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Journal of Behavioral Economics and Policy

<https://ojs.bilpub.com/index.php/jbep>

ARTICLE

Bureaucracy, Costs, and Information Gaps as Bottlenecks to Formalization: Evidence and Policy Implications for Informal Markets in Lubango, Huíla, Angola

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ABSTRACT

This study investigates key institutional barriers preventing informal market actors from transitioning into the formal economy in Sub-Saharan Africa, with evidence from Lubango, Angola. Drawing on a cross-sectional survey of 300 informal traders across three major markets, the study examines how bureaucratic complexity, regulatory compliance costs, and informational deficits influence formalization intentions. Using a quantitative analytical framework grounded in dualist, structuralist, and legalist perspectives, the study employs multiple linear regression, non-parametric tests, and descriptive statistics to evaluate both direct and moderated effects of formalization barriers. Results indicate that bureaucratic complexity ($\beta = -0.34, p < 0.001$) and compliance costs ($\beta = -0.28, p < 0.001$) are the strongest negative predictors of formalization intention, while information constraints exert a smaller but statistically significant effect ($\beta = -0.18, p < 0.05$). Moderation analysis reveals that women experience significantly stronger negative effects of bureaucratic barriers, while the effect of information constraints varies by education level in a direction contrary to the initial theoretical expectation. The study contributes empirical evidence from a Lusophone African context and highlights the importance of institutional accessibility in formalization policy design. Findings suggest that effective formalization strategies must prioritize procedural simplification, targeted support for vulnerable groups, and context-sensitive institutional reforms. The

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ARTICLE INFO

Received: 12 February 2026 | Revised: 8 May 2026 | Accepted: 25 May 2026 | Published Online: 15 June 2026

DOI: <https://doi.org/10.55121/jbep.v2i1.1160>

CITATION

Sanjimbi, A.S., 2026. Bureaucracy, Costs, and Information Gaps as Bottlenecks to Formalization: Evidence and Policy Implications for Informal Markets in Lubango, Huíla, Angola. *Journal of Behavioral Economics and Policy*. 2(1): 18–35. DOI: <https://doi.org/10.55121/jbep.v2i1.1160>

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results have implications for Angola's broader formalization agenda and for formalization strategies in Sub-Saharan Africa.

Keywords: Informal Economy; Bureaucracy; Compliance Costs; Information Constraints; Angola; Lubango

1. Introduction

1.1. Research Problem and Context

The informal economy in Sub-Saharan Africa sustains the majority of livelihoods while remaining largely outside formal regulatory systems and public administration. In Angola, recent estimates indicate that approximately 80.8% of the population derives income from informal economic activities, generating substantial economic output that remains beyond the reach of taxation systems, regulatory oversight, and formal social protection mechanisms^[1,2]. This coexistence of economic vitality and institutional invisibility represents a central challenge for contemporary development policy.

While policymakers, international organizations, and development institutions increasingly promote formalization as a pathway to improved governance, enhanced service delivery, and inclusive economic growth, empirical evidence suggests that formalization outcomes are highly heterogeneous and context-dependent^[3-6]. In several sub-Saharan African contexts, formalization initiatives have demonstrated uneven uptake, limited sustainability, or unintended distributional consequences, particularly among vulnerable populations^[3-6]. These patterns indicate that formalization is not simply a technical administrative process, but a complex institutional transition shaped by structural inequalities, policy design, and local socio-economic conditions.

Despite growing policy attention, the specific mechanisms through which institutional barriers influence informal actors' willingness to formalize remain insufficiently understood, particularly in Lusophone African contexts where empirical research remains limited. Angola, as a post-conflict economy undergoing institutional reform and administrative modernization, offers a valuable case for examining how bureaucratic structures, regulatory costs, and information constraints interact to shape formalization decisions^[2]. The city of Lubango, located in Huíla Province, provides a relevant empirical setting due to its role as a major urban center with diverse informal market activity and ongoing policy initiatives aimed at promoting formalization and restructuring

the informal economy.

1.2. Theoretical Framework and Research Questions

This study draws on three complementary theoretical traditions in the study of informality: the dualist, structuralist, and legalist perspectives. The dualist approach conceptualizes the informal economy as a residual sector that absorbs surplus labor excluded from formal employment due to structural imbalances in job creation and skills distribution^[7]. The structuralist perspective, by contrast, argues that informality is not marginal but structurally embedded within capitalist systems, serving as a subordinated yet functional component of contemporary capitalism^[7,8]. The legalist perspective emphasizes the role of institutional design, suggesting that excessive regulatory complexity, administrative burdens, and high compliance costs create rational incentives for economic actors to remain informal^[7,9].

Rather than treating these perspectives as mutually exclusive, this study adopts an integrative approach, recognizing that structural economic conditions, institutional barriers, and individual capabilities jointly shape formalization decisions. Within this framework, formalization barriers are conceptualized as emerging at the intersection of economic opportunity structures and administrative accessibility.

Building on this theoretical synthesis, the study addresses the following research questions: What are the relative effects of bureaucratic complexity, compliance costs, and information deficits on informal traders' intention to formalize? Do gender and educational attainment moderate the relationship between formalization barriers and formalization intention? How do perceived barriers vary across different market contexts within the same urban environment?

1.3. Methodological Approach and Study Objectives

To address these questions, this study employs a quantitative cross-sectional survey design based on data collected

from 300 informal traders across three major markets in Lubango. The analytical strategy integrates descriptive statistics, exploratory factor analysis, multiple linear regression with interaction terms, and non-parametric comparative tests (Mann–Whitney U and Kruskal–Wallis H) to assess both direct and moderated effects of institutional barriers.

The primary objective is to quantify the relative importance of bureaucratic, economic, and informational constraints in shaping formalization intention, while examining how these effects differ across demographic groups and market contexts. By focusing on intention rather than observed behavior, the study captures forward-looking decision-making processes while acknowledging the structural constraints that may delay or prevent actual formalization.

Importantly, this study does not propose a novel theoretical framework, but rather contributes by empirically integrating established theoretical perspectives within a specific and underexplored context. The analysis aims to generate context-sensitive insights that inform policy design by identifying which barriers are most consequential and for whom, thereby supporting more effective and inclusive formalization strategies.

The remainder of the article is structured as follows. Section 2 reviews the relevant literature on informality, formalization barriers, gender, education, and institutional access. Section 3 describes the study design, sampling strategy, measurement procedures, validity and reliability diagnostics, and analytical strategy. Section 4 presents the descriptive, comparative, and regression results. Section 5 discusses the findings in relation to the theoretical framework and prior evidence, with particular attention to policy implications and the interpretation of moderation effects. Section 6 concludes by summarizing the study's contributions, limitations, and directions for future research.

2. Literature Review

2.1. Conceptualizing Informality: Dualist, Structuralist, and Legalist Perspectives

The informal economy has been examined through multiple theoretical perspectives, each offering distinct explanations for its persistence and structure. The dualist approach conceptualizes informality as a residual sector that absorbs surplus labor excluded from formal employment due to struc-

tural imbalances in economic development^[7]. Within this framework, informal activities are viewed as marginal and largely disconnected from the formal economy, serving primarily as a survival mechanism in contexts where formal job creation is insufficient.

In contrast, the structuralist perspective argues that informality is not separate from formal economic systems but is functionally integrated within them. Informal labor and production are often utilized by formal firms to reduce costs, increase flexibility, and circumvent regulatory constraints^[7,8]. In this view, informality constitutes a subordinated but essential component of contemporary capitalism, shaped by broader power relations and institutional asymmetries.

The legalist perspective emphasizes the role of institutional design in shaping economic behavior. According to this approach, excessive bureaucratic requirements, regulatory complexity, and high compliance costs discourage otherwise productive entrepreneurs from entering the formal economy^[7,9]. Informal actors are therefore understood as rational agents responding to policy-induced constraints rather than solely to structural exclusion.

Rather than treating these perspectives as competing explanations, recent research suggests that they operate simultaneously, with structural conditions, institutional barriers, and individual capabilities jointly influencing formalization decisions^[3,6–8].

2.2. Gender and the Informal Economy in Sub-Saharan Africa

Gender disparities are a defining feature of informal economies across Sub-Saharan Africa. Women are disproportionately represented in informal employment, particularly in low-income and vulnerable segments of the labor market^[1,10]. This pattern reflects structural inequalities in access to education, financial resources, and formal employment opportunities.

Existing literature challenges the assumption that informal economic participation necessarily represents empowerment for women. Instead, it is often associated with constrained choices, limited upward mobility, and heightened exposure to institutional vulnerabilities^[10]. Women's economic activities are frequently shaped by social norms, care responsibilities, and restricted access to formal support systems. Recent evidence from Nigeria further shows that

informal Women workers in per-urban communities face overlapping vulnerabilities related to livelihood insecurity, care burdens, and limited institutional support, reinforcing the need to examine gendered experiences within informal economies^[11].

These structural conditions suggest that gender may influence not only participation in informality but also how institutional barriers are experienced. Bureaucratic procedures, time-intensive administrative requirements, and limited access to information networks may disproportionately affect women, amplifying the impact of formalization barriers.

2.3. Bureaucratic Complexity as a Formalization Bottleneck

Administrative and regulatory complexity is widely recognized as a central obstacle to formalization in developing economies. Formalization processes often require interaction with multiple government agencies, compliance with technical procedures, and submission of documentation that may be difficult to navigate for small-scale traders^[4,7,9,12].

In contexts characterized by limited administrative capacity, these processes may also involve inconsistent enforcement, discretionary decision-making, and uncertainty, further increasing perceived barriers. Such institutional environments raise transaction costs and reduce the predictability of formalization outcomes.

From a legalist perspective, bureaucratic complexity functions as an implicit cost that discourages participation in formal systems. Structuralist interpretations further suggest that such complexity may contribute to selective inclusion, reinforcing inequalities in access to formal economic opportunities.

2.4. Compliance Costs and Economic Viability of Formalization

The financial burden associated with formalization represents a significant constraint for informal enterprises operating with limited capital. Registration fees, licensing costs, tax obligations, and ongoing administrative expenses may exceed expected benefits, particularly in contexts where formalization does not guarantee improved access to markets, credit, or institutional support^[4-6,13].

For small-scale traders, formalization decisions often

involve cost–benefit considerations under uncertainty. When perceived returns to formal status are low or unclear, compliance costs can act as a deterrent, reinforcing the persistence of informal economic activity. This is particularly relevant because informal sector employment remains closely connected to economic growth and sustainable development outcomes in developing countries, making formalization policies sensitive to both economic viability and social inclusion^[14].

These dynamics highlight the importance of distinguishing between objective financial costs and subjective perceptions, both of which play a role in shaping economic decision-making.

2.5. Information Constraints, Information Asymmetry, and Institutional Access

Information constraints represent a critical but often underexamined dimension of formalization barriers. Informal actors frequently lack access to accurate, timely, and comprehensible information regarding formalization procedures, requirements, and potential benefits^[4-6].

Information asymmetry may arise from limited institutional outreach, literacy constraints, language barriers, and reliance on informal communication networks. In such environments, incomplete or distorted information can shape perceptions of risk, costs, and feasibility.

Importantly, access to information and the ability to process institutional requirements may vary across individuals. Differences in education, experience, and social networks may influence how information deficits affect decision-making, suggesting that informational barriers may interact with socio-demographic characteristics in complex ways.

2.6. Theoretical Synthesis and Hypothesis Development

This study integrates insights from dualist, structuralist, and legalist perspectives to examine how institutional barriers influence formalization intention. Bureaucratic complexity, compliance costs, and information constraints are conceptualized as key mechanisms through which institutional environments shape economic behavior.

Gender and educational attainment are incorporated

as moderating variables reflecting structural inequalities in access to resources, institutional navigation capacity, and information. Existing literature suggests that these factors may influence how barriers are perceived and experienced, though empirical evidence on their interaction with specific barriers remains limited^[10].

Given this context, the study adopts an analytical approach that evaluates both direct effects of formalization barriers and their interaction with socio-demographic characteristics. This approach allows for empirical assessment of heterogeneous effects without imposing strong a priori assumptions regarding the direction of moderation relationships.

3. Materials and Methods

3.1. Study Design and Data Collection

This study employs a quantitative cross-sectional survey design conducted in Lubango, Huíla Province, Angola. The empirical setting comprises three major informal markets: Mercado Mutundo, Mercado João de Almeida, and Mercado da Praça do Peixe, selected based on their economic relevance, geographic distribution, and diversity of trading activities.

The original submission was based on an earlier version of the field dataset and accompanying documentation. During revision, the authors consolidated, verified, and fully documented the final 300-response dataset collected between September and November 2025. The present manuscript reports only this finalized dataset, and all analyses were re-estimated using the verified dataset.

A non-probability convenience sampling strategy was employed. A total of 300 valid responses were collected, with equal allocation across the three markets ($n = 100$ per site). This allocation was intentionally designed to support balanced comparative analysis across market contexts, although it does not reflect proportional population distribution. This limitation is acknowledged and addressed in the discussion section.

3.2. Instrumentation and Measurement

The primary data collection instrument was a structured questionnaire designed to capture socio-demographic

characteristics, perceived formalization barriers, and behavioral intentions among informal traders. The instrument was administered in Portuguese and developed through a multi-stage process combining theoretical grounding, contextual adaptation, and pilot validation. The questionnaire comprised three main sections: (1) socio-demographic characteristics; (2) Likert-scale items measuring perceptions related to informality and formalization; and (3) contextual and control variables describing economic activity. All perception-based items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The development of the instrument was informed by established theoretical perspectives on informality, particularly the dualist, structuralist, and legalist approaches^[7–12], as well as prior empirical studies on formalization barriers in developing economies^[4–6,13]. The initial version of the questionnaire was drafted in English and subsequently translated into Portuguese by bilingual researchers familiar with the Angolan context. A back-translation procedure was employed to ensure semantic equivalence and minimize translation bias, with discrepancies resolved through consensus among the research team.

A pilot test was conducted with a small convenience sample of informal traders (25 participants) to assess clarity, cultural appropriateness, and response variability. Minor adjustments were made to improve item wording and comprehension.

Based on theoretical alignment and empirical validation procedures, the items were organized into four analytical constructs used in the study: Bureaucratic Complexity, capturing perceived administrative and procedural barriers associated with formalization, including regulatory opacity and difficulty navigating institutional processes; Compliance Costs, measuring perceived financial burdens related to formalization, such as registration fees, taxation, and associated economic constraints; Information Constraints, reflecting lack of knowledge, uncertainty, and informational barriers regarding formalization procedures and requirements; Intention to Formalize, capturing forward-looking behavioral intention, including willingness to formalize under improved institutional or economic conditions.

Representative items for these constructs included statements related to bureaucratic obstacles, cost burdens, lack of information, and willingness to formalize under differ-

ent scenarios (e.g., access to incentives, credit, or training programs).

Although the original questionnaire included additional constructs related to informal economy participation and perceived impacts, only items directly aligned with the study's analytical framework were retained for construct formation and regression analysis. This approach ensured theoretical consistency and minimized measurement noise.

Composite scores for each construct were calculated as the arithmetic mean of the corresponding items. This approach preserves the original scale metric and facilitates interpretation of regression coefficients. The use of composite scores assumes reflective measurement, whereby observed items are treated as manifestations of underlying latent constructs.

In addition to the main constructs, several control variables were collected, including gender, age, educational attainment, sector of activity, and duration of informal economic activity. These variables were incorporated into the regression analysis as covariates and moderators, where theoretically appropriate. To ensure transparency and reproducibility, the questionnaire items used to construct the analytical variables, including the Portuguese version and English translation, are provided in **Appendix A**. Items not retained in the final construct formation are not reproduced in order to maintain consistency between the appendix and the empirical model.

3.3. Sampling and Inclusion Criteria

A non-probability convenience sampling strategy was employed to recruit participants from the study population of informal traders operating in three major markets in Lubango: *Mercado Mutundo*, *Mercado João de Almeida*, and *Mercado da Praça do Peixe*. Data were collected through face-to-face interactions, with trained research assistants approaching traders at different times of the day to maximize coverage across activity periods.

A total of 300 valid responses were obtained, with equal allocation across the three markets ($n = 100$ per market). This allocation was intentionally designed to facilitate balanced comparative analysis across market contexts, particularly for non-parametric group comparisons. However, it does not reflect the proportional distribution of traders across markets and may introduce sampling bias. This limitation is

acknowledged and discussed in Section 6.

The target population consisted of individuals actively engaged in informal economic activities, defined as operating without formal business registration, tax identification, or formal employment contracts. Inclusion criteria were: (1) age 18 years or older; (2) self-identification as an informal trader; (3) current economic activity within one of the selected markets; and (4) ability to understand and respond to the questionnaire in Portuguese. Exclusion criteria included: (1) possession of formal business registration or legal business status; (2) inability or unwillingness to provide informed consent; and (3) incomplete or inconsistent questionnaire responses that compromised analytical validity.

Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Given the context and characteristics of the study population, consent was obtained verbally following a standardized explanation of the study's purpose, confidentiality assurances, and the voluntary nature of participation. No personally identifiable information was collected, and all responses were anonymized prior to analysis.

Although refusal rates were not formally recorded, field observations by research assistants indicated that non-participation was relatively limited and primarily due to time constraints rather than explicit refusal. As with most convenience sampling approaches, the potential for self-selection bias cannot be fully excluded and should be considered when interpreting the results.

3.4. Construct Validity and Reliability

Construct validity and reliability were assessed through exploratory factor analysis (EFA) and internal consistency diagnostics to ensure that the measurement model adequately represents the underlying latent constructs. Prior to factor extraction, the suitability of the data for factor analysis was evaluated using the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The results indicated that the dataset was appropriate for factor analysis ($KMO = 0.82$; Bartlett's test $\chi^2 = 2,847.3$, $p < 0.001$), confirming sufficient intercorrelations among variables^[15].

Exploratory factor analysis was conducted using principal axis factoring with Promax rotation, allowing for correlated factors consistent with the theoretical framework. The analysis yielded a four-factor solution corresponding to the

constructs of Bureaucratic Complexity, Compliance Costs, Information Constraints, and Intention to Formalize. All retained items exhibited factor loadings equal to or greater than 0.58 on their respective constructs, with minimal cross-loadings, supporting convergent and discriminant validity. Communalities ranged from 0.45 to 0.77, indicating satisfactory shared variance between items and their underlying constructs.

Internal consistency reliability was assessed using Cronbach's alpha coefficients. The results indicate satisfactory reliability across all constructs: Bureaucratic Complexity ($\alpha = 0.84$), Compliance Costs ($\alpha = 0.79$), Information Constraints ($\alpha = 0.81$), and Intention to Formalize ($\alpha = 0.77$). All values exceed the commonly accepted threshold of $\alpha \geq 0.70$ for exploratory research, indicating adequate internal consistency^[16].

Average Variance Extracted (AVE) was calculated to further assess convergent validity. The AVE values were as follows: Bureaucratic Complexity (0.52), Compliance Costs (0.48), Information Constraints (0.51), and Intention to Formalize (0.54). While the AVE for Compliance Costs falls slightly below the conventional 0.50 threshold, the construct was retained because its factor loadings were acceptable, its internal consistency was satisfactory ($\alpha = 0.79$), and the deviation from the threshold was marginal. Nevertheless, this result is treated as a measurement limitation, and findings involving Compliance Costs should be interpreted with appropriate caution^[17].

Following validation procedures, composite scores were computed for each construct by averaging the corresponding items. This approach preserves scale interpretability and is appropriate for subsequent regression analysis under a reflective measurement model assumption. Overall, the results provide evidence that the measurement model demonstrates acceptable levels of construct validity and reliability for the purposes of the present analysis.

3.5. Analytical Strategy

The analytical strategy was designed to examine both the direct effects of formalization barriers and their interaction with socio-demographic characteristics on formalization intention. Descriptive statistics were first computed for all variables, including means, standard deviations, medians, and frequency distributions. Given that Shapiro–Wilk tests

indicated non-normal distributions for the composite variables ($p < 0.001$), non-parametric methods were employed for group comparisons^[18]. Specifically, Mann–Whitney U tests were used for binary comparisons (gender), and Kruskal–Wallis H tests were applied for multi-group comparisons (educational attainment and market location). Where appropriate, post-hoc Dunn tests with Bonferroni correction were conducted to identify pairwise differences. Effect sizes were reported using r for Mann–Whitney tests and η^2 for Kruskal–Wallis tests.

The primary inferential analysis was conducted using multiple linear regression to estimate the effects of Bureaucratic Complexity, Compliance Costs, and Information Constraints on Intention to Formalize. Gender and educational attainment were included as additional predictors, along with interaction terms to test moderation effects. All continuous predictors were standardized (mean = 0, standard deviation = 1) prior to analysis to facilitate interpretation of coefficients and reduce multicollinearity in interaction terms^[19,20]. Gender was included using effect coding, with female respondents coded as +1 and male respondents coded as −1. This coding strategy was adopted to ensure consistency between the regression model and the simple slopes analysis reported below. Educational attainment was treated as an ordinal variable reflecting increasing levels of education completed by the respondent.

Consistent with the effect-coding approach, the gender variable represents deviations from the grand mean rather than a simple comparison between a reference category and a treatment category. Accordingly, the coefficients associated with gender interactions should be interpreted as moderation effects around the overall sample mean.

The regression model can be expressed as:

$$\begin{aligned} IF_i = & \beta_0 + \beta_1 BC_i + \beta_2 CC_i + \beta_3 IC_i + \\ & \beta_4 Female_i + \beta_5 Educ_i + \beta_6 (BC_i \times Female_i) \\ & + \beta_7 (CC_i \times Female_i) + \beta_8 (IC_i \times Female_i) \\ & + \beta_9 (BC_i \times Educ_i) + \beta_{10} (CC_i \times Educ_i) \\ & + \beta_{11} (IC_i \times Educ_i) + \varepsilon_i \end{aligned}$$

Where:

IF represents the *intention to formalize*, measured as a composite score based on Likert-scale items capturing respondents' willingness to formalize their economic activity.

BC denotes *bureaucratic complexity*, reflecting perceived administrative and procedural barriers associated with

business formalization.

CC refers to *compliance costs*, capturing perceived financial burdens related to registration, taxation, and regulatory compliance.

IC represents information constraints, measured as perceived lack of information, uncertainty, or difficulty in accessing reliable information about formalization procedures.

Female represents the gender effect-coded variable, with female respondents coded as +1 and male respondents coded as -1.

Educ denotes educational attainment, measured as an ordinal variable reflecting the highest level of education completed by the respondent.

$BC \times Female$, $CC \times Female$, and $IC \times Female$ represent interaction terms capturing the moderating effect of gender on the relationship between each barrier and formalization intention.

$BC \times Educ$, $CC \times Educ$, and $IC \times Educ$ represent interaction terms capturing the moderating effect of education on the relationship between each barrier and formalization intention.

ε is the error term, capturing unobserved factors affecting formalization intention.

Multicollinearity was assessed using Variance Inflation Factors (VIF), with all values below 2.5, indicating no problematic collinearity among predictors^[21]. This supports the stability and interpretability of regression coefficients. Model diagnostics were conducted to assess the validity of regression assumptions. Residual plots indicated approximate homoskedasticity, and quantile–quantile plots suggested acceptable normality of residuals, consistent with large-sample expectations.

Influence diagnostics were evaluated using Cook's distance. The maximum observed value (0.042) exceeds the conservative threshold of $4/n$ (≈ 0.013), suggesting the presence of moderately influential observations. However, all values remained well below the more liberal threshold of 1.0, indicating that no individual observations exerted undue influence on model estimates.

Missing data were minimal (approximately 1.3%) and were addressed using Multiple Imputation by Chained Equations (MICE). Five imputed datasets were generated using predictive mean matching, and results were pooled using Rubin's rules to account for imputation uncertainty^[22,23].

No prospective power analysis was conducted at the design stage. The sample size was determined by field feasibility and by the decision to allocate 100 respondents to each market for balanced comparative analysis. For this reason, the regression and interaction results are interpreted primarily through coefficient estimates, confidence intervals, effect sizes, and model diagnostics rather than through post-hoc power claims. All statistical analyses were conducted using standard statistical software, with significance levels set at $\alpha = 0.05$.

3.6. Conceptual Model

Figure 1 presents the conceptual model guiding the empirical analysis. The model examines how key institutional barriers influence informal traders' intention to formalize, while accounting for heterogeneity across socio-demographic characteristics. Three primary dimensions of formalization barriers are included as independent variables: bureaucratic complexity, compliance costs, and information constraints. These variables represent distinct but interrelated mechanisms through which institutional environments shape the perceived feasibility and desirability of transitioning to the formal economy. In the model, these constructs are specified as direct predictors of intention to formalize, represented by solid arrows.

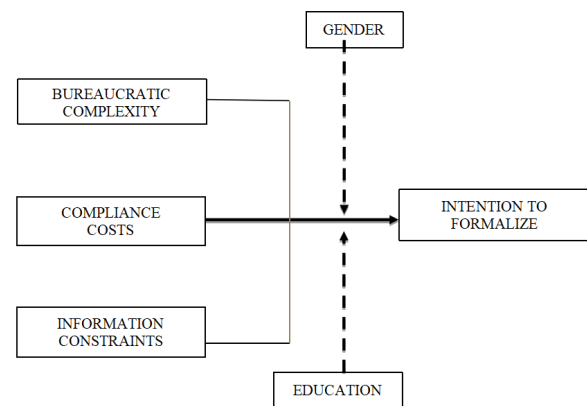


Figure 1. Conceptual model of formalization barriers and intention to formalize.

Source: Author's elaboration.

Bureaucratic complexity captures administrative and procedural challenges associated with formalization, including regulatory opacity and difficulties in navigating institutional processes. Compliance costs reflect the financial

burden of formalization, encompassing registration fees, taxation, and ongoing regulatory obligations. Information constraints refer to informational barriers, including lack of knowledge, uncertainty, and limited access to reliable information regarding formalization procedures.

In addition to these direct effects, the model incorporates gender and educational attainment as moderating variables, represented by dashed arrows. These variables are included to capture potential heterogeneity in how individuals experience and respond to formalization barriers. Rather than assuming uniform effects across the population, the model allows for the possibility that the magnitude and direction of the relationships between institutional barriers and formalization intention vary across demographic groups.

Importantly, the model does not impose strict a priori assumptions regarding the direction of these moderating effects. Instead, it adopts an empirically driven approach, allowing the data to reveal how gender and education in-

teract with different types of barriers. This specification is consistent with the analytical strategy employed in the regression model, where interaction terms are used to estimate moderation effects.

Overall, the conceptual model reflects a parsimonious yet flexible framework that integrates theoretical insights with empirical analysis, enabling a nuanced examination of formalization dynamics in context-specific settings.

4. Results

4.1. Descriptive Statistics

Table 1 presents the sociodemographic characteristics of the sample ($n = 300$). The sample is composed of 56% female and 44% male participants, reflecting the gender distribution commonly observed in informal market activities in Sub-Saharan Africa.

Table 1. Sociodemographic Characteristics of Sample ($n = 300$).

Variable	n (%) or Mean (SD)	Range/Categories
Gender		
Female	168 (56.0)	—
Male	132 (44.0)	—
Age (Years)	38.4 (11.2)	18–72
Educational Attainment		
No formal education	24 (8.0)	—
Incomplete primary	78 (26.0)	—
Complete primary	89 (29.7)	—
Secondary education	87 (29.0)	—
Post-secondary/tertiary	22 (7.3)	—
Length of Trading Activity (Years)	9.1 (8.3)	0.5–42
Primary Sector		
Textile/apparel	84 (28.0)	—
Foodstuff/agricultural	96 (32.0)	—
General merchandise	95 (31.7)	—
Services/other	25 (8.3)	—
Current Formal Business Registration		
Yes	0 (0)	—
No	300 (100)	—

The mean age of respondents is 38.4 years ($SD = 11.2$), indicating a predominantly working-age population with substantial economic engagement. Educational attainment is distributed across all levels, with the majority concentrated in primary and secondary education, while only a small proportion (7.3%) report post-secondary qualifications.

The average length of trading activity is 9.1 years ($SD = 8.3$), suggesting that informal trading represents a relatively stable and long-term livelihood strategy rather than a temporary activity.

Sectoral distribution is relatively balanced across food

trade, general merchandise, and textile activities, supporting the representativeness of different informal economic segments within the selected markets.

Table 2 reports differences in sociodemographic characteristics across the three markets. Statistically significant differences were observed for age ($H = 8.34$, $p = 0.015$) and educational attainment ($H = 11.67$, $p = 0.003$), although effect sizes are small ($\eta^2 \leq 0.04$).

Post-hoc comparisons indicate that traders in Mercado do Mutundo are younger on average than those in Praça do Peixe, while traders in João de Almeida exhibit relatively

higher levels of education.

No statistically significant differences were found in gender distribution or length of trading activity across mar-

kets, suggesting that observed differences in barrier perceptions are unlikely to be driven solely by demographic composition.

Table 2. Univariate Comparative Statistics by Market Site.

Variable	Mutundo (n = 100) Mean (SD)	João de Almeida (n = 100) Mean (SD)	Praça do Peixe (n = 100) Mean (SD)	H-Statistic	p-Value	η^2
Age (years)	36.8 (10.9)	38.6 (11.1)	39.8 (11.4)	8.34	0.015	0.03
Education (ordinal)	2.94 (1.18)	3.42 (1.06)	3.15 (1.29)	11.67	0.003	0.04
Length of activity (years)	8.4 (7.8)	9.6 (8.4)	9.4 (8.8)	1.21	0.547	0.00

4.2. Descriptive Statistics for Constructs

Table 3 presents descriptive statistics for the four composite constructs. All barrier constructs—bureaucratic complexity ($M = 4.12$), compliance costs ($M = 3.87$), and information constraints ($M = 3.94$)—exceed the midpoint of the scale, indicating that respondents generally perceive formalization barriers as substantial.

Intention to formalize shows a lower mean value ($M = 3.21$), suggesting moderate willingness to formalize despite the presence of perceived barriers.

The distribution of responses shows moderate negative skewness for barrier variables, indicating clustering toward higher values. However, these descriptive patterns should be interpreted cautiously, as they reflect subjective perceptions rather than objective measures of institutional constraints.

Table 3. Descriptive Statistics for Construct Composite Scores (n = 300).

Construct	Mean	SD	Median	IQR	Skewness	Kurtosis
BC	4.12	0.71	4.20	0.80	-0.54	-0.18
CC	3.87	0.79	4.00	1.00	-0.68	0.31
IC	3.94	0.68	4.00	0.80	-0.48	-0.04
IF	3.21	0.89	3.33	1.33	-0.21	-0.42

Note: BC = Bureaucratic Complexity; CC = Compliance Costs; IC = Information Constraints; IF = Intention to Formalize.

4.3. Comparative Analysis of Barriers across Market Sites

Table 4 presents Kruskal–Wallis tests examining differences in perceived barriers across markets. Statistically significant differences are observed for all three constructs: bureaucratic complexity ($p = 0.002$), compliance costs ($p = 0.015$), and information constraints ($p = 0.008$), although effect sizes remain small ($\eta^2 \approx 0.03$ – 0.04).

Post-hoc Dunn tests (**Table 5**) indicate that these differ-

ences are primarily driven by comparisons between Mercado do Mutundo and Mercado João de Almeida, with traders in Mutundo reporting higher levels of perceived barriers.

While these differences suggest that market context may influence perceptions of formalization barriers, the relatively small effect sizes indicate that these variations should be interpreted cautiously and not overstated.

Post-hoc Dunn tests (**Table 5**) revealed the specific pairwise comparisons that drove these omnibus significance findings.

Table 4. Kruskal–Wallis Tests of Barriers by Market Site.

Construct	Mutundo Median (IQR)	João de Almeida Median (IQR)	Praça do Peixe Median (IQR)	H	p-Value	η^2
BC	4.40 (0.60)	4.00 (1.00)	4.20 (0.80)	12.83	0.002	0.04
CC	4.00 (1.00)	3.75 (1.25)	4.00 (0.75)	8.41	0.015	0.03
IC	4.20 (0.60)	3.80 (1.00)	4.00 (1.00)	9.57	0.008	0.03

Note: BC = Bureaucratic Complexity; CC = Compliance Costs; IC = Information Constraints.

Table 5. Post-hoc Dunn Tests—Pairwise Market Comparisons (Bonferroni-Corrected).

Comparison	BC (p)	CC (p)	IC (p)
Mutundo vs. João de Almeida	0.002	0.031	0.008
Mutundo vs. Praça do Peixe	0.159	0.881	0.181
João de Almeida vs. Praça do Peixe	0.087	0.024	0.071

Note: BC = Bureaucratic Complexity; CC = Compliance Costs; IC = Information Constraints.

4.4. Gender and Education Differences in Perceived Barriers

Mann–Whitney U tests (Table 6) compared perceived barriers between female and male traders.

Table 6 reports Mann–Whitney U tests comparing perceived barriers across gender groups. Female respondents report significantly higher levels of bureaucratic complexity ($p = 0.019$), compliance costs ($p = 0.005$), and information constraints ($p = 0.007$).

Table 6. Mann–Whitney U Tests of Barriers by Gender.

Construct	Female Median (IQR)	Male Median (IQR)	U-Statistic	Z	p-Value	r (Effect Size)
BC	4.40 (0.80)	4.00 (1.00)	9,647	−2.34	0.019	0.14
CC	4.00 (1.00)	3.75 (1.25)	9,156	−2.78	0.005	0.16
IC	4.20 (0.60)	3.80 (1.20)	9,203	−2.71	0.007	0.16

Note: BC = Bureaucratic Complexity; CC = Compliance Costs; IC = Information Constraints.

However, effect sizes are small ($r = 0.14$ – 0.16), indicating that while statistically significant, these differences are modest in magnitude.

These findings suggest the presence of gender-based differences in perceived barriers, but do not, on their own, establish that such differences reflect structural inequalities

or causal mechanisms.

Table 7 presents Kruskal–Wallis tests examining differences across educational levels. Significant differences are observed for information constraints ($p = 0.001$) and bureaucratic complexity ($p = 0.007$), while compliance costs do not reach statistical significance ($p = 0.080$).

Table 7. Kruskal–Wallis H Tests of Barriers by Educational Attainment.

Construct	H	df	p-Value	η^2	Post-hoc Significant Comparisons (Dunn)
BC	14.23	4	0.007	0.05	No education vs. Secondary ($p = 0.018$); No education vs. Tertiary ($p = 0.042$)
CC	8.34	4	0.080	0.03	No education vs. Secondary ($p = 0.063$, marginally)
IC	18.77	4	0.001	0.06	No education vs. Secondary ($p < 0.001$); No education vs. Tertiary ($p = 0.003$); Incomplete primary vs. Secondary ($p = 0.019$)

Post-hoc comparisons indicate that respondents with lower levels of education report higher levels of perceived information constraints.

These findings suggest that information-related constraints may vary across education levels, although the cross-sectional nature of the data limits causal interpretation.

4.5. Multiple Linear Regression Analysis

Table 8 presents the results of the multiple linear regression model. The model explains a substantial proportion of variance in intention to formalize ($R^2 = 0.48$).

Bureaucratic complexity ($\beta = -0.34$, $p < 0.001$) and

compliance costs ($\beta = -0.28$, $p < 0.001$) emerge as the strongest predictors, both negatively associated with formalization intention. Information constraints also show a statistically significant negative effect ($\beta = -0.18$, $p = 0.026$), though with smaller magnitude.

Educational attainment shows a positive main effect ($\beta = 0.13$, $p = 0.039$), while gender does not exhibit a statistically significant direct effect.

The gender variable in the regression model was effect-coded, with female respondents coded as +1 and male respondents coded as −1. This coding is consistent with the simple slopes calculations reported for the Female $\times$ Bureaucracy interaction.

Table 8. Multiple Linear Regression Model—Direct and Moderation Effects on Intention to Formalize.

Predictor	B	SE (B)	B	95% CI	t	p-Value
(Intercept)	3.21	0.051	—	[3.11, 3.31]	62.94	<0.001
Main Effects						
BC	−0.287	0.061	−0.34	[−0.406, −0.168]	−4.70	<0.001
CC	−0.236	0.063	−0.28	[−0.360, −0.112]	−3.75	<0.001
IC	−0.152	0.068	−0.18	[−0.285, −0.019]	−2.24	0.026

Table 8. *Cont.*

Predictor	B	SE (B)	B	95% CI	t	p-Value
Female (effect-coded: female = +1; male = -1)	0.082	0.068	0.07	[-0.052, 0.216]	1.21	0.228
Education	0.114	0.055	0.13	[0.006, 0.222]	2.07	0.039
Two-Way Interactions						
Female × BC	-0.156	0.072	-0.15	[-0.298, -0.014]	-2.17	0.031
Female × CC	-0.143	0.076	-0.13	[-0.292, 0.006]	-1.88	0.061
Female × IC	-0.119	0.081	-0.11	[-0.278, 0.040]	-1.47	0.142
Education × BC	0.086	0.068	0.08	[-0.048, 0.220]	1.26	0.209
Education × CC	-0.031	0.072	-0.03	[-0.172, 0.110]	-0.43	0.669
Education × IC	-0.168	0.074	-0.16	[-0.313, -0.023]	-2.27	0.024
Model Summary						
R	0.693					
R ²	0.48					
R ² Adjusted	0.45					
F-statistic	F (11, 288) = 23.86, p < 0.001					
Residual SE	0.642					

Note: BC = Bureaucratic Complexity; CC = Compliance Costs; IC = Information Constraints.

The interaction between education and information constraints is statistically significant ($\beta = -0.16$, $p = 0.024$). However, this result is inconsistent with the directional expectation specified in the conceptual framework, which predicted stronger negative effects of information constraints among less-educated traders.

The observed pattern indicates the opposite: the negative effect of information constraints on formalization intention is stronger among more educated respondents.

This finding should therefore be interpreted as a disconfirmation of the initial theoretical expectation and treated as exploratory. Rather than providing confirmatory evidence, it suggests that the relationship between information con-

straints and formalization behavior may operate differently than anticipated, potentially reflecting context-specific dynamics that require further investigation.

The interaction between gender and bureaucratic complexity is statistically significant ($\beta = -0.15$, $p = 0.031$). Because gender was effect-coded, this result indicates that the negative association between bureaucratic complexity and intention to formalize differs around the overall sample mean, with the effect being stronger among female respondents than among male respondents. Other interaction terms involving gender are not statistically significant. The simple slopes analysis presented in **Table 9** clarifies the direction and magnitude of this moderation effect.

Table 9. Simple Slopes Analysis—Female × Bureaucracy Interaction.

Slope	Bureaucratic Complexity Effect on Intention	95% CI
For Men (Female = -1)	-0.287 - 0.156(-1) = -0.131	[-0.240, -0.022]
For Women (Female = +1)	-0.287 - 0.156(+1) = -0.443	[-0.552, -0.334]
Difference (Women - Men)	-0.312	[-0.482, -0.142]

These results indicate that bureaucratic complexity is negatively associated with intention to formalize for both men and women, but the association is substantially stronger among women. This pattern supports the interpretation that administrative barriers may have gender-differentiated effects in the study context.

Table 10 presents the simple slopes analysis for the in-

teraction between education and information constraints. For low-education traders, the effect of information constraints on formalization intention is close to zero and not statistically significant (slope ≈ -0.016). In contrast, for high-education traders, information constraints have a substantially stronger negative effect (slope = -0.32), with the confidence interval excluding zero.

Table 10. Simple Slopes Analysis—Education × Information Interaction.

Education Level	Information Effect on Intention	95% CI
Low Education (-1 SD)	-0.152 - 0.168(-1) = -0.016	[-0.160, 0.128]
High Education (+1 SD)	-0.152 - 0.168(+1) = -0.320	[-0.480, -0.160]
Difference	-0.304	[-0.518, -0.090]

The difference between these slopes is statistically significant, confirming the presence of a moderating effect.

However, this pattern does not align with the theoretical expectation specified in the conceptual model. The result should therefore be interpreted as a disconfirmation of the initial hypothesis and treated as exploratory.

4.6. Residual Diagnostics and Model Assumptions

Diagnostic analysis indicates no evidence of problematic multicollinearity ($VIF < 2.5$ for all predictors)^[21]. The maximum Cook's distance observed was 0.042, which exceeds the conservative threshold of $4/n \approx 0.013$. This suggests the presence of moderately influential observations. However, given the absence of extreme outliers and the stability of coefficients across sensitivity checks, these observations do not appear to materially distort the results.

5. Discussion

5.1. Overview of Findings

This study examined how institutional barriers shape informal traders' intention to formalize, with particular attention to heterogeneity across gender and educational attainment. The results indicate that bureaucratic complexity and compliance costs are the most influential predictors of formalization intention, while information constraints play a secondary but statistically significant role.

These findings reinforce the central role of institutional constraints in shaping economic behavior in the informal economy, supporting prior research that emphasizes regulatory burdens and cost structures as key determinants of formalization decisions^[4,6,8]. Rather than reflecting purely individual preferences, formalization intention appears to be strongly conditioned by perceived administrative and financial feasibility.

5.2. Institutional Barriers and Formalization Decisions

The strong negative effects of bureaucratic complexity and compliance costs are consistent with legalist and structuralist perspectives, which highlight how excessive regulation and high compliance costs discourage participation in

the formal economy^[7-9]. These findings align with empirical studies showing that administrative inefficiencies and financial burdens remain primary obstacles to formalization in developing contexts^[4-6,13].

In this study, bureaucratic complexity emerges as the most influential predictor, suggesting that procedural barriers—such as regulatory opacity and difficulty navigating administrative systems—may be more salient than financial costs alone. This finding is consistent with prior research indicating that transaction costs associated with compliance processes can be as important as direct monetary costs in shaping economic behavior^[4,5,10].

Information, while statistically significant, exhibits a comparatively smaller effect. This result aligns with literature emphasizing the role of information asymmetries in the informal economy, while also suggesting that informational constraints alone are insufficient to explain formalization behavior^[9]. Instead, they appear to operate alongside structural and financial barriers rather than as primary drivers.

These findings are also consistent with recent evidence highlighting tensions between state-led formalization initiatives and the responses of informal actors. In particular, formalization efforts imposed from above may encounter resistance when institutional processes are perceived as burdensome or misaligned with the realities of informal economic activity^[24].

5.3. Gender and the Dynamics of Institutional Access

The results indicate that gender moderates the relationship between bureaucratic complexity and formalization intention, with female traders experiencing a stronger negative effect. This finding is broadly consistent with literature documenting gendered disparities in access to institutional resources, administrative processes, and economic opportunities in informal economies^[1,12].

However, the observed effect sizes are relatively modest, indicating that while gender differences are statistically significant, they should not be overstated. This nuance is important, as it suggests that gender operates as a moderating factor rather than a primary determinant of formalization behavior.

These findings contribute to the literature by providing empirical evidence that administrative barriers may have dif-

ferential impacts across gender groups, while also highlighting the need for cautious interpretation of effect magnitude.

5.4. Education and Informational Constraints: A Disconfirmed Expectation

One of the most important findings of this study concerns the interaction between education and information constraints. The conceptual model, consistent with prior assumptions in the literature, predicted that less-educated traders would experience stronger negative effects of informational constraints. However, the empirical results indicate the opposite pattern: the negative effect of information constraints is significantly stronger among more educated traders.

This finding represents a clear disconfirmation of the initial theoretical expectation and must be interpreted as such. Rather than supporting conventional assumptions about vulnerability to information gaps, the results suggest that the relationship between education and informational constraints may be more complex than previously assumed.

While existing literature has emphasized the role of information asymmetry in shaping formalization decisions^[4-6], the present findings challenge the assumption that lower levels of education necessarily amplify the negative effect of information constraints. Higher levels of education may be associated with greater sensitivity to informational deficiencies, uncertainty, or inconsistency in institutional communication.

At the same time, these interpretations remain speculative and are not directly tested in the present study. Therefore, this result should be treated as exploratory and hypothesis-generating, rather than confirmatory. Future research is needed to better understand how cognitive, institutional, and contextual factors interact to shape responses to informational constraints.

5.5. Market-Level Variation

The analysis revealed statistically significant differences in perceived barriers across markets, although effect sizes were relatively small. These findings suggest that local context may influence how institutional barriers are experienced, consistent with prior studies emphasizing the importance of context-specific dynamics in informal economies^[3,6,13].

However, the limited magnitude of these differences indicates that market-level variation should not be overstated. While local conditions may shape perceptions at the margin, the overall pattern of results suggests that institutional barriers operate consistently across the studied settings.

5.6. Policy Implications

The findings of this study have several implications for policies aimed at promoting formalization.

First, reducing bureaucratic complexity should be a priority. Given its strong negative effect on formalization intention, simplifying administrative procedures, improving transparency, and reducing procedural uncertainty may significantly lower barriers to entry into the formal economy.

Second, addressing compliance costs is essential. Financial barriers remain a major deterrent, and policies such as phased taxation, reduced registration fees, or targeted incentives may help mitigate these constraints.

Third, while improving access to information is important, the findings suggest that information-based interventions alone are unlikely to be sufficient. In particular, the observed interaction between education and information constraints indicates that informational barriers may not affect all groups uniformly, highlighting the need for more targeted and context-sensitive communication strategies.

Overall, effective formalization policies should adopt an integrated approach that simultaneously addresses administrative, financial, and informational dimensions, rather than focusing on a single mechanism.

5.7. Limitations and Future Research

This study has several limitations. The cross-sectional design limits the ability to draw causal inferences, and the use of convenience sampling may affect the generalizability of findings beyond the study context^[25,26].

In addition, the measurement of information constraints captures perceived informational constraints rather than objective information levels, which may influence interpretation of the results. Because the study relies on self-reported perceptions, social desirability bias cannot be fully excluded^[27]. The unexpected interaction between education and information constraints further highlights the need for more refined measurement approaches in future research.

Future studies should consider longitudinal designs, incorporate objective indicators of institutional access, and further investigate the mechanisms underlying the relationship between education and informational constraints.

6. Conclusions

This study examined how institutional barriers influence informal traders' intention to formalize in the context of Lubango, Angola, with particular attention to heterogeneity across gender and educational attainment. The findings indicate that bureaucratic complexity and compliance costs are the most influential barriers, while information constraints play a secondary but statistically significant role.

These results contribute to the literature by providing empirical evidence that formalization decisions are primarily shaped by structural and institutional constraints rather than solely by individual characteristics. In particular, the strong effects of administrative and financial barriers reinforce the importance of regulatory environments in shaping economic behavior within informal markets.

The study also highlights the role of heterogeneity across population groups. Gender moderates the effect of bureaucratic complexity, suggesting that administrative barriers may have differentiated impacts. In contrast, the interaction between education and information constraints does not support the initial theoretical expectation, revealing a more complex relationship between informational constraints and formalization intention. This finding underscores the importance of empirically testing, rather than assuming, how individual characteristics interact with institutional barriers.

From a policy perspective, the findings suggest that efforts to promote formalization should prioritize reducing bureaucratic complexity and compliance costs. While improving access to information remains relevant, informational interventions alone are unlikely to be sufficient without broader institutional reforms. Effective strategies should therefore adopt integrated approaches that address administrative, financial, and informational dimensions simultaneously.

Despite its contributions, the study has limitations. The cross-sectional design restricts causal inference, and the use of convenience sampling limits generalizability. In addition, the measurement of information constraints captures per-

ceived rather than objective informational constraints. These limitations point to important directions for future research, including the use of longitudinal designs and more refined measurement approaches.

Overall, this study provides a context-specific but theoretically informed analysis of formalization dynamics, highlighting both the central role of institutional barriers and the need for nuanced, evidence-based approaches to understanding informal economic behavior.

Funding

This work received no external funding.

Institutional Review Board Statement

Formal institutional review board approval was not required under the applicable institutional procedures for anonymous, minimal-risk social survey research. Nevertheless, all ethical procedures were observed: participation was voluntary, verbal informed consent was obtained before questionnaire administration, no personally identifiable information was collected, and all responses were anonymized prior to analysis.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

The anonymized database supporting this article is available from the Department of Economics, Faculty of Economics, Mandume Ya Ndemufayo University, upon reasonable request (areacientifica@fe.umn.edu.ao).

Acknowledgments

The author gratefully acknowledges the constructive feedback from the reviewers and the assistance provided during data collection by Eduardo Tchivangulula, Justino Somandjinga, João Kembo and Altino Silvano.

Conflicts of Interest

The author declares no conflict of interest.

AI Use Statement

AI-assisted language editing was used only for text polishing; all intellectual content, analysis, interpretation, and responsibility for the manuscript remain with the author.

Appendix A. Survey Instrument

This appendix presents the questionnaire items corresponding to the variables used in the empirical analysis: socio-demographic and contextual controls, bureaucratic complexity (BC), compliance costs (CC), information constraints (IC), and intention to formalize (IF). Items from earlier instrument versions that were not retained in the construct formation analysis are not reproduced here, in order to align the appendix with the analytical model reported in the manuscript.

Unless otherwise indicated, perception-based items were measured on a five-point Likert scale: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree.

Appendix A.1. Survey Instrument (Portuguese Version)

Este questionário faz parte de um estudo académico sobre barreiras institucionais à formalização de actividades económicas informais no Lubango, Huíla, Angola. A participação é voluntária, as respostas são anónimas e os dados são utilizados exclusivamente para fins científicos.

Appendix A.2. Survey Instrument (English Version)

This questionnaire is part of an academic study on institutional barriers to the formalization of informal economic activities in Lubango, Huíla, Angola. Participation is voluntary, responses are anonymous, and the data are used exclusively for scientific purposes.

Table A1. Secção I. Variáveis sociodemográficas, de controlo e contexto.

Variável	Pergunta/Categorias de Resposta
Idade	Idade em anos completos: _____
Género	() Masculino () Feminino
Nível de escolaridade	() Sem escolaridade formal () Ensino primário incompleto () Ensino primário completo () Ensino secundário () Ensino pós-secundário/superior
Mercado	() Mercado do Mutundo () Mercado João de Almeida () Praça do Peixe
Sector principal de actividade	() Têxtil/vestuário () Produtos alimentares/agropecuários () Mercadorias gerais () Serviços/outro
Tempo de actividade informal	Número de anos de actividade informal: _____
Critério de inclusão	Actualmente exerce a actividade sem registo formal de negócio? () Sim () Não

Table A2. Secção II. Itens dos construtos analíticos.

Código	Construto	Item
BC1	Complexidade burocrática	A burocracia para formalizar um negócio é um grande obstáculo.
BC2	Complexidade burocrática	Os procedimentos administrativos necessários para formalizar a actividade são difíceis de compreender.
BC3	Complexidade burocrática	A necessidade de lidar com várias instituições torna a formalização complicada.
BC4	Complexidade burocrática	A complexidade das regulamentações é um factor que me mantém na informalidade.
CC1	Custos de conformidade	O alto custo para formalizar um negócio é um grande empecilho.
CC2	Custos de conformidade	As taxas, licenças e despesas administrativas dificultam a formalização da minha actividade.
CC3	Custos de conformidade	O medo de pagar impostos elevados desmotiva-me a formalizar.
CC4	Custos de conformidade	Os custos esperados da formalização parecem maiores do que os benefícios esperados.
IC1	Restrições de informação	A falta de informação sobre o processo de formalização dificulta a legalização.
IC2	Restrições de informação	Não sei exactamente quais documentos são necessários para formalizar a minha actividade.
IC3	Restrições de informação	É difícil obter informação clara e confiável sobre onde e como formalizar.
IC4	Restrições de informação	Precisaria de orientação ou assistência para compreender melhor o processo de formalização.
IF1	Intenção de formalização	Pretendo formalizar a minha actividade nos próximos 12 meses.
IF2	Intenção de formalização	Acredito que a formalização traria benefícios para o meu negócio.
IF3	Intenção de formalização	Se houvesse incentivos fiscais, eu formalizaria a minha actividade.
IF4	Intenção de formalização	O acesso facilitado ao crédito aumentaria a minha intenção de formalizar.
IF5	Intenção de formalização	Programas de capacitação aumentariam a minha disposição para formalizar o negócio.

Table A3. Section I. Socio-demographic, control, and contextual variables.

Variable	Question/Response Categories
Age	Age in completed years: _____
Gender	() Male () Female
Educational attainment	() No formal education () Incomplete primary () Complete primary () Secondary education () Post-secondary/tertiary education
Market site	() Mercado do Mutundo () Mercado João de Almeida () Praça do Peixe
Primary sector of activity	() Textile/apparel () Foodstuff/agricultural () General merchandise () Services/other
Duration of informal activity	Number of years operating informally: _____
Inclusion criterion	Do you currently operate without formal business registration? () Yes () No

Table A4. Section II. Analytical construct items.

Code	Construct	Item
BC1	Bureaucratic Complexity	Bureaucracy to formalize a business is a major obstacle.
BC2	Bureaucratic Complexity	The administrative procedures required to formalize my activity are difficult to understand.
BC3	Bureaucratic Complexity	The need to deal with several institutions makes formalization complicated.
BC4	Bureaucratic Complexity	The complexity of regulations is a factor that keeps me in the informal sector.
CC1	Compliance Costs	The high cost of formalizing a business is a major obstacle.
CC2	Compliance Costs	Fees, licenses, and administrative expenses make it difficult to formalize my activity.
CC3	Compliance Costs	Fear of paying high taxes discourages me from formalizing.
CC4	Compliance Costs	The expected costs of formalization seem greater than the expected benefits.
IC1	Information Constraints	Lack of information about the formalization process makes legalization difficult.
IC2	Information Constraints	I do not know exactly which documents are required to formalize my activity.
IC3	Information Constraints	It is difficult to obtain clear and reliable information about where and how to formalize.
IC4	Information Constraints	I would need guidance or assistance to better understand the formalization process.
IF1	Intention to Formalize	I intend to formalize my activity within the next 12 months.
IF2	Intention to Formalize	I believe that formalization would bring benefits to my business.
IF3	Intention to Formalize	If there were tax incentives, I would formalize my activity.
IF4	Intention to Formalize	Easier access to credit would increase my intention to formalize.
IF5	Intention to Formalize	Training programs would increase my willingness to formalize my business.

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