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Financial feasibility of a housing construction company in Ibarra, Ecuador

Viabilidad financiera de una empresa constructora de vivienda en Ibarra, Ecuador

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ABSTRACT

The housing deficit in Ecuador's intermediate cities creates opportunities for new construction companies. The study therefore aimed to evaluate the financial feasibility of creating the construction company SPM, focused on single-family housing in Ibarra, Ecuador. The methodology corresponded to a feasibility study with a quantitative approach and non-experimental design, based on a five-year projection of investment, revenues, costs and cash flows, with a 15% discount rate, complemented by an internal factor evaluation matrix. The results showed a total investment of USD 262,313, a net present value of USD 72,224, an internal rate of return of 23.38%, a benefit-cost ratio of 1.28 and a payback period of 3.7 years. It is concluded that the project is financially feasible, although sensitive to the discount rate.

Keywords: feasibility studies; construction industry; housing; investment. (Source: UNESCO Thesaurus).

RESUMEN

El déficit de vivienda en las ciudades intermedias del Ecuador abre oportunidades para nuevas empresas constructoras. Por ello, el estudio tuvo como objetivo evaluar la viabilidad financiera de la creación de la empresa constructora SPM, dedicada a viviendas unifamiliares en Ibarra, Ecuador. La metodología correspondió a un estudio de factibilidad con enfoque cuantitativo y diseño no experimental, basado en la proyección a cinco años de la inversión, los ingresos, los costos y los flujos de efectivo, con una tasa de descuento del 15 %, complementada con una matriz de evaluación de factores internos. Los resultados mostraron una inversión total de 262 313 USD, un valor actual neto de 72 224 USD, una tasa interna de retorno del 23,38 %, una relación beneficio-costo de 1,28 y una recuperación de la inversión en 3,7 años. Se concluye que el proyecto es financieramente viable, aunque sensible a la tasa de descuento.

Descriptores: estudio de viabilidad; industria de la construcción; vivienda; inversión. (Fuente: Tesauro UNESCO).

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Research Articles Section

INTRODUCTION

Entrepreneurship is considered an important mechanism for economic development because of its effects on employment, innovation and welfare (Acs & Amorós, 2008). In the construction industry, the creation of new companies is particularly relevant, since the sector links supplier chains, demands local labor and responds to a basic social need such as housing. However, the feasibility of these ventures depends on the initial investment being recovered within a reasonable period and with a return higher than the opportunity cost of capital.

In Ecuador, the construction sector is closely related to public and private investment. García-Regalado et al. (2015) modeled the behavior of the sector with quarterly data from 2000 to 2013 and showed how investment shocks are transmitted to construction activity in its aggregate, public and private components. Likewise, Cordova-León et al. (2018) analyzed 381 Ecuadorian construction companies over four consecutive years and found that their costs increase more when sales grow than they decrease when sales fall, which requires rigorous control of the cost structure in companies in the sector.

Furthermore, the competitiveness of small and medium-sized construction companies depends on their capacity to innovate. Pape and Nazer (2021) studied construction companies in the Atacama Region, Chile, and observed that innovation is a strategic tool for improving competitiveness, especially in materials, equipment, processes and organizational structure, whereas the lack of an innovation culture, the scarcity of resources and weak managerial capacity hinder it.

Regarding demand, social housing is a fundamental right within the Ecuadorian constitutional framework, enforceable when public policy fails to guarantee it (Pineda-Quinde et al., 2020). Nevertheless, social housing production in the country has tended to displace the population toward urban peripheries (Durán et al., 2020), and in social housing programs in Loja, mortgage debt generated cycles of borrowing to repair and adapt dwellings without technical supervision (Ordóñez-León et al., 2025). In addition, a social housing unit evaluated in the country reached acceptable levels in the technical and socioeconomic components, but not in the environmental one (Samaniego-Mendoza, 2021).

In this context, the city of Ibarra, capital of the province of Imbabura, has a housing demand that can be met by companies offering quality homes at affordable prices. However, before starting a venture, it is necessary to demonstrate that the project creates value for investors. Therefore, the objective of the study was to evaluate the financial feasibility of creating the construction company SPM, dedicated to the construction and sale of single-family homes in Ibarra, Ecuador.

METHOD

The research was developed with a quantitative approach, of a descriptive type and non-experimental design, under the modality of a feasibility study. The study was organized into three phases: the documentary characterization of the sector and the market, the formulation of the business model and the investment structure, and the financial evaluation of the project over a five-year horizon.

In the first phase, scientific articles on the construction sector, social housing and project evaluation were reviewed. In the second phase, the reference offer was defined: the construction of five two-story single-family homes in the first year, each with a land area of 126 m² and a built area of 100 m², located in the parish of Caranqui, Yuyucocha sector, a residential area with basic services, public transport and access to material suppliers and quarries. An increase of one home per year was planned for the following years. The staff structure and the legal form of a simplified joint-stock company were also established.

In the third phase, the projected income statements and cash flows were prepared. A sale price of USD 67,000 per home, a cost of sales of USD 46,600 per home, annual fixed costs of USD 19,448.87, a 15% employee profit sharing and a 25% income tax were considered. With these flows, the net present value (NPV), the internal rate of return (IRR), the benefit-cost ratio (B/C)

and the simple and discounted payback periods were calculated. A discount rate of 15% was used as the opportunity cost of capital, a criterion consistent with the recommendation to incorporate country risk into the financial evaluation of projects in Ecuador (Lazo-Sandoval, 2021). Discounted cash flow methods and the NPV are the most widely used for the financial valuation of companies and projects (Lopez-Rodriguez et al., 2023), and the IRR was interpreted considering that the project has conventional cash flows, a condition under which this indicator is reliable (Taco & Gutiérrez, 2018).

Finally, for the strategic diagnosis, an internal factor evaluation matrix (IFE) was applied, in which each strength and weakness received a weight between 0 and 1, with a total sum equal to 1, and a rating from 1 to 4; a weighted total above 2.5 indicates a strong internal position. It was complemented by the qualitative identification of opportunities and threats in the environment, following the strategic planning approach for small and medium-sized enterprises (Reyes-Carrillo, 2023). The calculations were performed in a spreadsheet and verified independently. Regarding ethical aspects, the study did not involve the participation of people or the use of personal data, and the assumptions of the model are stated explicitly to allow its replication.

RESULTS

The results of the evaluation are presented below. The business model of the company SPM focuses on the construction and sale of two-story single-family homes with three bedrooms, a living room, a dining room and an open-concept kitchen, two full bathrooms, a guest bathroom and private parking. The value proposition includes quality finishes, a residential location with all services and affordable prices, together with pre- and post-sale advice and support with mortgage procedures. The customer segment corresponds to people aged 28 to 50 and four-member families seeking their own home; the key partners are material suppliers, banking institutions, the Decentralized Autonomous Government of Ibarra and notary offices.

The initial staff consists of a manager, an accountant, an accounting assistant, a sales specialist, an architect, a master builder, three bricklayers and five laborers, that is, fourteen people. The investment required for the office and the first housing project is summarized in Table 1.

Table 1. *Investment required to create the company and the first housing project*.

Item	Value (USD)
Land	65,000.00
Computer equipment	1,790.00
Furniture	1,128.62
Machinery and equipment	4,990.00
Tools	956.00
Subtotal fixed assets	**73,864.62**
Other pre-operating expenditures	23,448.87
Initial investment	**97,313.49**
Working capital	164,999.99
Total investment	**262,313.48**

Note: developed in-house.

As can be seen, land accounts for 88% of fixed assets, and working capital, required to build the five homes in the first year, represents 63% of the total investment. With the price and cost assumptions described, the projected income statement shows growing profits over the five years (Table 2).

Table 2. *Projected five-year income statement (USD)*.

Item	Year 1	Year 2	Year 3	Year 4	Year 5
Homes sold	5	6	7	8	9
Sales	335,000.00	402,000.00	469,000.00	536,000.00	603,000.00
Cost of sales	233,000.00	279,600.00	326,200.00	372,800.00	419,400.00
Fixed costs	19,448.87	19,448.87	19,448.87	19,448.87	19,448.87
Depreciation	954.37	954.37	954.37	507.37	507.37
Profit before profit sharing	81,596.76	101,996.76	122,396.76	143,243.76	163,643.76
Employee profit sharing (15%)	12,239.51	15,299.51	18,359.51	21,486.56	24,546.56
Profit before taxes	69,357.25	86,697.25	104,037.25	121,757.20	139,097.20
Income tax (25%)	17,339.31	21,674.31	26,009.31	30,439.30	34,774.30
Net profit	**52,017.94**	**65,022.94**	**78,027.94**	**91,317.90**	**104,322.90**

Note: developed in-house.

Operating cash flows were obtained from net profit plus depreciation. In the fifth year, the recovery of working capital is included, which raises the cash flow for that period to USD 269,830. Table 3 presents the flows and their present value at the 15% discount rate.

Table 3. *Projected cash flow and present value (USD)*.

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Operating cash flow		52,972	65,977	78,982	91,825	104,830
Initial investment	-97,313					
Working capital	-165,000					165,000
Net cash flow	**-262,313**	**52,972**	**65,977**	**78,982**	**91,825**	**269,830**
Present value (15%)	-262,313	46,063	49,888	51,932	52,501	134,153
Cumulative cash flow	-262,313	-209,341	-143,364	-64,382	27,443	297,273

Note: developed in-house. Values rounded to the nearest unit.

With these flows, the financial evaluation indicators summarized in Table 4 were calculated. The NPV was positive and the IRR exceeded the discount rate, while the benefit-cost ratio indicated that each dollar invested yields USD 1.28 in present value. The investment is recovered in 3.7 years, that is, during the fourth year of operation, and in 4.5 years when discounted flows are considered.

Table 4. *Financial evaluation indicators of the project*.

Indicator	Result	Decision criterion
Net present value (15%)	USD 72,224.09	NPV > 0: accepted
Internal rate of return	23.38%	IRR > 15%: accepted
Benefit-cost ratio	1.28	B/C > 1: accepted
Simple payback period	3.7 years	Shorter than the 5-year horizon
Discounted payback period	4.5 years	Shorter than the 5-year horizon
NPV at a 12% rate	USD 105,262.95	Favorable scenario
NPV at a 20% rate	USD 26,076.39	Unfavorable scenario
NPV at a 25% rate	USD -11,241.92	Rate above the IRR: rejected

Note: developed in-house.

The sensitivity analysis showed that the NPV remains positive at discount rates of up to 23.38%, a value that coincides with the IRR, and becomes negative at a rate of 25%. In the strategic diagnosis, the internal factor evaluation matrix assigned a weight of 0.319 to weaknesses and 0.681 to strengths, with a weighted total of 2.836 (Table 5).

Table 5. *Internal factor evaluation matrix of the company SPM*.

Factor	Weight	Rating	Weighted score
Weaknesses			
Newly created business	0.095	2	0.190
Limited marketing capacity	0.035	1	0.035
Need to train workers in sustainable construction	0.065	2	0.130
Limited contact network	0.048	1	0.048
Lack of brand recognition	0.076	1	0.076
Strengths			
Adequate financial resources	0.098	3	0.294
Local availability of construction materials	0.073	4	0.292
Competitive prices	0.065	4	0.260
Profitability demonstrated in the financial evaluation	0.098	4	0.392
Knowledge of the local market	0.059	3	0.177
Social responsibility initiative	0.078	4	0.312
Reliable suppliers	0.061	3	0.183
Motivated workers	0.064	3	0.192
Focus on sustainability	0.085	3	0.255
Total	**1.000**		**2.836**

Note: developed in-house. Rating: 1 = major weakness; 2 = minor weakness; 3 = minor strength; 4 = major strength.

In the external environment, the opportunities identified were the local demand for housing, job creation, the simplified and free registration of the simplified joint-stock company, the trend toward sustainable housing projects and the possibility of adopting new construction technologies. The threats identified were the volatility of material prices, the shortage of workers experienced in new construction techniques, established competition and the occurrence of adverse climatic events.

DISCUSSION

The results indicate that the creation of the construction company SPM is financially feasible under the assumptions of the model. The positive NPV of USD 72,224 and the IRR of 23.38%, higher than the 15% discount rate, both indicate that the project creates value, a central criterion in discounted cash flow methodologies (Lopez-Rodriguez et al., 2023). Since the project cash flows are conventional, with a single change of sign, the IRR offers a reliable reading of profitability, without the multiple-rate problems described for non-conventional projects (Taco & Gutiérrez, 2018).

However, feasibility depends to a large extent on the fifth year, whose cash flow includes the recovery of working capital and contributes 40% of the present value of the positive flows. Consequently, the discounted payback period of 4.5 years is close to the evaluation horizon, and the NPV becomes negative at a 25% rate. This result reinforces the need to adjust the discount rate to the country and sector risk (Lazo-Sandoval, 2021), as well as to control costs, considering that in Ecuadorian construction companies costs tend to grow faster with rising sales than they decrease when sales fall (Cordova-León et al., 2018).

Furthermore, the weighted total of 2.836 in the internal factor matrix indicates a strong internal position, supported by financial resources, the availability of materials and competitive prices. Nevertheless, the weaknesses inherent in a new company, such as the lack of brand recognition and limited marketing capacity, coincide with the obstacles to innovation described in small and medium-sized construction companies, including resource scarcity and weak managerial capacity (Pape & Nazer, 2021). In this sense, strategic planning is a key factor for the survival of small and medium-sized enterprises in adverse environments (Reyes-Carrillo, 2023).

Similarly, the company's focus on affordable housing must consider the financing conditions of buyers. The experience of social housing programs in Ecuador shows that mortgage debt can generate new debt cycles when dwellings require later repairs or adaptations (Ordóñez-León et al., 2025), and that peripheral location limits access to services (Durán et al., 2020). The location of the project in a residential area with basic services and the support offered with mortgage procedures respond to these limitations, and the focus on sustainability could address the environmental weakness observed in the country's social housing (Samaniego-Mendoza, 2021).

The limitations of the study include that demand and prices were established as model assumptions, without a probabilistic market study to support them, and that scenarios of variation in the sale price or construction costs were not evaluated. In addition, the five-year horizon and the value of the land, which remains an asset of the company, condition the results.

CONCLUSIONS

The evaluation made it possible to meet the objective of determining the financial feasibility of creating the construction company SPM in Ibarra, Ecuador. With a total investment of USD 262,313 and the construction of five single-family homes in the first year, with an increase of one home per year, the project reaches a net present value of USD 72,224, an internal rate of return of 23.38%, a benefit-cost ratio of 1.28 and a payback period of 3.7 years. The internal factor matrix, with a weighted total of 2.836, confirms a favorable internal position. However, profitability is sensitive to the discount rate and depends on the recovery of working capital at the end of the horizon, so the implementation of the project requires cost control, monitoring of financial indicators and validation of demand through a market study in the city.

FINANCING

Non-monetary.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest with any individuals or institutions related to the development of this research.

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REFERENCES

Acs, Z. J., & Amorós, J. E. (2008). Introduction: The startup process. *Estudios de Economía, 35*(2), 121–132.

Cordova-León, J. F., Duque-Espinoza, G. M., & Álvarez-Argüello, C. D. (2018). Asymmetric cost behavior in the construction sector of Ecuador. *Tendencias, 19*(2), 74–91. https://doi.org/10.22267/rtend.181902.98

Durán, G., Bayón, M., Bonilla-Mena, A., & Janoschka, M. (2020). Social housing in Ecuador: Violence and resistance in the progressive production of urban peripheries. *Revista INVI, 35*(99), 34–56. https://doi.org/10.4067/S0718-83582020000200034

García-Regalado, J., Freire-Quintero, C., & Moscoso-Miranda, H. (2015). Econometric model of the construction sector in Ecuador. *Ciencia UNEMI, 8*(14), 37–47.

Lazo-Sandoval, L. B. (2021). Why should country risk be considered in the financial evaluation of a project or a company? *Estudios de la Gestión: Revista Internacional de Administración*, (9), 255–268. https://revistas.uasb.edu.ec/index.php/eg/article/view/2586

Lopez-Rodriguez, C. E., Velasquez-Lizcano, C., Fajardo-Sierra, J. M., & Sierra-Otalora, J. L. (2023). An approach to financial valuation methodologies: Bibliometric analysis and systematic literature review. *Revista Academia & Negocios, 10*(3). https://doi.org/10.29393/RAN10-3ULCJ40003

Ordóñez-León, A., Costa-De-los-Reyes, C., Muñoz-Sotomayor, V., & León-Vivanco, M. F. (2025). Social housing, indebtedness and spatial adaptations based on two cases in Ecuador. *Revista INVI, 40*(114), 93–124. https://doi.org/10.5354/0718-8358.2025.76701

Pape, H., & Nazer, A. (2021). Determinants of innovation in construction companies in the Atacama Region, Chile. *Obras y Proyectos*, (29), 80–91. https://doi.org/10.4067/S0718-28132021000100080

Pineda-Quinde, M. S., Narváez-Zurita, C. I., Ormaza-Ávila, D. A., & Erazo-Álvarez, J. C. (2020). Social housing in the Constitutional State of rights of Ecuador. *Iustitia Socialis, 5*(1), 734–750. https://doi.org/10.35381/racji.v5i1.639

Reyes-Carrillo, N. E. (2023). Strategic planning as an alternative to prevent the closure of SMEs during the pandemic. Case: Municipality of Garzón, Department of Huila. *Sociedad y Economía*, (50). https://doi.org/10.25100/sye.v0i50.12256

Samaniego-Mendoza, J. O. (2021). Sustainable development in Ecuador: Strategies from the construction sector. *Revista de Investigaciones en Energía, Medio Ambiente y Tecnología, 6*(2), 82–89. https://doi.org/10.33936/riemat.v6i2.4019

Taco, D., & Gutiérrez, M. (2018). Investment valuation in non-conventional projects: Internal rate of return versus modified internal rate of return. *Innova Research Journal, 3*(9). https://doi.org/10.33890/innova.v3.n9.2018.797

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