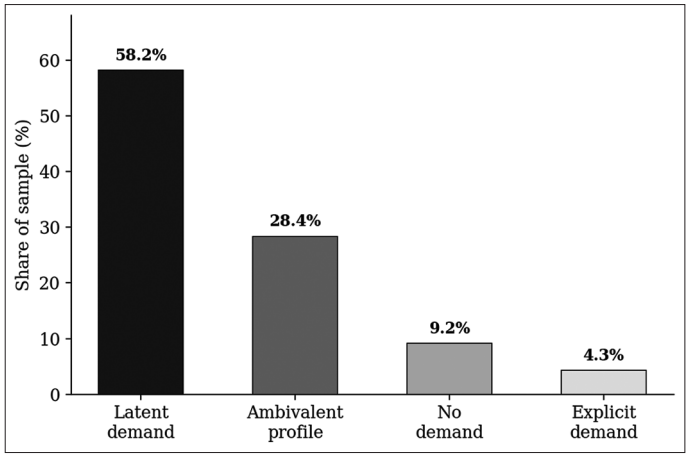
Source: Compiled by the authors from the survey data

Figure 2: Perceived importance of barrier categories to PLS deployment (n=142)



Source: Compiled by the authors from the survey data

Figure 3: Distribution of the four demand profiles (n=141)



Source: Compiled by the authors from the survey data

Table 2: Perceived importance of barrier categories to PLS deployment (n=142)

Barrier category	Mean (1-5)	Percentage rating ≥4	Friedman result
Behavioural (Q12)	4.25	90.1	
Operational (Q11)	4.08	82.5	χ^2 (2)=186.11
Regulatory (Q10)	2.69	19.6	P<0.001, n=142

Source: Compiled by the authors from the survey data

Table 3: Typology of demand profiles for PLS instruments (n=141)

Profile	Operational criterion	n	Percentage
Latent demand	Intention≥4 AND awareness≤2	82	58.2
Explicit demand	Intention≥4 AND awareness≥3	6	4.3
Ambivalent	Intermediate intention	40	28.4
No demand	Intention<3	13	9.2

Source: Compiled by the authors from the survey data

Table 4: Ordinal logistic regression of usage intention (Q7) on 15 predictors (n=139)

Predictor	beta	SE	P-value	Significance
Q4. Mourabaha awareness	−0.042	0.196	0.830	ns
Q5. Moucharaka awareness	0.019	0.223	0.933	ns
Q6. Moudaraba awareness	0.077	0.241	0.749	ns
Q9. Governance-sharing acceptance	0.168	0.192	0.382	ns
Q10. Regulatory barrier	0.115	0.181	0.526	ns
Q11. Operational barrier	−0.065	0.279	0.816	ns
Q12. Behavioural barrier	0.311	0.311	0.317	ns
Q13. Religious avoidance of conv. credit	0.875	0.207	<0.001	***
Q14. Trust in current system	−0.103	0.188	0.584	ns
Firm age (years)	0.012	0.014	0.401	ns
Size: Small (ref. medium)	0.205	0.466	0.660	ns
Size: Micro (ref. medium)	0.939	0.681	0.168	ns
Sector: Services (ref. industry)	0.187	0.301	0.534	ns
Sector: Trade (ref. industry)	−0.096	0.288	0.739	ns
Sector: Agri-food (ref. industry)	0.224	0.349	0.521	ns

Source: Compiled by the authors from the survey data

A complementary hierarchical regression and cross-group correlation comparison indicate a pattern of conditional preference: Religious motivation shifts preference toward PLS conditional on product availability and adequacy, rather than acting as an unconditional primary driver.

5. DISCUSSION

5.1. Theoretical and Practical Implications

The reversal of the predicted barrier hierarchy indicates that SMEs' most salient obstacles are those directly observable in day-to-day banking interaction and in the entrepreneur's own decision process, not the upstream regulatory-fiscal architecture central to the Mourabaha syndrome literature (Aggarwal and Yousef, 2000; Dar and Presley, 2000). With 78% of respondents reporting poor or no knowledge of Moucharaka, SMEs are structurally unable to form an informed judgment about regulatory frictions invisible from their position in the system. The regulatory explanation still holds as a structural constraint, but these results place it as a necessary rather than sufficient condition, one that operates mainly at the level of bank product design, not at the level of what SMEs themselves perceive as blocking them.

The confirmation of H_2 supports a demand-side, informational reading of the participatory finance gap, consistent with the discouraged-borrower framework (Kon and Storey, 2003) and agency-theoretic accounts of information asymmetry (Jensen and Meckling, 1976; Stiglitz and Weiss, 1981). The magnitude of the latent-demand segment (58.2%) suggests the Mourabaha syndrome in Morocco may be substantially attributable to a market-information failure on the demand side, compounding the supply-side control-imbalance mechanisms identified by Dar and Presley (2000).

The regression results add a further layer: religious motivation is the only significant individual-level predictor, while firm characteristics and directly measured perceived barriers are not. Usage intention toward Moucharaka appears driven less by an economic cost-benefit calculation than by an underlying preference structure connected to the religious permissibility of conventional credit, with direct implications for how participatory banks segment and communicate with prospective SME clients. Practically, these results suggest that financial-education and product-communication interventions targeting SME decision-makers may yield larger near-term gains in PLS uptake than regulatory reform alone, without diminishing the longer-term necessity of addressing structural regulatory frictions.

5.2. Limitations and Future Research

The non-probabilistic, network-based sampling strategy limits external validity; the sample under-represents micro-enterprises relative to the national SME structure (OMTPME, 2025). Several thematic constructs show Cronbach's alpha below conventional thresholds; while expected and defensible for formative constructs, this constrains the precision of composite-score interpretation. The cross-sectional design precludes causal inference regarding the direction of the relationship between religious motivation and usage intention. Future research should pursue a probability-based sampling frame stratified to match the national micro/small/medium distribution, a longitudinal replication to track the evolution of awareness and intention over time, and closer integration with qualitative interview evidence to further unpack the conditional-preference mechanism identified in Section 4.4.

6. CONCLUSION

Taken together, these results point to demand-side informational and behavioural factors, not the regulatory environment as perceived by SMEs themselves, as the primary driver behind the limited deployment of Profit-and-Loss Sharing instruments among Moroccan SMEs. A substantial majority of surveyed SMEs (58.2%) constitute a latent-demand segment, genuinely interested in PLS financing but insufficiently informed about

it, while religiously motivated avoidance of conventional credit emerges as the sole significant individual-level predictor of usage intention among fifteen candidate variables. These findings suggest that financial-education and product-communication interventions targeting SME decision-makers may yield larger near-term gains in PLS uptake than regulatory reform alone.

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