

The Impact of Crowdfunding on Social Entrepreneurship in Morocco: A Structural Equation Modeling Approach

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Abstract:

Faced with challenges in accessing traditional funding, crowdfunding offers an innovative solution. It enables social entrepreneurs to raise funds while mobilizing communities sensitive to their social and environmental goals. Indeed, crowdfunding has seen remarkable growth in developed countries and represents an exponentially growing global market.

In Morocco, the new Law No. 15-18 on collaborative financing, introduced in 2021, removed regulatory barriers blocking crowdfunding development. This law, finally adopted several years after it was drafted and thirteen years after the practical emergence of crowdfunding in the United States marks a new step in diversifying Morocco's financial instruments. Its goals include strengthening financial inclusion for young project holders, supporting economic and social development, and channeling collective savings into new opportunities.

This article examines the impact of crowdfunding on social entrepreneurship financing following the introduction of Law 15-18 in Morocco. Using structural equation modeling, we analyzed the relationships between crowdfunding, social entrepreneurship financing, and the newly introduced Moroccan regulations. The study was conducted with a sample of 200 Moroccan internet users.

To draw valid conclusions, we adopted a methodological approach rooted in the postpositivist paradigm, using a hypothetical deductive approach where the hypotheses were derived from theory. Following this logic, we employed a quantitative approach based on structural equation modeling, explicitly using the LISREL method. By validating the research hypotheses, we demonstrated that crowdfunding, supported by Law No. 15-18, plays a crucial role in providing access to financing for social projects.

Keywords: Social entrepreneurship, Crowdfunding, collaborative financing.

Classification JEL : B55, C3, L31, F65, G23

Paper type: Empirical Research

1. Introduction

Crowdfunding has grown exponentially over the past decade, transforming traditional financial paradigms. It is an innovative model that mobilizes capital by directly involving contributors through online platforms. According to Forbes and Schaefer (2017), this industry is now worth hundreds of billions of dollars, establishing itself as a critical alternative to conventional financing. Crowdfunding removes traditional intermediaries by directly connecting project creators with potential investors while providing unparalleled flexibility to fund social, cultural, and economic projects.

In Morocco, crowdfunding is emerging as an essential tool to overcome the limitations of traditional financing methods. This alternative financing method is particularly suitable for social and solidarity projects, which struggle to access traditional sources of financing due to their low financial returns and hybrid nature, combining social and economic objectives. According to Mair and Marti (2006), this dual mission of social enterprises constitutes a significant challenge, making them less attractive to institutional investors. In this context, crowdfunding offers an innovative solution to circumvent these obstacles and strengthen the financial sustainability of social initiatives.

Concrete examples illustrate the potential of this mechanism in Morocco. Smala & Co (2014) reports that 70 projects were financed through crowdfunding, raising more than 2.2 million dirhams, mainly for social and cultural campaigns. These initiatives include the construction of wells in remote rural areas, the renovation of community schools, and support for craft cooperatives. These successes show that crowdfunding meets financial needs and contributes to community mobilization and legitimization of projects among the public.

Despite this potential, the development of crowdfunding in Morocco remains hampered by several structural challenges. The lack of adapted local platforms limits the accessibility of this mechanism for social entrepreneurs. In addition, insufficient awareness of this method of financing hinders project leaders' adoption of it. A persistent mistrust of online transactions accentuates these limitations despite the establishment of a favorable legal framework.

The introduction of Law No. 15-18 on collaborative financing in 2021 is a turning point for Morocco. This legislation establishes a regulatory framework to structure the sector, ensure the transparency of transactions, and protect contributors' interests. According to Bouzidi and Nabate (2022), this law promotes the financial inclusion of small projects, often excluded from traditional financing channels. It also provides a secure framework for investors, boosting their trust in local platforms. By regulating practices related to crowdfunding, this legislation gives a new impetus to financing entrepreneurial initiatives, particularly those carried out by social enterprises.

However, Morocco faces specific challenges related to social entrepreneurship, a strategic sector for the country's development. Moroccan social enterprises, often tiny, face difficulties in accessing finance due to their inability to meet the rigid criteria of traditional financial institutions. They often operate in sectors with low immediate profitability, such as education, health, or the environment, which reduces their attractiveness to investors. In addition, their hybrid governance model, located between private companies and associations, accentuates risk perceptions (Bessière & Stéphanie, 2017). These obstacles underscore the urgency of finding alternative solutions to support such initiatives.

Thanks to its flexibility and inclusiveness, crowdfunding is a potential response to these challenges. It makes it possible to mobilize financial resources from multiple contributors, often motivated by the social impact of projects rather than by their economic profitability. According to Belleflamme, Lambert, and Schweinbacher (2010), crowdfunding also strengthens the visibility and legitimacy of social enterprises by engaging a large audience in the project

validation process. These characteristics make it a powerful tool to meet the specific needs of Moroccan social entrepreneurs.

Despite these advances, the scientific literature on crowdfunding applied to social entrepreneurship in Morocco remains limited. As Lehner (2013) points out, the intersection of these two themes is still vastly understudied, although their combination has significant potential to address social and economic challenges. In addition, empirical data on the performance of local campaigns is scarce, making it difficult to fully assess the impact of this mechanism in the Moroccan context.

This article analyzes the impact of crowdfunding on the development of social entrepreneurship in Morocco, considering the transformations brought about by Law No. 15-18. This research aims to answer the following question: "What is the impact of the emergence of crowdfunding on Moroccan social entrepreneurs after the adoption of Law 15-18?" To answer this question, we propose an analysis articulated around the theoretical and empirical dimensions of this problem.

First, an exhaustive literature review will be presented to lay the theoretical foundations of our research. Then, we will develop a conceptual model based on four main assumptions, linking crowdfunding, regulation, and social entrepreneurship. These hypotheses will be tested empirically using structural equation modeling (LISREL), which evaluates direct and indirect relationships between variables. Our analysis sample consists of 200 respondents with a direct relationship with crowdfunding and social entrepreneurship, thus guaranteeing a relevant representativeness for this study. Finally, the study's results will be discussed to propose recommendations likely to guide strategic decisions for the development of crowdfunding for social entrepreneurship in Morocco.

2. Literature review and hypothesis development

2.1. Background

Twenty years ago, a new form of entrepreneurship emerged worldwide by bringing together a high-performance economic approach and a social value. This new mode of entrepreneurship presents promising prospects by providing innovative and practical solutions to social or environmental problems; it is called social entrepreneurship. Ultimately, social entrepreneurship does not benefit from a standard definition (Dacin et al., 2011; Sanchis-Palacio et al., 2013). On the other hand, the underlying factors related to this concept represent theoretical consent. Thus, most definitions revolve around searching for a social purpose beyond personal wealth (Defourny & Nyssens, 2010).

The recently identified phenomenon, which has become a significant and relevant research topic, presents itself as an innovative management model seeking to invest in areas of activity neglected both by traditional companies due to their low performance and by the public sector. This is being done in the context of the significant reduction in public costs to find innovative and sustainable responses to various social and environmental problems. In other words, social organizations do not focus solely on achieving financial goals and generating profits but primarily aspire to bring about specific social transformation (Leadbeater, 1997).

However, most of these companies face financial obstacles that consequently hinder their development and constitute the main threat to their survival. This type of entrepreneurship's access to so-called traditional sources of financing is mainly hindered by major financial factors: their low income, which prevents their access to traditional financing; their management methods and management models located between those of NGOs and companies, as well as agency problems. In the face of these challenges, social entrepreneurs must combine the financial dimension with social objectives, which are probably the main obstacle to the progress of this new type of entrepreneurship (Mair & Marti, 2006).

Since then, innovative methods in entrepreneurial finance have emerged, such as collaborative financing or Crowdfunding. This method is considered highly innovative and creative, and it allows the social entrepreneur to finance the start-up or realization of his project thanks to the financial donations of the participants convinced by the importance of the project in question. Thus, crowdfunding could be a beneficial option to support projects that generate social and economic value (Austin et al., 2006).

As a result, crowdfunding is an emblematic instrument for supporting initiatives that offer innovative solutions to challenges and social issues. This type of funding has naturally become an instrument for raising funds for humanitarian, associative, or solidarity projects (Poissonnier, 2014).

The research for this work is motivated by the general absence of literature addressing crowdfunding in social projects. This is evidenced by the multitude of results obtained when the words "crowdfunding" and "social entrepreneurship" are combined, supported by Lehner's (2013) literary review.

In addition, in recent years, Morocco has implemented many innovative social approaches aimed at solving critical societal challenges, such as the INDH¹. Therefore, Morocco has decided to establish this new financing mechanism by implementing an adequate legislative regime that will allow it to position itself as a leader in the region and use innovative financing methods likely to promote entrepreneurship in Morocco.

Thanks to collaborative financing, Morocco is a territory conducive to implementing cultural, solidarity, and humanitarian projects. According to empirical research conducted by Smala & Co. in 2014, crowdfunding has made it possible to carry out 70 projects out of 117 campaigns for exceeding 2.2 million dirhams.

Dahir No. 1-21-24 of 10 Rejeb 1442 (February 22, 2021) established Law No. 15-18 on crowdfunding, encouraging young entrepreneurs to benefit from this alternative financing method. This approach is distinguished by a legal regime regulating crowdfunding and allowing it to participate actively in socio-economic progress. It should be noted that Law No. 15-18 on collaborative financing in Morocco addresses three categories of financing: loans, capital investments, and donations. After a study and a favorable decision, the entrepreneur will send his project to a crowdfunding company, which will publish it online. This mechanism structures the SFC² approval process and oversees activities related to crowdfunding in the form of donations, shares, or loans.

2.2. Hypotheses development and presentation of the conceptual model

Based on our review of the literature mentioned above, we can say that the research mentioned has identified the dimensions (variables) that significantly impact the values of social entrepreneurship, particularly the search for innovative financing.

It should be remembered that the objective of our research is to analyze the role of crowdfunding in the development of social entrepreneurship in Morocco and that the problem of our work is formulated as follows: "What is the impact of the emergence of Crowdfunding on Moroccan social entrepreneurs after the advent of Law 15-18 in Morocco?"

As this is a relatively new topic, existing literature does not provide a complete and stabilized conceptual framework of the determinants of the crowdfunding tool's influence on social entrepreneurship. Nevertheless, based on a synthesis of empirical and conceptual research, it is possible to articulate a vision that determines the primary factors indicating the impact of this crowdfunding solution on social entrepreneurship. This articulation allows us to organize and structure a conceptual framework for our research.

¹ National Human Development Initiative

² Crowdfunding companies

The research hypothesis conditions all the operations of the research. Formulating hypotheses is a decisive step in systematization and the scientific approach. The outcome of the study depends on it. The ideas' quality will determine the value of the results obtained (Del Bayle, 2000, pp.259-267).

Based on the questions already raised, we have put forward four main hypotheses relating to crowdfunding, regulation, and social entrepreneurship, which we have summarized as follows:

- Research attests to the significant impact of crowdfunding on social entrepreneurship (Majid & Neysen, 2017; Moreau & Mortier, 2017; de La Pallière, Goullet, and Guyvarc'h, 2021). This innovative mechanism offers a viable alternative to traditional financing by mobilizing capital through online platforms, thus addressing the needs of social initiatives (Lasrado & Lugmayr, 2013). However, its effectiveness remains conditioned by several factors, including the specific mission of the social enterprise and the type of financing adopted (Rouzé et al., 2019). In addition, constraints related to socio-economic and institutional contexts can limit the impact of crowdfunding (Majid & Neysen, 2017), thus highlighting the need for an adapted framework to maximize its potential. Based on these findings, we formulate the following hypothesis:

H1: Crowdfunding significantly affects social entrepreneurship, highlighting its role as a financial lever to support initiatives with a solid social and economic impact.

- Regulation plays a critical role in structuring and developing crowdfunding platforms. Law 15-18, adopted in Morocco, establishes a legal framework to secure transactions, protect investors and entrepreneurs, and guarantee increased transparency of operations. According to Kourabas and Ramsay (2017), a clear regulatory framework fosters innovation and builds trust among economic actors, which are crucial for the success of platforms. In addition, Renault and Onnée (2013) emphasize that the sustainability of crowdfunding models is based on appropriate and inclusive regulation. Based on these analyses, this hypothesis explores the direct impact of Law 15-18 on the functioning and effectiveness of crowdfunding platforms in the Moroccan context. Based on these findings, we formulate the following hypothesis:

H2: Regulation has a significant and positive impact on crowdfunding.

- Crowdfunding regulations are a crucial lever to support social entrepreneurship (Alhammad et al., 2021). Bouzidi and Nabate (2022) highlight that Law No. 15-18, implemented in Morocco, facilitates the financial inclusion of small projects by ensuring a secure and transparent environment. In addition, Bessière and Stéphany (2017) emphasize that the regulations' transparency and due diligence requirements strengthen the reliability and sustainability of social projects. Votes and opinions from the crowd also play a crucial role in serving as a prior evaluation mechanism to validate the quality of projects. In addition, regulation, by requiring financial intermediary status for platform managers, helps to structure the sector while reducing the risk of fraud, as Cieply and Le Nadant (2016) point out. However, questions remain about the assessment of projects and the uniform application of regulations. Based on these findings, we formulate the following hypothesis:

H3: Regulation has a positive impact on social entrepreneurship.

- Regulation plays a vital role as a mediator in the relationship between crowdfunding and social entrepreneurship. Indeed, crowdfunding, as a model of financial intermediation, allows social enterprises to access the financial resources necessary for their development. However, the effectiveness of this mechanism depends heavily on the existence of a clear and structured regulatory framework, such as the one established by Law 15-18 in Morocco.

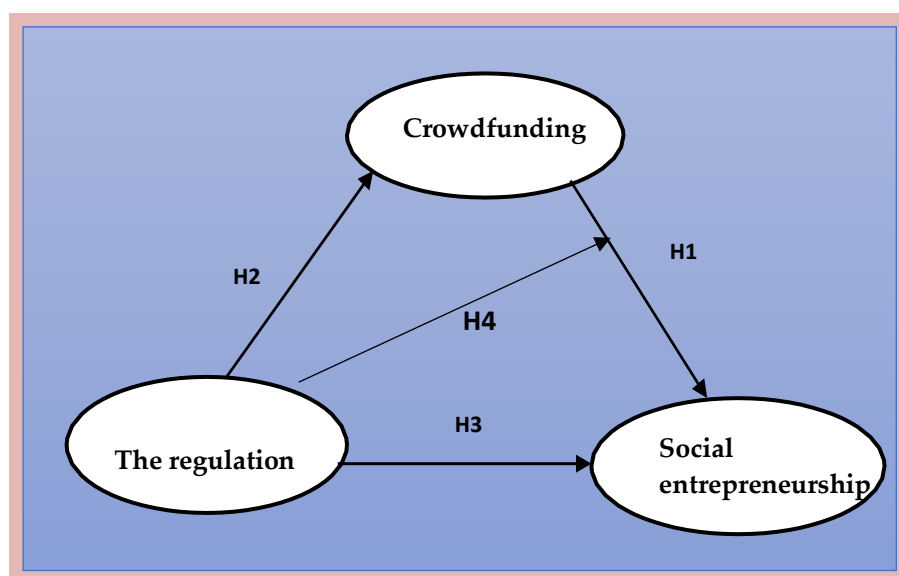
According to Kourabas and Ramsay (2017), well-designed regulation promotes transparency and security of transactions on crowdfunding platforms, thereby building trust among investors and entrepreneurs. This increased credibility attracts more funding and legitimizes social enterprise initiatives (Belleflamme et al., 2010). In addition, Renault and Onnée (2013) point out that regulation contributes to structuring the platform ecosystem, improving their efficiency and accessibility for social enterprises.

Thus, regulation acts as a lever that amplifies the impact of crowdfunding on social entrepreneurship by creating an environment favorable to crowdfunding. Without an appropriate legal framework, crowdfunding platforms risk not offering the necessary safeguards, limiting their adoption and ability to support social enterprises. This hypothesis, therefore, explores how regulation mediates the influence of crowdfunding on social entrepreneurship by strengthening the viability and effectiveness of crowdfunding mechanisms. Based on these findings, we formulate the following hypothesis:

H4: Crowdfunding significantly affects social entrepreneurship in the presence of regulation.

By analyzing the hypotheses of this research, it was possible to develop the conceptual model, which is presented as follows:

Figure 1: The conceptual model of the study



Source: Authors

3. Research methodology

3.1. Research design

By referring to the three types of epistemological reasoning, namely "positivism, interpretivism, and constructivism," we opted for post-positivism, which combines positivism and constructivism, for the following reasons: The existence of reality on the ground: indeed, the crowdfunding model exists and is already in force in Morocco; this reality on the ground leads us to opt for positivist reasoning. Nevertheless, the lack of social projects financed via crowdfunding in Morocco with Moroccan platforms, which represent the centerpiece of our work, is lacking in this funding system. As a result, we will be in a constructivist position since we will have to propose a new structural model.

Therefore, the postpositivist epistemological position is the most appropriate since it postulates that reality is socially constructed through interactions. This will allow us to revisit the financing of the social and solidarity economy, considering a new mode of financing: crowdfunding.

The research approach is based on a hypothetical deductive approach, starting from the existing theoretical fabric to formulate research hypotheses. Our epistemological positioning guides us in the choice of tools used. Indeed, quantitative techniques most often associated with the post-positivist paradigm are adapted to this work. The desire to obtain data that can be significantly

exploited through data collection and the verification of hypotheses formulated following the research objectives explains the use of these methods.

Thus, our article's methodological approach consists of a literature review on social entrepreneurship and crowdfunding, followed by a quantitative study to validate the measurement instruments and test the research model. The research will be validated by confronting the hypotheses with the facts.

3.2. Sample selection and description

To carry out our quantitative study, we administered an online questionnaire via Google Forms to 200 Internet users and potential users of crowdfunding platforms representing the Moroccan crowd while targeting different age groups and socio-professional classes.

The main themes selected in our questionnaire, namely regulation, crowdfunding, and social entrepreneurship, result from an in-depth literature review and a rigorous conceptualization to meet the research objectives. These themes allow us to test the hypotheses formulated in our conceptual model and to analyze the interactions between these dimensions in the Moroccan context.

- **Regulation:** This theme assesses the impact of Law No. 15-18 on financial trust, transparency, and inclusion in crowdfunding platforms, drawing on authors such as Fliche et al. (2016) and Cumming & Johan (2017).
- **Crowdfunding:** This theme explores the factors influencing contributor participation, such as the credibility of information and the governance of projects, following the work of Mollick (2014) and Agrawal et al. (2014).
- **Social entrepreneurship:** This theme examines how crowdfunding promotes the development and reach of innovative social projects, according to studies such as Gerber et al. (2012) and Mollick (2014).

These dimensions make it possible to respond to hypotheses H1 to H4 and analyze the interaction between regulation, crowdfunding, and social entrepreneurship, thus validating the proposed model's relevance.

We opted for the structural equation modeling method by the LISREL (Linear Structural Relations) approach with the AMOS 23 software rather than the PLS (Partial Least Squares) approach because of the specificities and objectives of our research. Unlike the PLS approach, which relies on less stringent assumptions and is suitable for exploratory models (Wold, 1985), the LISREL method is more appropriate for confirmatory analyses, as it allows multiple causal relationships to be tested simultaneously while integrating confirmatory factor analyses (CFAs) to assess the validity and reliability of latent variables (Najjar & Najjar, 2013).

In addition, LISREL offers the advantage of providing robust measures of overall model fit, such as chi-square, CFI, and RMSEA, which are essential for validating the underlying theoretical structure (Schumacker & Lomax, 2004). These indices are unavailable in the PLS approach, which focuses more on predictions (Tenenhaus, 1998). In addition, using LISREL in our context allows us to better model the complex relationships between variables while meeting our primary objective of testing specific hypotheses on the relationships between the variables studied.

Thus, our choice of LISREL reflects our research's confirmatory and hypothetico-deductive nature, relying on rigorous methodological approaches to ensure the validity of the conclusions.

3.3. Analysis

In this section, we will examine the relationships between the different variables of our model through factor and confirmatory analyses, followed by the validation of the structural model. The main objective is to ensure the reliability and validity of the measurement tools used in the study and to empirically test the hypotheses regarding the impact of regulation and crowdfunding on social entrepreneurship.

First, a Principal Component Analysis (PCA) will be used to explore the relationships between the variables and evaluate their structuring in the sample studied. This method will allow us to identify the dimensions necessary for modeling. Then, a confirmatory analysis, carried out using the AMOS software, will be used to validate the measurement scales, particularly in convergent and discriminant validity. These preliminary steps ensure that reliable and consistent indicators represent each construct.

Finally, a structural model validation will be performed to examine the overall fit of the proposed theoretical model, using adjustment indices such as the GFI, CFI, and RMSEA. This validation will also test the hypothetical relationships between regulation, crowdfunding, and social entrepreneurship, thus providing empirical insights into the role of these mechanisms in the Moroccan context.

3.3.1. Factor and confirmatory analyses

First, we grouped the elements used in our study according to items, accompanied by their coding and the authors' references that inspired their formulation. This work guarantees the scientific rigor and relevance of the variables used in our study, as shown in Table 1 below.

Table 1: Summary of items with authors and coding

Variable	Code	Item	Authors
Regulation (Reg)	Reg_1	Build trust in crowdfunding	Fliche et al., 2016
	Reg_2	Access alternative financing	Fliche et al., 2016
	Reg_3	Promote financial inclusion	Cumming & Johan, 2017
	Reg_4	Develop innovative projects	Blanchard & Sabuncu 2016.
	Reg_5	Improve transparency	Colombo, Cumming & Vismara (2016).
Crowdfunding (Cfd)	CF_1	Amount of participation	Agrawal, Catalini, & Goldfarb. (2014).
	CF_2	Project leader or team	Belleflamme, Lambert, & Schwienbacher (2014).
	CF_3	Type of participation (donation, loan, equity investment)	Gerber, Hui & Kuo (2012)
	CF_4	Traceability of financing	Mollick (2014).
	CF_5	Awareness of the platform	Cieply, & Le Nadant (2016).
	CF_6	Governance and project management	Mollick (2014).
	CF_7	Credibility of the information provided	Belleflamme, Lambert & Schwienbacher (2014).
Social Entrepreneurship (ENS)	ES_1	Dimension of the social project (local, regional, national)	Agrawal, Catalini & Goldfarb (2011).
	ES_2	Innovative projects	Gerber, Hui & Kuo (2012)
	ES_3	Purpose of the project (economic, social)	Mollick (2014)

Source: Authors

Subsequently, an exploratory analysis via Principal Component Analysis (PCA) was performed to assess the feasibility of factoring the variables and determine the necessary dimensions. The PCA, a solid method, makes it possible to identify the relationships between variables and to structure the population studied (Evrard et al., 2003). We used the Kaiser-Meyer-Olkin index ($KMO \geq 0.6$) (Berger, 2021), the Bartlett sphericity test ($p < 5\%$), and the Cronbach Alpha (≥ 0.6) (Evrard et al., 2003) to ensure the rigor of the analysis.

Our results confirm the structure of the variables studied—regulation, crowdfunding, and social entrepreneurship—and validate their use in subsequent analyses. These elements constitute an essential basis for deepening the interpretation of the relationships between the model's dimensions.

Following the results obtained, we removed items that did not meet these criteria or contributed little to the validity of the dimensions. The table below summarizes the results of this analysis, indicating the items selected for each variable and the values of the key indices.

Table 2: Summary of the exploratory analysis of our work

Variable	Items	Factor load	Number of items	Eigenvalue	Total variance	KMO	Cronbach's Alpha
Réglementation (Reg)	Reg_1	0,738	5	3,380	67,597 %	0,837	0,91
	Reg_2	0,879					
	Reg_3	0,726					
	Reg_4	0,839					
	Reg_5	0,913					
Crowdfunding (Cfd)	CF_2	0,73	6	4,419	73,656	0,909	0,927
	CF_3	0,905					
	CF_4	0,84					
	CF_5	0,89					
	CF_6	0,91					
	CF_7	0,861					
Social Entrepreneurship (ENS)	ES_1	0,818	3	2,165	72,174 %	0,676	0,806
	ES_2	0,831					
	ES_3	0,897					

Source: Authors

The results obtained demonstrate the solidity and reliability of the three dimensions studied. Each dimension has eigenvalues greater than 1, high total explained variances more significant than 67%, and Cronbach Alphas greater than 0.8, indicating excellent internal consistency. The Kaiser-Meyer-Olkin indices (KMO) show a strong fit for the Regulatory and Crowdfunding dimensions ($KMO > 0.8$). Although the KMO index for Social Entrepreneurship is slightly below the optimal threshold (0.676), it is still acceptable for this type of analysis. In addition, the high factors obtained for each item confirm their significant contribution to the corresponding dimensions, thus attesting to their convergent validity and relevance in the study context.

Following the exploratory factor analysis, the results confirmed the validity and reliability of the dimensions studied.

We now move on to the confirmatory analysis to validate the factor structure and evaluate the theoretical model's overall fit.

This confirmatory step ensures that the indicators accurately reflect the underlying theoretical constructs. Confirmatory analysis, carried out using the AMOS software, makes it possible to verify the validity and reliability of the scales, particularly discriminant and convergent validity, by ensuring that each construct is distinct and solidly linked to its indicators.

Convergent validity: Confirmatory analyses were conducted to examine the convergent validity of our measurement model. Due to the absence of indicators directly provided by the release of AMOS, we used the formula for calculating Jöreskog's ρ proposed by Najjar and Najar (2013). This coefficient, recognized for its superior accuracy to that of Cronbach's Alpha, evaluates the reliability of the constructs at the confirmatory level. According to the recommendations of Roussel et al. (2002), a ρ greater than 0.7 guarantees a satisfactory internal coherence of the scales and validates their convergence. This method ensures the robustness of our measurement model and the relevance of the links between latent variables and their indicators. In addition, the Extracted Mean Variance Index (AVE) was calculated for each latent variable, in line with the work of Henseler et al. (2015). Table 3 below summarizes the results obtained from convergent validity.

Table 3: Convergent validity result

			Loading	Variance	ρ	AVE
ES_1	<---	ENS	0,7	0,7	0,793	0,593
ES_2	<---	ENS	0,8	0,5		
ES_3	<---	ENS	0,9	0,3		
Reg_3	<---	RGL	0,7	0,6	0,803	0,608
Reg_2	<---	RGL	0,8	0,3		
Reg_1	<---	RGL	0,8	0,4		
CF_2	<---	Cfd	0,8	0,3	0,776	0,586
CF_3	<---	Cfd	0,7	0,5		
CF_5	<---	Cfd	0,7	0,6		

Source: Authors

Discriminant validity: Fornell and Larcker (1981) proposed a recognized method for assessing discriminant validity in structural equation models. According to their approach, discriminant validity is established when the square root of a construct's Average Variance Extracted (AVE) is greater than the correlations between this construct and the others. This demonstrates that the construct captures more variances with its indicators than the other constructs, thus confirming that each construct measures a distinct and unique concept in the model. The table below summarizes the results of our discriminant validity:

Table 4: Result of Discriminant Validity

	$\sqrt{\text{AVE}}$	Cfd	RGL
Cfd	0,765	1	
RGL	0,780	0,637	1
ENS	0,770	0,74	0,644

Source: Authors

These results confirm that the constructs measure distinct concepts without significant overlap.

3.3.2. Structural model validation and hypothesis testing

After the confirmatory analysis, we will examine the adequacy of the structural model following the recommendations of Roussel et al. (2002). This step assesses whether the relationships between the theoretical constructs proposed in the model fit satisfactorily with the empirical data. The adjustment indices will include absolute, incremental, and parsimony measures to ensure a comprehensive and rigorous assessment of the structural model's quality.

Table 5 below presents the indices obtained for our structural model.

Table 5: The indices of our structural model

Index	Our model	Acceptance threshold
GFI	0,955	>0,9
AGFI	0,916	> 0,8
RMSEA	0,064	<0,08
NFI	0,953	>0,9
CFI	0,978	>0,9
Standardized RMR	0,04	<0,5
X2 standardized	1,808	<5

Source: Authors

The adjustment indices obtained confirm a good fit with the empirical data. Indeed, absolute measures, such as the GFI (0.955) and the SFGA (0.916), exceed the acceptable thresholds (>0.9 and >0.8 , respectively), attesting to the quality of the overall fit of the model. The RMSEA, at 0.064, remains below the critical threshold of 0.08, indicating a good fit. The incremental indices, particularly the NFI (0.953) and CFI (0.978), which are more significant than 0.9, show an excellent fit compared to a null model. In addition, the low standardized residual (Standardized RMR = 0.04) and the normalized Chi-square (1.808), less than 5, reinforce the robustness of the model. These results show that the proposed structural model faithfully reflects the theoretical relationships between the constructs and aligns with the methodological recommendations of Roussel et al. (2002).

4. Results and discussion

4.1. Testing hypotheses using the structural equation method

4.1.1. Direct effect testing

The results of the tests of the hypotheses for direct effects confirm the relevance of the theoretical relationships proposed in our model. First, regulation (RGL) has a significant and positive impact on crowdfunding (Cfd) with a beta coefficient of 0.64 (C. R. = 7.207, $p < 1\%$). This suggests that having a structured regulatory framework in place promotes the development and credibility of crowdfunding platforms, thereby enhancing their adoption by users.

Second, the analysis also reveals a direct and significant effect of regulation (RGL) on social entrepreneurship (SLE) with a beta coefficient of 0.212 (C. R. = 2.702, $p < 5\%$). Although this effect is more moderate, it indicates that regulation helps create an enabling environment for developing social entrepreneurial initiatives, mainly through mechanisms such as transparency and legitimacy of platforms.

Finally, crowdfunding (Cfd) has a very significant effect on social entrepreneurship (ENS), with a beta coefficient of 0.811 (C. R. = 9.983, $p < 1\%$). This result highlights the crucial role of crowdfunding as an alternative financing tool, capable of overcoming the obstacles related to traditional sources of financing and effectively supporting social projects.

The following table summarizes the direct relationships between the constructs:

Table 6: The relationships between the constructs

			BÊTA	S.E.	C.R.	p
Cfd	<---	RGL	0,64	0,089	7,207	***
ENS	<---	RGL	0,212	0,078	2,702	0,007
ENS	<---	Cfd	0,811	0,081	9,983	***
p ***<1 % et p**<5 %						

Source: Authors

The results highlight the interdependence between regulation, crowdfunding, and social entrepreneurship, demonstrating that implementing an adequate regulatory framework and strengthening crowdfunding platforms are critical levers to boosting social entrepreneurship's development.

4.1.2. Testing the indirect effect of regulation

We adjusted our structural model using the AMOS software to assess the mediating effect of regulation between crowdfunding (Cfd) and social entrepreneurship (ENS). Based on the mediation conditions defined by Baron and Kenny (1986), we obtained the results presented in the table below:

Table 7: The three conditions for regulatory mediation

				Estimate	S.E.	C. R.	P	Label
Condition 1	RGL	<---	Cfd	0,534	0,073	7,279	***	A
Condition2	ENS	<---	Cfd	0,811	0,081	9,983	***	C
Condition3	ENS	<---	RGL	0,212	0,078	2,702	0,007	B
***p<1 %								

Source: Authors

The results show a significant indirect effect ($p = 0.021$, estimate = 0.113), confirming that regulation acts as a partial mediator. Indeed, regulation enriches the relationship between crowdfunding and social entrepreneurship, playing a pivotal role in structuring and strengthening this interaction. However, partial mediation shows that crowdfunding significantly directly affects social entrepreneurship. These results highlight the importance of an adapted regulatory framework to optimize the impact of crowdfunding on entrepreneurial initiatives.

4.2. Results

Using the structural equation method, we assessed the direct relationships between regulation (RGL), crowdfunding (Cfd), and social entrepreneurship (ENS) and the mediating effect of regulation on these relationships. Standardized coefficients (Beta), p-values, and T-statistics (CR) highlight the relevance and significance of the hypotheses tested. The results obtained allow us to validate not only the direct relationships but also the mediation mechanisms envisaged, realizing the efficiency of our model.

The following table summarizes our results:

Table 8: Summary of Analytical Results

Hypothesis	Bêta	p-value	Statistic T (CR)	Hypothesis validated
H1: Crowdfunding significantly affects social entrepreneurship, highlighting its role as a financial lever to support initiatives with a solid social and economic impact.	0,64	<1 %	7 207	Yes
H2: Regulation has a significant and positive impact on crowdfunding.	0,212	<5 %	2 702	Yes
H3: Regulation has a positive impact on social entrepreneurship.	0,811	<1 %	9 983	Yes
H4: Crowdfunding significantly affects social entrepreneurship in the presence of regulation.	0,113	0,021	All conditions are more significant than 1.96	Yes

Source: Authors

The results of our analysis confirm that the H1, H2, and H3 hypotheses are validated, thus establishing meaningful and positive relationships between regulation, crowdfunding, and social entrepreneurship. Regulation has a notable direct impact on crowdfunding (H1) and a moderate but significant effect on social entrepreneurship (H2). In addition, crowdfunding plays a crucial role in supporting social entrepreneurship (H3), reinforcing its importance as an alternative financing mechanism.

In addition, the conditions for mediation are also met, demonstrating that the regulation acts as a partial mediator in the relationship between crowdfunding and social entrepreneurship. This partial mediation reflects the complex interplay between these variables, where a structured regulatory framework helps build trust and transparency, thereby indirectly promoting both crowdfunding and social entrepreneurship. These results highlight the importance of effective

governance to maximize the impact of crowdfunding platforms and support entrepreneurial initiatives.

4.3. Discussion

The results of our study confirm significant relationships between regulation, crowdfunding, and social entrepreneurship, offering valuable insight into the dynamics of these interactions. First, the direct impact of the regulation on crowdfunding is significant ($\beta = 0.64$, $p < 1\%$), thus validating H1. This result reinforces the observations of Bessière and Stéphany (2017), who highlight the crucial role of a structured regulatory framework in ensuring the transparency and legitimacy of crowdfunding platforms. In addition, Bouzidi and Nabate (2022) highlight that laws like Law No. 15-18 in Morocco promote financial inclusion and create a secure environment, essential for building confidence among investors and entrepreneurs.

In addition, the regulations also demonstrate a significant direct effect on social entrepreneurship ($\beta = 0.212$, $p < 5\%$), confirming H2. This finding aligns with the findings of Bouzidi and Nabate (2022), according to which a well-established legal framework facilitates social enterprises' access to reliable financial resources, strengthening their sustainability. Similarly, Renault and Onnée (2013) insist on the structuring role of regulation for the entrepreneurial ecosystem by providing legal and financial security that improves the credibility and attractiveness of social enterprises to investors (Alhammad et al., 2021).

Crowdfunding directly affects social entrepreneurship ($\beta = 0.811$, $p < 1\%$), validating H3. This relationship highlights the ability of crowdfunding to legitimize social projects, as Belleflamme, Lambert, and Schweinbacher (2010) explain, by allowing a broad audience to finance and validate these initiatives. Meyskens and Bird (2015) add that crowdfunding increases the visibility and credibility of social enterprises, which are critical factors in attracting financial resources. These results demonstrate that crowdfunding is a powerful tool for overcoming the traditional challenges of financing social initiatives.

Finally, the mediation analysis reveals that regulation enriches the relationship between crowdfunding and social entrepreneurship, acting as a partial mediator with a significant indirect effect ($\beta = 0.113$, $p < 5\%$). This result highlights that, although regulation structures and reinforces the interaction between these two dimensions, crowdfunding retains a crucial direct effect on social entrepreneurship. These findings, consistent with the work of Bessière and Stéphany (2017) and Bouzidi and Nabate (2022), highlight the importance of an adapted regulatory framework to amplify the impact of crowdfunding platforms while directly supporting social initiatives.

Thus, all these results underline that, although interdependent, regulation and crowdfunding act in a complementary way to promote and structure social entrepreneurship. These interactions demonstrate the need for balanced governance that maximizes the impact of crowdfunding while ensuring a secure and transparent environment for stakeholders.

5. Summary and conclusions

In conclusion, crowdfunding is an efficient and well-suited financing method for the social entrepreneurship needs in Morocco, particularly in the post-regulation context. The combination of an appropriate regulatory framework and easier access to funding through crowdfunding supports the growth of social enterprises and strengthens their socio-economic impact in the country.

Our research confirms the effectiveness of crowdfunding as a financing method for social entrepreneurship in Morocco following the implementation of Law No. 15-18. All proposed hypotheses were validated, demonstrating that crowdfunding is a viable and essential solution for developing social entrepreneurship in the Moroccan context.

The regulatory framework established by Law No. 15-18 plays a crucial role in creating a secure and conducive environment for crowdfunding development while ensuring participants' protection. However, crowdfunding serves as the actual driver of financing for social enterprises, allowing them to access funds more flexibly and quickly than traditional channels. The validation of the hypotheses regarding the impact of the regulatory framework, entrepreneurs' perceptions, and the concrete effect of crowdfunding enables us to confidently conclude the effectiveness of this financing method in the Moroccan context. As a future direction for this article, it would be helpful to highlight the performance of successful social crowdfunding campaigns to assess further the impact of Law No. 15-18 on the dynamics of collaborative financing in Morocco. Future researchers could, for instance, focus on the analysis of specific platforms, as our study took a more general approach. This would add value to stakeholders in social financing.

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