



Understanding the Residential and Business Attractiveness of Secondary Towns in Côte d'Ivoire from a Microeconomic Perspective

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Abstract: Territorial rebalancing and increased pressure on major metropolitan areas have made secondary towns strategic alternatives for urban development in developing countries. This study examines the main determinants of urban attractiveness in four secondary towns in Côte d'Ivoire: Bouaké, Korhogo, Daloa, and San Pedro. The analysis uses empirical data from local socioeconomic stakeholders and applies partial least squares path modeling (PLS-PM) to evaluate perceptions among individuals and businesses. The findings reveal substantial variation in attractiveness factors across towns and stakeholder groups. For individuals, quality of life is central, encompassing access to services, cleanliness, recreational opportunities, and other essential amenities. For businesses, urban attractiveness depends on infrastructure, fiscal conditions, energy availability, and institutional support. Significant constraints remain, burdensome taxation and limited energy access. These results underscore the importance of public services and incentives. The study recommends localized policies, improved integration of cultural and spatial dimensions, and expanded research to strengthen social cohesion and enhance local competitiveness.

Keywords: Attractiveness, Secondary Towns, Local Development, PLS-PM Model, Côte d'Ivoire, Sub-Saharan Africa

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1. Introduction

The rapid urbanization of sub-Saharan Africa is transforming the continent's territorial dynamics and positioning secondary towns as new development hubs. These centers now host nearly 15% of Africa's population. Their numbers grew from 533 to 1,697 between 1990 and 2020. This rapid growth is largely unsupported by institutional frameworks and financial investment (Towns Alliance & African Development Bank, 2022).

In Côte d'Ivoire, this territorial dynamic presents significant challenges related to the appeal and development of emerging urban centers. The country covers 322,463 km², with 80% of its economic activity concentrated in Abidjan, the financial capital (World Bank, 2019). This spatial imbalance exacerbates

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territorial inequalities. Several towns, including Bouaké, Daloa, Korhogo, and San Pedro, are undergoing substantial transformation. These major secondary towns, previously focused on logistics, are now assuming more complex economic, social, and administrative functions.

As such, secondary towns are no longer defined by population size (Goodall, 1987) but by their roles in the urban system (Roberts, 2014). Bouaké, in the country's center, is an industrial and administrative hub. Korhogo, in the north, is an economic center with vibrant cultural assets. Daloa, in the central-west, is noted for its agricultural potential. San Pedro, home to the country's second-largest port, attracts industry and tourism. These four regional capitals, including Yamoussoukro—the political capital—have been placed at the center of national development plans since 2012, which aim to provide a sustainable solution for spatial rebalancing.

This transformation is analyzed through the lens of urban growth and structural change theories. These frameworks (Harris & Todaro, 1970; Lewis, 1954; Todaro, 1969;) explain the shift from traditional to modern economies, where urbanization drives change. As seen elsewhere in Africa, urban growth in Côte d'Ivoire has resulted in a larger informal sector. This sector has become the primary source of employment, accounting for 66.8% in Bouaké, 75.6% in Daloa, 75.1% in Korhogo, and 78.8% in San Pedro between 2016 and 2019. These towns have a high proportion of working-age populations—around 80%. However, the local productive fabric remains underdeveloped. In 2019, the number of formal enterprises, often small businesses, stood at 863 in Bouaké, 498 in Daloa, 535 in Korhogo, and 504 in San Pedro. Abidjan, by contrast, had 20,000 formal enterprises. Consequently, the average employment rate hovers around 53%. Between 19% and 39.3% of young people are neither employed nor enrolled in education or training (ANSAT, 2019).

Urban growth literature, functional territorial approaches (Roberts, 2014), and spatial rebalancing models (Claval, 2008) provide a framework for examining the role of secondary towns as centers of innovation and redistribution. This theoretical foundation informs the analysis of microeconomic dynamics and local perceptions of territorial attractiveness presented in this article. To understand the challenges of this transformation, it is essential to clarify the concept of territorial attractiveness. Scholars define it by what is being attracted. Alexandre et al. (2010) see it as a territory's ability to attract and retain populations or resources sustainably. It also means the capacity to maintain or host new activities and jobs (Mulkay, 2006), as well as to attract businesses, investments, or skilled labor (Olszak, 2010). Individuals are sensitive to the proximity of services. Businesses assess transport, legal frameworks, and the local socio-cultural and economic environment (Gérardin & Poirot, 2010; Mills, 1967).

This study examines how local dynamics influence the attractiveness of urban areas in Ivorian secondary towns. A microeconomic approach is employed, utilizing perceptions of residents and economic actors. The methodology applies partial least squares path modeling (PLS-PM) to 2024 survey data. While existing literature primarily addresses national-level attractiveness in the context of globalization (Ferrara & Henriot, 2004; Keramidas et al., 2016), this research addresses a scientific gap by analyzing intra-national urban attractiveness. The findings aim to inform territorial public policies through a nuanced, empirical analysis of local determinants.

The article is structured as follows: Section 2 presents a literature review on territorial attractiveness approaches. Section 3 outlines the methodology. Section 4 analyzes the results. Section 5 offers a discussion, and Section 6 concludes.

2. Literature Review

2.1. Theoretical Framework

Territorial attractiveness is a multidimensional concept. It draws on intersecting approaches within spatial economics. Two major theories provide a conceptual framework for this analysis: the theory of agglomeration economics and the theory of regional economic growth.

Agglomeration theory was initiated by Marshall (1919) through his work on industrial districts. It was later expanded by Mills (1967) and Krugman (1993). This theory highlights the tendency of businesses and

individuals to cluster within the same geographic space. The pursuit of proximity-related benefits drives this grouping. These include economies of scale, industrial synergies, positive externalities, and reduced transaction costs (Baumont & Huriot, 1995). Interactions among economic agents, whether market-based or social, serve as levers for territorial performance. Businesses thrive in environments that foster information exchange, innovation, and collaboration. At the same time, households benefit from greater employment opportunities, access to public services, and a more vibrant social life in urban concentrations.

In parallel, the theory of regional economic growth emphasizes the role of public policy and local dynamics in driving development. Isard (1951) advocates for deploying macroeconomic levers at the regional level to stimulate investment, education, innovation, and entrepreneurship. The work of Perroux (1961), Hirschman (1958), and Myrdal (1957) on cumulative causation effects sheds light on the center–periphery dynamic. In this model, central hubs concentrate resources and talent, exacerbating territorial disparities. These insights are further developed by Claval (2008) and Scott and Leriche (2018). They demonstrate that urban centers, as the core of production and consumption dynamics, serve as engines of national growth.

Agglomeration and regional growth theories together provide complementary perspectives on territorial dynamics. These frameworks establish the conceptual basis for analyzing the factors that determine the attractiveness of secondary towns for both residents and businesses.

2.2. Residential Attractiveness

Territorial attractiveness goes beyond business considerations. It encompasses a town or region's capacity to attract residents (Alexandre et al., 2010). Multiple factors influence residential location decisions. These include quality of life, cultural identity, socioeconomic opportunities, and environmental conditions (Chaze, 2017). Public amenities, service accessibility, transportation, safety, housing affordability, and natural environments are all decisive factors. These characteristics facilitate social interaction, recreation, and personal development. As a result, they directly impact residential selection (Baumont & Huriot, 1995).

Subjective and symbolic qualities increasingly influence territorial attractiveness. Toumi (2009) notes that natural resources such as coastal or forested areas shape lifestyle choices, particularly those related to leisure and ecology. Cusin and Damon (2010) emphasize the importance of intangible factors, including town image, historical heritage, cultural events, artistic achievements, and urban aesthetics. Territories that adopt public policies promoting sustainable development and human capital gain a competitive advantage and become more attractive to skilled individuals. The presence of robust vocational training systems, active research and development, and universities or innovation hubs further incentivize household settlement (Ricbourg & Fernandez, 2018). Collectively, these elements strengthen long-term resilience and attractiveness.

The diversity of individual preferences necessitates customized territorial strategies. Musson (2015) emphasizes the importance of accounting for territorial heterogeneity in the design of attractiveness policies. Public interventions should align with local characteristics to address the varied needs of different socioeconomic groups. This approach conceptualizes the territory as a holistic product that integrates residential, economic, and cultural dimensions.

Based on the reviewed literature, the following hypotheses identify the key determinants of territorial attractiveness for individuals:

H₁: The perceived quality of life, including access to key services such as education, healthcare, leisure, and transportation, increases a town's residential appeal.

H₂: The territory's cultural and historical image boosts its appeal to individuals.

2.3. Businesses Attractiveness

Territorial attractiveness for businesses is shaped by economic, institutional, infrastructural, and symbolic factors. These elements influence business location and investment decisions, particularly in a context of increasingly intense interurban competition.

Businesses assess locally available productive resources as a primary factor in location decisions. Strategic criteria include labor quality and advanced infrastructure, as identified by Gérardin and Poirot (2010). Other determinants are proximity to suppliers and partners, potential market size, and production costs. Local economic vitality, the structure of the entrepreneurial ecosystem, and regulatory conditions are also essential evaluation criteria. Fujita (1990) notes that natural endowments and sectoral preferences shape business location decisions. Resource diversity and transportation networks are significant determinants. The availability of diverse inputs, varied human capital, and local entrepreneurship supports business agglomeration and creates a favorable business environment.

In addition to economic considerations, the capacity of territorial institutions plays a decisive role. According to Keramidas et al. (2016), effective territorial governance fosters a climate of trust that is conducive to investment. Key characteristics include coherent development policies, public support for businesses, and cross-sector coordination. Public support can take various forms: financial incentives (grants, tax exemptions), facilities (industrial zones, logistics connectivity), and intangible services such as strategic consulting, information monitoring, and networking (Le Gall, 2009; Rugman et al., 2011; Carré & Levrato, 2011). According to Goncalves (2019), beyond these factors, territories employ identity-based strategies to enhance their attractiveness to businesses. Local governments thus develop communication initiatives that highlight regional assets, competitive advantages, quality of life, and sector-specific opportunities. In this context, the image of the territory becomes a major driver of attractiveness, comparable to infrastructure or fiscal policies.

The following hypotheses regarding factors influencing business attractiveness are derived from the reviewed literature:

H₃: Infrastructure needs have a positive impact on territorial attractiveness for businesses.

H₄: Public incentives have a positive influence on business location decisions.

H₅: The presence of qualified human capital, combined with a favorable local economic and security environment, significantly enhances territorial attractiveness for businesses.

3. Methodology

3.1. Data

3.1.1. Institutional Framework for Data Collection

The data collection process was conducted as part of the research project titled “Human Capital and Local Development — Skill-Employment Mismatch and the Attractiveness of Secondary Towns: The Case of Bouaké, Daloa, Korhogo, and San Pedro.” Led by the Center for Microeconomic Development Research (CREMIDE), a research laboratory affiliated with Félix Houphouët-Boigny University, the project involved collaboration among researchers and faculty from multiple institutions specializing in employment-related issues in Côte d’Ivoire. The project received financial and technical support from the French Development Agency (AFD) under the second Strategic Dialogue Memorandum (MDS2), which was signed between AFD and the government of Côte d’Ivoire.

3.1.2. Data Collection Methodology

Data collection occurred in 2024 in the four cities selected for this study. Stakeholders were classified into two groups: businesses and individuals. Table 1 displays the distribution of surveyed units by statistical category.

Data collection was conducted using structured questionnaires administered by locally recruited university graduates in each selected town. The study populations were selected to facilitate a comprehensive analysis of perceptions and determinants of urban attractiveness in secondary cities. Statistical units were chosen according to the availability of group-specific information, which ensured relevance and representativeness across all study contexts.

Table 1. Sample by Statistical Unit

Statistical unit	Bouaké	Daloa	Korhogo	San Pedro
TVET and higher vocational education	225	240	238	240
Graduates with less than 5 years of TVET and higher vocational education	93	60	66	65
Young employees aged 16 to 35 in the formal sector	77	70	71	66
Total Individuals	395	370	375	371
Companies in the Formal sector	38	30	29	30
Entrepreneurs in the formal sector	56	36	40	37
Artisans in the informal sector	57	42	41	42
Total Businesses	151	108	110	109

Source: CREMIDE, 2024.

Learners enrolled in technical education, vocational training, and higher education represent the future workforce and play a central role in the regions studied. Their perceptions of quality of life, employment prospects, and mobility serve as key indicators of urban attractiveness. The sample was constructed using a quota sampling method. Participants were distributed according to the training streams available in technical and vocational institutions, as well as universities offering professionally oriented programs. A quota of 25% of surveyed learners was allocated to university-level vocational programs. The remaining 75% was distributed across Technical and Vocational Education and Training (TVET), grouped into three main categories: tertiary, industrial, and technical. This distribution was based on data provided by regional directorates, including student numbers disaggregated by training stream, gender, and type of institution. Gender representation was also integrated into the sampling strategy, notably the quota of at least 30% for decision-making bodies.

In secondary cities, informal artisanal activities account for a substantial proportion of local economic output and employment. Artisanal workers are closely integrated within their neighborhoods and communities, providing valuable insights into local conditions for settlement, production, and development. The selection of informal artisanal units was evenly distributed across sectors, following the categorization established by the West African Economic and Monetary Union Commission under Regulation No. 01/2014/cm/UEMOA on the Community Crafts Code. This classification enabled the inclusion of a wide range of trades and local expertise essential to urban vitality. The eight sectors identified are:

- Agri-food, food services, and catering
- Mining, quarrying, construction, and building
- Metalwork, mechanics, electricity, and small-scale transport
- Wood, furniture, and wood products
- Textiles, clothing, leather, and skins
- Audiovisual and communications
- Personal care and hygiene
- Arts, crafts, and decoration

Young employees in the formal sector, defined as individuals aged 16 to 35, and recent graduates within five years of graduation, constitute a strategic population of skilled labor for secondary cities. The research team acquired lists of recent graduates from regional Technical and Vocational Education and Training (TVET) offices in the target cities. Graduates were contacted directly to solicit participation in the survey. To supplement the sample, the snowball sampling method was employed. Some young employees were interviewed at their workplaces in formal enterprises, while others were identified through participant referrals.

3.2. Model

The model uses a partial least squares path modeling (PLS-PM) approach. This method aims to predict complex relationships among multiple variables. It is based on successive regressions and the maximization of explained variance (Hair et al., 2011). PLS-PM offers greater flexibility for complex or weakly theorized models, while also exhibiting less sensitivity to non-normal data distributions and being more suitable for

small sample sizes. Furthermore, PLS-PM addresses endogeneity issues related to measurement error and limited sample size, which are common in survey-based research. The exploratory nature of the PLS method distinguishes it from classical structural equation modeling techniques, notably the Linear Structural Relations (LISREL) method, which is confirmatory and based on covariance analysis and maximum likelihood estimation (Lohmöller, 1989; Wold, 1980).

The validation of the overall model is carried out in four stages:

Step 1: Construction of the hypothetical model

The analytical models proposed in this study are based on factors identified in the literature (Figure 1). The previously formulated hypotheses constitute the theoretical foundation of the model. Hypotheses H_1 and H_2 focus on residential attractiveness, while hypotheses H_3 , H_4 , and H_5 address economic attractiveness. The analysis is based on the premise that locational motivations vary depending on the profile of the economic actor. Each hypothesis is empirically tested using one or more latent constructs, as described below:

For individuals:

- Hypothesis H_1 is tested using the following latent variables: "Retail and service offerings," "Transportation and mobility," "Upkeep and urban planning," and "Educational services and youth activities".
- Hypothesis H_2 is tested using the latent variable: "Events, leisure, and cultural activities".

For businesses:

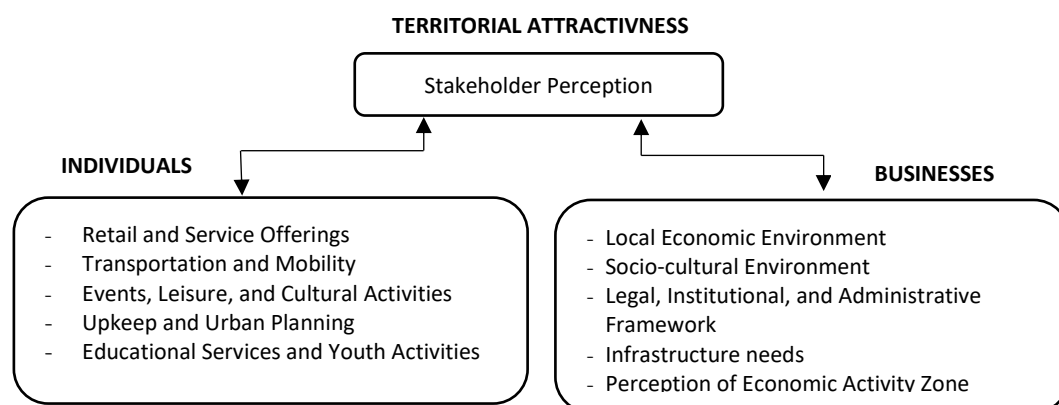
- Hypothesis H_3 is tested using the latent variable: "Infrastructure needs".
- Hypothesis H_4 is tested using the latent variable: "Legal, institutional, and administrative framework".
- Hypothesis H_5 is tested using the following latent variables: "Local economic environment," "Socio-cultural environment," and "Perception of economic activity zone".

These latent constructs are based on one or more manifest variables, measured using a Likert scale. For businesses, the evaluation assigned to each item is treated as a score out of five. These assessments ultimately allow for the calculation of an overall city attractiveness score.

For exogenous variables, the scale measures stakeholder satisfaction across five levels: (1 = Very dissatisfied, 2 = Dissatisfied, 3 = Neither satisfied nor dissatisfied, 4 = Satisfied, 5 = Very satisfied). For the endogenous variable related to stakeholder perception, the scale reflects perceptions of the town's appeal: (1 = Repulsive, 2 = Less attractive, 3 = Neither repulsive nor attractive, 4 = Attractive, 5 = Very attractive).

Following the recommendations of Ammann et al. (2021), the model emphasizes residents' perceptions as the basis for comparing towns, rather than relying solely on objective indicators.

Figure 1. Theoretical Constructs of the Town Attractiveness Model



Source: Authors

Each component on either side of the diagram represents a latent variable constructed from one or more directly observable variables, known as manifest variables (Table 2), by isolating their shared variance (Desbois, 2020). The construction of latent variables relies on the causal or reflective nature of the relationship between each construct and its indicators. Correlations among manifest variables are null when the effect of the latent variable is excluded. Conversely, the relationship between exogenous latent variables and the endogenous latent variable is based on a formative approach, as each exogenous variable serves as a driver of attractiveness. This type of model does not assume covariances among the measurement components. Figure 2 illustrates the direction of the arrows for each type of model.

Figure 2. Illustration of a Reflective Model and a Formative Model

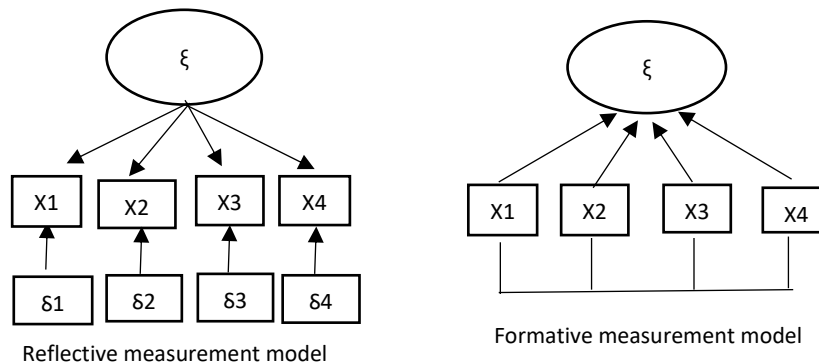


Table 2. Latent Variables and Their Components

Individuals		Businesses	
Latent Variables	Manifest Variables	Latent Variables	Manifest Variables
Retail and Service Offerings	-Easily accessible shops -Shops are close enough -Satisfactory opening hours for shops	Local Economic Environment	-Low taxation -High-quality workforce -Low labour costs -Secure a low-cost energy supply -High-quality infrastructure
Transportation and Mobility	-Development of public transport -Ease of movement by car -Ease of getting around on foot -Ease of use of non-motorised vehicles	Socio-cultural Environment	-Attractive social climate -Town's capacity for innovation and research -Attractive quality of life and environment -Level of personal safety -Attractive cultural environment
Events, Leisure, and Cultural Activities	-Communication about cultural events -A wide choice of cultural outings -Cultural heritage preserved and promoted	Legal, Institutional, and Administrative Framework	-Reduced administrative/regulatory burden -Attractive legal framework (legal certainty) -Flexible labour market
Upkeep and Urban Planning	-Sustainable development and recycling -Sufficient green spaces in the town -Maintenance of public spaces and outdoor facilities	Infrastructure needs	-Road -Rail -Sea/Port -Airport
Educational Services and Youth Activities	-Sufficient choice of leisure activities -Variety of activities in leisure and after-school centres -Satisfactory school catering service -Sufficient choice of training for young people -More affordable training for parents -Computer and technology equipment	Perception of Economic Activity Zone	-Supply of labour -Supply of suppliers -Product quality (input) -Supply of public services

Step 2: Parameters of the external model estimation

The external model is a reflective model in which the latent variable is reflected through its effects or consequences on the observed indicators. The manifest variables X_h reflect the latent variable, VL_k , from a simple linear relationship estimated by ordinary least squares according to equation 1:

$$X_h = \pi_h^0 + \pi_h^k VL_k + \varepsilon_h \quad (1)$$

π_h^k are coefficients that measure the external weights or loadings of the manifest variables reflecting the latent variable. VL_k has a mean equal to a constant and a standard deviation equal to 1. The equation includes measurement errors represented by ε_h , which are independent of the latent variable and have a mean of zero ($cov[VL_k, \varepsilon_h] = 0$). The validity of the external model relies on unidimensional statistical criteria, including the internal reliability of the latent constructs and the convergent and discriminant validity of the manifest variables.

The internal reliability of the latent constructs relies on two statistics: Cronbach's Alpha and Dillon-Goldstein's rho. The first is calculated as the ratio of the sum of covariance to the variance of the sum of the H manifest variables within the data block associated with a latent variable. Strictly speaking, the block can be considered one-dimensional if this ratio exceeds 0.7. However, to allow more flexibility, some authors use 0.5 as a critical cut-off (Roussel et al., 2002). Cronbach's Alpha is derived from equation 2:

$$\alpha = \frac{\sum_h^H cov(X_h, X_{h'})}{var(\sum_h^H X_h)} * \frac{H}{H-1} \quad (2)$$

The Dillon-Goldstein rho is the ratio of the variance of the latent variable to the variance of its block of manifest variables. This ratio must be greater than 0.7. The Dillon-Goldstein rho is based on the structural factors of the internal model rather than on the correlations between the manifest variables of the external model. Therefore, this statistic implicitly assumes that the manifest variables are a priori equivalent in defining a latent variable. As a result, Dillon-Goldstein's rho is considered to be better than Cronbach's Alpha (Chin, 1998; Desbois, 2020). It is calculated using equation 3:

$$\rho = \frac{[\sum_{h=1}^H corr(X_h, t_1)]^2}{[\sum_{h=1}^H corr(X_h, t_1)]^2 + \sum_{h=1}^H (1 - [corr(X_h, t_1)]^2)} \quad (3)$$

t_1 is the first principal component of the block of latent variables. Convergence of manifest variables examines the correlation between the observed manifest variables and their latent variable, based on loadings that must be greater than or equal to 0.7. Discriminant validity assumes that each latent variable is more strongly related to its indicators than to the other latent variables in the model. This is the case when the squared correlation between two latent variables is less than the value of the average variance extracted (AVE), the minimum threshold for which is 0.5 (Tenenhaus et al., 2005).

Step 3: Parameters of the internal model estimation

The internal model, also known as the structural model, is formative, in which the perception of attractiveness is explained by other latent variables assumed to be attractiveness factors. It is formalised by equation 4:

$$VL_l^y = \beta_l^0 + \sum_{k=1}^K \beta_l^k VL_k^x + \varepsilon_l \quad (4)$$

β_l^k is called the "structural link" (or path coefficient). The estimated coefficient represents the sign and strength of the deterministic relationship between the variable capturing the perception expressed by VL_k^x . ε_l is the measurement error that incorporates the unobserved factors in the model that are likely to influence the model's result. Structural links are estimated using the ordinary least squares method. The explanatory power of the model is judged to be weak when the R-squared value is less than 0.19, moderate when its value is close to 0.33, and substantial when it is close to 0.67 (Chin, 1998).

Step 4: Validation of the overall model

The overall model is evaluated for its predictive ability, using the Goodness-of-Fit (GoF) statistic. The absolute and relative values of the GoF range from 0 to 1. The GoF is a descriptive statistic that lacks an established empirical threshold for evaluation. However, a value of 0.9 or higher suggests that the model fits the data well (Tenenhaus et al., 2005).

4. Results**4.1. Analysis of Factors Attracting Individuals****4.1.1. Validation and Interpretation of Measurement Models**

The validation statistics for the external measurement models (Table 3) confirm the unidimensionality criteria for each town. Specifically, Cronbach's alpha and Dillon-Goldstein's rho meet the expected thresholds. The loading values and average variance extracted (AVE) further support the convergent validity of the indicators. These results reveal significant disparities in how economic agents perceive the attractiveness of their urban environments. This points to differentiated territorial dynamics.

In Bouaké, the item "opening hours of shops" emerges as the most influential contributor to the latent variable associated with commerce and services. Urban mobility is primarily shaped by "ease of walking" and "ease of moving with a non-motorized vehicle." In contrast, indicators linked to leisure, culture, maintenance, and education show more balanced or marginal contributions. Among them, education is the least impactful.

In Daloa, accessibility stands out as the most positively perceived dimension of commercial development. While pedestrian mobility lacks statistical significance, non-motorized transport demonstrates stronger relevance. Cultural engagement appears limited, as evidenced by the low weight of "communication about cultural events." Maintenance and education indicators are also consistently perceived as less relevant.

Korhogo presents a different profile. The low indicator weights suggest that the measured dimensions are not regarded as central to urban attractiveness. This may reflect underdeveloped urban services or limited visibility of planning initiatives. It may also stem from heterogeneous resident expectations, resulting in a fragmented perception of territorial value.

In San Pedro, the exclusion of "access to computer and technological equipment" due to its low loading highlights a disconnect between technological infrastructure and local priorities. More broadly, the weak indicator weights point to a diffuse and less cohesive perception of urban attractiveness. Only "availability of green spaces" and "maintenance of public spaces" make meaningful contributions. This underscores the relative importance of environmental features in shaping local perceptions.

Table 3. Validity Statistics for the Structural Model of Factors Attracting Individuals

Variables	Bouaké			Daloa			Korhogo			San Pedro		
	Loading	α/p /AVE	Weight	Loading	α/p /AVE	Weight	Loading	α/p /AVE	Weight	Loading	α/p /AVE	Weight
A/ Retail and Service Offerings												
- Easily accessible shops	0.832	0.628/0.8	0.391	0.794	0.506/0.7	0.603	0.906	0.639/0.8	0.430	0.839	0.605/0.7	0.462
- Shops are close enough	0.866	0.02/0.710	0.378	0.728	51/0.477	0.451	0.843	06/0.745	0.322	0.761	92/0.665	0.311
- Satisfactory opening hours for shops	0.829		0.418	0.519		0.372	0.838		0.405	0.843		0.444
B/ Transportation and Mobility												
- Development of public transport	0.536	0.530/0.7	0.273	0.613	0.449/0.7	0.434	0.837	0.842/0.8	0.308	0.720	0.652/0.7	0.341
- Ease of movement by car	0.673	35/0.491	0.269	0.641	31/0.458	0.423	0.838	94/0.664	0.313	0.783	93/0.608	0.319
- Ease of getting around on foot	0.810		0.427	---		---	0.770		0.240	0.786		0.261
- Ease of use of non-motorized vehicles	0.755		0.432	0.765		0.604	0.813		0.363	0.827		0.361
C/ Events, Leisure, and Cultural Activities												
- Communication about cultural events	0.809	0.568/0.7	0.452	0.739	0.631/0.8	0.374	0.851	0.656/0.8	0.447	0.805	0.631/0.8	0.429
- A wide choice of cultural outings	0.794	77/0.593	0.411	0.820	03/0.593	0.464	0.872	14/0.700	0.398	0.755	03/0.618	0.382
- Cultural heritage preserved and promoted	0.703		0.438	0.748		0.458	0.784		0.347	0.796	1	0.458
D/Upkeep and Urban Planning												
- Sustainable development and recycling	0.759	0.527/0.7	0.424	0.728	0.616/0.7	0.425	0.844	0.575/0.7	0.379	0.669	0.557/0.7	0.320
- Sufficient green spaces in the town	0.812	60/0.604	0.455	0.759	96/0.562	0.445	0.863	79/0.682	0.502	0.791	72/0.556	0.525
- Maintenance of public spaces and outdoor facilities	0.759		0.406	0.761		0.463	0.767		0.323	0.771		0.478
E/ Educational Services and Youth Activities												
- Sufficient choice of leisure activities	0.682	0.694/0.7	0.227	0.701	0.677/0.7	0.326	0.836	0.769/0.8	0.228	0.652	0.622/0.7	0.313
- Variety of activities in leisure and after-school centres	0.591	97/0.446	0.263	0.607	95/0.447	0.244	0.810	41/0.631	0.214	0.736	68/0.439	0.304
- Satisfactory school catering service	0.699		0.262	0.624		0.266	0.858		0.237	0.676		0.343
- Sufficient choice of training for young people	0.629		0.179	0.680		0.284	0.873		0.228	0.583		0.263
- More affordable training for parents	0.732		0.306	---		---	0.803		0.209	0.654		0.284
- Computer and technology equipment	0.667		0.254	0.724		0.364	0.536		0.124	---		---

Note: α = Cronbach's Alpha, p = Dillon-Goldstein rho, AVE = average variance extracted. The values associated with these indices are linked to latent variables.

4.1.2. Comparative Analysis of Residential Attractiveness

Across the four cities studied, the structural model reveals different patterns of residential attractiveness. These findings provide strategic insights for territorial planning (Table 4).

In Bouaké, the model explains nearly half of individual perceptions (48.2% explanatory power, 51.6% predictive accuracy). H_1 is partially supported. Significant contributions come from “transportation and mobility”, “availability of educational services and youth programs”, and “retail and service offerings”. Meanwhile, cultural and environmental aspects are non-significant, emphasizing the need to improve cultural programming and urban environmental quality.

In Daloa, the model shows lower performance (33.8% explanatory, 41.1% predictive). However, all retained constructs are significantly related to attractiveness. Essential service variables support H_1 . The significance of diversity in events, leisure, and cultural offerings confirms H_2 . This indicates a balanced influence of functional and cultural factors.

In Korhogo, the model performs strongly (75.5% explanatory, 71.4% predictive). H_1 is clearly supported, with all service-related variables showing significant effects. H_2 receives limited support. The cultural variable is positively correlated, but not significantly. This highlights the dominant role of quality-of-life factors in residential appeal and efforts to integrate culture into the town's attractiveness.

In San Pedro, the model demonstrates solid performance (51.7% explanatory, 54% predictive). H_1 is partially supported. Most service-related variables are significant, except for “access to retail and services”, which is not. H_2 is confirmed, with cultural offerings significantly influencing attractiveness.

These findings underline the importance of ongoing urban and cultural initiatives. They also identify specific areas—such as commercial accessibility and environmental improvement—for targeted enhancements.

Table 4. Effects of Factors Attracting Individuals to the Four Secondary Towns

Factors	Bouake	Daloa	Korhogo	San Pedro
Retail and Service Offerings	0.087** (0.041)	0.110** (0.045)	0.191*** (0.037)	0.006 (0.054)
Transportation and Mobility	0.251*** (0.044)	0.105** (0.047)	0.164*** (0.043)	0.164*** (0.050)
Events, Leisure, and Cultural Activities	0.014 (0.05)	0.105* (0.056)	0.054 (0.049)	0.297*** (0.052)
Upkeep and Urban Planning	-0.022 (0.049)	0.187*** (0.06)	0.126*** (0.049)	0.105** (0.054)
Educational Services and Youth Activities	0.503*** (0.052)	0.286*** (0.058)	0.452*** (0.046)	0.309*** (0.048)
Constant	-5.33e-17 (0.035)	-8.38e-17 (0.043)	-3.21e-16 (0.026)	1.72e-16 (0.037)
R-square	0.482	0.338	0.755	0.517
GoF	0.516	0.411	0.714	0.540

Note: ***, significant at 1%; **, significant at 5%; * significant at 10%; values in brackets are standard deviations.

4.2. Analysis of Factors Attracting Businesses

4.2.1. Validation and Interpretation of Measurement Models

The validation results of the external measurement models (Table 5) reveal significant divergences in the perception of urban attractiveness factors across territorial contexts.

In Bouaké, several non-significant items were excluded. The exclusion of these variables from the construction of the latent variable is justified by their low loading coefficients, which undermine the validation of the unidimensionality or convergence criteria associated with the latent construct. These include “low taxation”, “qualified labor”, “quality infrastructure”, and “road access.” Their exclusion suggests a limited local recognition of these levers as drivers of attractiveness. This implies that infrastructure and fiscal incentives must be more closely aligned with local priorities. Targeted communication strategies should

also support them. Furthermore, the item “reduced administrative/regulatory burden” was also excluded, highlighting the need to improve the clarity and efficiency of administrative mechanisms.

In contrast, Daloa presents a relatively coherent perception of attractiveness factors. The convergence of most blocks evidences this, except for the latent variable “importance of mobility infrastructure.” Road access is the sole entry point to the town, yet the quality of the internal road network leaves much to be desired. The pronounced sensitivity to mobility issues calls for prioritizing investments in transport infrastructure. These investments should ensure both accessibility and functional integration within the urban fabric. The item “supply of labour” was also excluded.

In Korhogo, only the item “low taxation” was excluded from the model. All other latent variables show significant convergence, reflecting a coherent pattern in local perceptions of urban attractiveness.

Finally, in San Pedro, multiple manifest variables were excluded. These include “qualified labor”, “innovation and research capacity”, “legal environment”, “importance of rail”, and “supply of labour.” Similarly, the latent variable “legal/institutional/administrative framework” was excluded. The lack of consensus on the legal construct reveals a pressing need for simplification and enhanced transparency in local norms.

4.1.2. Comparative Analysis of Business Attractiveness

Across the four cities studied, the structural model reveals contrasting dynamics of business attractiveness (Table 6).

In Bouaké, the structural model demonstrates outstanding performance, with an explanatory power of 80.8% and a predictive accuracy of 77.2%, indicating strong alignment between business perceptions and the variables analyzed. Hypothesis H_3 , which posits that infrastructure needs positively influence business location decisions, is not confirmed. In fact, the variable “Infrastructure needs” has a negative and significant effect on business perceptions. This suggests that existing infrastructure does not meet the expectations of the local economic fabric and may even be perceived as inadequate or outdated. Hypothesis H_4 , related to the role of public incentives, is validated through the positive and significant effect of the “Legal, institutional, and administrative framework” variable. This indicates that businesses recognize the value of existing institutional and regulatory mechanisms. Hypothesis H_5 , which links attractiveness to the presence of qualified human capital and a favorable economic and social environment, is partially confirmed. The “local economic environment” variable shows a positive and significant effect, reflecting a perceived sense of local economic vitality. However, the “perception of economic activity zone” variable has an adverse effect, pointing to low visibility or poor structuring of economic zones. Finally, the “socio-cultural environment” variable has a positive but non-significant effect, indicating that cultural and social dimensions are viewed favorably but do not yet serve as decisive factors for businesses.

In Daloa, the structural model demonstrates intermediate coherence, with an explanatory power of 55.8% and a predictive accuracy of 54.3%. This performance reflects a degree of stability in business perceptions, although disparities remain among the latent variables. Hypothesis H_3 remains inconclusive due to the lack of convergence among the components of the latent variable associated with infrastructure needs. This suggests that existing facilities are not perceived as coherent drivers of business attractiveness. Hypothesis H_4 is validated, with a positive and significant effect from the “legal, institutional, and administrative framework” variable on business perceptions. Hypothesis H_5 is partially confirmed. The “perception of economic activity zone” variable shows a positive and significant effect, indicating that economic zones are recognized as relevant location factors. Similarly, the “socio-cultural environment” variable has a positive and significant effect, reflecting a favorable territorial anchoring and a socially stable and inclusive environment. However, the “local economic environment” variable shows a negative but non-significant effect. This may indicate that businesses perceive local economic opportunities as insufficiently structured, with a predominance of informal activity. Local authorities would benefit from improving the visibility of economic opportunities and supporting local entrepreneurship through targeted initiatives and capacity-building programs.

Table 5. Validity Statistics for the Structural Model of Factors Attracting Businesses

Variables	Bouaké			Daloa			Korhogo			San Pedro		
	Loading	$\alpha/p/AVE$	Weight	Loading	$\alpha/p/AVE$	Weight	Loading	$\alpha/p/AVE$	Weight	Loading	$\alpha/p/AVE$	Weight
Local Economic Environment												
- Low taxation (E1)	---	0.067/0.6	---	0.698	0.802/0.8	0.227	---	0.682/0.8	---	0.900	0.431/0.6	0.276
- High-quality workforce (E2)	---	82/0.696	---	0.681	64/0.602	0.178	---	08/0.650	---	---	85/0.723	---
- Low labour costs (E3)	0.917	---	0.736	0.723	---	0.208	0.863	---	0.348	0.864	---	0.225
- Secure, low-cost energy supply (E4)	0.741	---	0.437	0.870	---	0.287	0.525	---	0.263	0.848	---	0.357
- High-quality infrastructure (E5)	---	---	---	0.882	---	0.363	0.858	---	0.302	0.784	---	0.324
Socio-cultural Environment												
- Attractive social climate (SC1)	---	0.447/0.7	---	0.653	0.829/0.8	0.185	0.936	0.817/0.8	---	0.533	0.557/0.7	---
- Town's capacity for innovation and research	0.743	06/0.674	---	0.891	80/0.626	0.293	0.858	73/0.732	0.291	---	51/0.485	0.315
- Attractive quality of life and environment (SC3)	0.887	---	0.314	0.721	---	0.214	0.835	---	0.201	---	---	---
- Level of personal safety (SC4)	0.746	---	0.275	0.828	---	0.316	0.752	---	0.219	0.674	---	0.381
- Attractive cultural environment (SC5)	0.894	---	0.348	0.839	---	0.240	0.884	---	0.201	0.783	---	0.385
Legal/Institutional/Administrative Framework												
- Reduced administrative/regulatory burden (J1)	---	0.282/0.7	---	0.707	0.516/0.7	0.471	0.721	0.493/0.7	0.249	---	---	---
- Attractive legal framework (legal certainty) (J2)	0.917	36	0.573	0.710	56/0.487	0.439	0.885	48/0.580	0.408	---	---	---
- Flexible labour market (J3)	0.901	/0.827	0.526	0.676	---	0.525	0.662	---	0.433	---	---	---
Infrastructure needs												
- Road	---	0.789/0.9	---	---	---	---	0.869	0.830/0.8	0.740	0.723	0.716/0.8	0.498
- Rail	---	05/0.806	---	---	---	---	0.612	91/0.490	0.173	---	42/0.546	---
- Sea/Port	0.912	---	0.594	---	---	---	0.667	---	0.244	0.860	---	0.527
- Airport	0.882	---	0.518	---	---	---	0.620	---	0.142	0.614	---	0.303
Perception of Economic Activity Zone												
- Supply of labour	---	0.645/0.8	---	---	0.650/0.8	---	0.765	0.882/0.9	0.275	---	0.601/0.7	---
- Supply of suppliers	0.840	49/0.747	0.530	0.690	11/0.566	0.314	0.861	19/	0.227	---	91/0.571	---
- Product quality (input)	0.887	---	0.625	0.757	---	0.446	0.780	0.647	0.273	0.803	---	0.463
- Supply of public services	---	---	---	0.804	---	0.553	0.809	---	0.469	0.728	---	0.418
	---	---	---	---	---	---	---	---	0.734	---	---	0.441

Note: α = Cronbach's Alpha, ρ = Dillon-Goldstein rho, AVE = average variance extracted. The values associated with these indices are linked to latent variables.

In Korhogo, the structural model shows modest explanatory power (45.7%) but high predictive accuracy (63.9%), indicating that while the variables explain only a limited portion of business perceptions, the model remains reliable for anticipating business behavior. Hypotheses H₃ and H₄ are confirmed. However, Hypothesis H₅ is weakened by two contrasting results: the “socio-cultural environment” variable has a negative but non-significant effect, suggesting that businesses view social and cultural dynamics as having little influence, or even as slightly unfavorable. The “perception of economic activity zone” variable shows a positive but non-significant effect, indicating that economic zones are seen as potentially attractive, but their actual impact remains limited.

In San Pedro, the structural model shows the weakest performance among the cities studied, with an explanatory power of 32.2% and a predictive accuracy of 43.4%. These results reflect a limited ability of the model to explain business perceptions, although the observed associations are generally positive. Hypothesis H₄ is not validated. The lack of consensus around the latent variable “legal, institutional, and administrative framework” suggests that businesses perceive regulatory and administrative mechanisms as ineffective. Hypothesis H₃ is validated. The coefficient for the “infrastructure needs” variable is positive and significant. Hypothesis H₅ is partially confirmed. The variables “local economic environment” and “socio-cultural environment” show positive and significant effects. However, the variable “perception of economic activity zone” has a positive but non-significant effect.

Table 6. Effects of Factors Attracting Business to the Four Towns

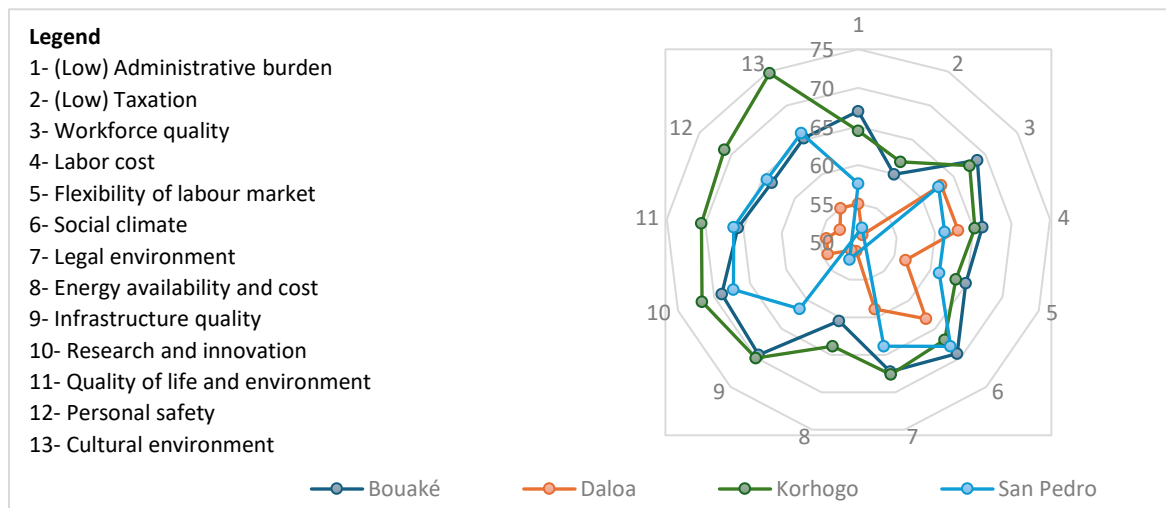
Factors	Bouaké	Daloa	Korhogo	San Pedro
Infrastructure needs	-0.066* (0.037)	---	0.259*** (0.074)	0.155* (0.083)
Perception of Economic Activity Zone	-0.078** (0.038)	0.132* (0.075)	0.028 (0.074)	0.107 (0.083)
Local Economic Environment	0.749*** (0.058)	-0.152 (0.133)	0.346*** (0.125)	0.268*** (0.099)
Socio-cultural environment	0.059 (0.061)	0.598*** (0.174)	-0.105 (0.159)	0.305*** (0.099)
Legal, Institutional, and Administrative Framework	0.118** (0.052)	0.229** (0.115)	0.409*** (0.128)	---
Constant	-6.23e-17 (0.036)	-8.92e-17 (0.065)	-3.12e-17 (0.072)	1.39e-16 (0.080)
R-square	0.808	0.558	0.457	0.322
GoF	0.772	0.543	0.639	0.434

Note: ***, significant at 1%; **, significant at 5%; * significant at 10%; values in brackets are standard deviations.

4.3. Comparative Scores Based on Industrial Perception

Across the four cities studied, the average business attractiveness scores reveal differentiated urban dynamics. These scores also highlight strategic entry points for public action. On a standard 100-point scale, Korhogo leads with a score of 67.6. It is followed by Bouaké (65.9), San Pedro (62.2), and Daloa (56.13).

In Bouaké, several strengths emerge. These include the quality of infrastructure, an attractive social climate, innovation and research, and workforce quality. However, weaknesses lie in taxation and energy supply. This suggests a need for fiscal reform and investment in energy systems. Daloa shows below-average performance overall. However, its top indicators—social climate, low labor costs, and workforce quality—highlight untapped potential. Targeted improvements in infrastructure and innovation incentives could enhance its appeal. Korhogo stands out for its strong scores in cultural environment, innovation, urban safety, quality of life, and infrastructure. These results confirm its urban strengths. However, efforts to improve energy access and tax competitiveness remain relevant. In San Pedro, the scores are generally positive. Nonetheless, challenges persist in taxation and energy supply. High marks in social climate, innovation, quality of life, and safety point to solid foundations for development.

Figure 3. Average Scores for Factors Attracting Businesses in the Four Towns (%)

5. Discussion

The findings of this study offer a nuanced reading of urban attractiveness in secondary cities. They reveal differentiated territorial dynamics shaped by both individual and business perspectives. The results validate several key hypotheses. They also highlight contextual limitations.

From the perspective of residential attractiveness, the results strongly support Hypothesis H1, which posits that access to essential services—particularly educational services, youth activities, and transportation—plays a central role in individuals' perceptions. This is especially evident in Korhogo, where service-related variables significantly influence attractiveness. It is also observed in Bouaké and San Pedro, where educational services, youth activities, and transportation emerge as major drivers. However, the limited impact of access to retail and environmental features in Bouaké and San Pedro suggests uneven perceptions of quality of life. This reveals gaps in urban planning and service provision. These findings echo the work of Baumont and Huriot (1995) on the role of collective amenities. They also reinforce Musson's (2015) call for differentiated strategies tailored to local expectations.

Hypothesis H₂, which suggests that the cultural and historical image of a territory enhances its attractiveness, receives mixed support. It is validated in Daloa and San Pedro, where cultural offerings strengthen residential appeal. This aligns with the symbolic and intangible dimensions highlighted by Cusin and Damon (2010). In contrast, Korhogo and Bouaké show weaker cultural effects, suggesting a lack of visibility or underinvestment in cultural programming. This divergence underscores the importance of territorial marketing and identity valorization as strategic levers for attractiveness.

Regarding business attractiveness, the results present a more complex picture. Hypothesis H₃, which links infrastructure needs, is only partially confirmed. While Korhogo validates this relationship, Bouaké and San Pedro show adverse or insignificant effects. This challenges the assumption that infrastructure is a universal attractor. The contradiction may reflect a mismatch between infrastructure supply and actual business needs. It may also stem from the low visibility of productive zones, as observed in San Pedro. These findings align with Gérardin and Poirot's (2010) analysis, which emphasizes that infrastructure must be embedded within a coherent economic ecosystem to be effective.

In contrast, Hypothesis H₄ is consistently validated in three cities, except for San Pedro, where there is no consensus regarding the indicator. This result confirms the strategic importance of territorial governance and support mechanisms. It aligns with the work of Keramidas et al. (2016), who emphasize public coordination as a driver of trust and investment. However, the more modest performances in Bouaké and Daloa suggest that incentives need to be better structured and communicated to maximize their impact.

Partial support for Hypothesis H₅, based on sociocultural and economic environment perceptions, reveals broader challenges in integrating symbolic and spatial dimensions into business attractiveness strategies. The low sociocultural relevance in Bouaké and Korhogo, along with the perception of activity zones in Korhogo and San Pedro, indicate that territorial policies must go beyond functional infrastructure, as supported by Gonçalves (2019).

Overall, the study confirms the multidimensional nature of urban attractiveness, as theorized by Marshall (1919), Krugman (1993), and Claval (2008). It underscores the need for territorially adapted approaches. The heterogeneity of results across cities highlights the importance of aligning urban development strategies with local perceptions, capacities, and aspirations. For policymakers, this implies a dual imperative: strengthening essential services and cultural programming for individuals, and improving infrastructure relevance and institutional stability for businesses. Future research could further explore the interaction between spatial planning and stakeholder engagement to refine territorial attractiveness models.

Moreover, structural barriers persist. Restrictive taxation, high energy costs, and the lack of clarity in administrative mechanisms are regularly identified as obstacles to business establishment and development, particularly in San Pedro and Daloa. These findings echo Gérardin and Poirot's (2010) recommendations for targeted fiscal reforms and the promotion of affordable, sustainable energy sources. In this context, public action plays a decisive role. As Keramidas et al. (2016) suggest, incentive measures—financial, material, and immaterial—can contribute to improving territorial attractiveness, provided they are adapted to local specificities.

Finally, beyond economic and institutional factors, quality of life and safety also emerge as key drivers of a business's attractiveness. The scores achieved by Korhogo and San Pedro on these dimensions confirm their ability to attract businesses and talent, especially in a context of growing interurban competition. These results support the work of Ricbourg and Fernandez (2018), who stress the importance of enhancing safety and living conditions in urban areas to encourage long-term settlement. However, secondary cities often remain ill-prepared to absorb internal migratory flows. The search for economic opportunities and access to services drives these flows. The resulting pressure on urban infrastructure and services, as highlighted by Davidoff-Gore and Le Coz (2023), calls for more anticipatory and inclusive planning.

6. Conclusion

Entrusted with a strategic role in territorial rebalancing, Côte d'Ivoire's secondary cities face persistent structural challenges. These challenges limit their overall attractiveness. They hinder local economic growth and obstruct the emergence of dynamic urban hubs beyond Abidjan, the country's economic capital. This study aimed to identify the main factors influencing urban attractiveness in four major secondary cities: Bouaké, Korhogo, Daloa, and San Pedro. It employed a structural equation modeling approach using partial least squares (PLS-PM). This model was applied to survey data collected in 2024 from local socioeconomic stakeholders. The analysis adopted a dual perspective: that of individuals and that of businesses.

The results reveal differentiated dynamics across cities and stakeholder profiles. For individuals, attractiveness is primarily shaped by quality-of-life factors—access to essential services, urban cleanliness, recreational spaces, etc. These elements reflect a collective aspiration for stability and well-being. This trend is especially pronounced in rapidly evolving urban contexts. For businesses, attractiveness depends mainly on structural and economic conditions. Infrastructure quality, fiscal and regulatory frameworks, energy reliability, and institutional support are key determinants. However, burdensome taxation and limited energy access remain significant constraints, particularly in San Pedro and Daloa.

The validation of key hypotheses—especially H₁ and H₄—confirms the central role of service access and public incentives in shaping territorial attractiveness. Partial support for hypotheses H₂, H₃, and H₅ highlights a need to better integrate cultural identity, infrastructure relevance, and spatial legibility into urban development strategies. These findings call for localized and differentiated public policies. Strengthening infrastructure, improving fiscal and energy systems, expanding cultural offerings, and

clarifying administrative mechanisms are essential levers for building more inclusive and competitive urban environments.

Nevertheless, the study has certain limitations. Its geographic scope, limited to four cities, restricts the generalizability of the findings. The use of indicators partly based on subjective perceptions may introduce interpretive bias. Additionally, the absence of longitudinal data prevents analysis of how urban attractiveness evolves. To deepen understanding of territorial dynamics, future research should broaden the analytical scope to include other secondary cities and adopt long-term monitoring frameworks. Qualitative surveys involving residents and economic actors would enrich the analysis by capturing specific logics and lived experiences. These efforts would help promote more equitable territorial development, strengthen social cohesion, and enhance local competitiveness—in line with Côte d'Ivoire's national ambitions for inclusive and balanced urban growth.

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