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Education and Entrepreneurship in Mali

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Abstract

The article examines the link between the education system and entrepreneurship in Mali, in a context where the mismatch between education and employment has become a major challenge. It analyses the dynamics of human capital and the factors influencing career intentions. Faced with severe pressures and the mass entry of young people into the labour market, Mali needs to transform its investment in education into a genuine capacity for value creation.

The study addresses the following question: How does the development of human capital influence the intentions and entrepreneurial actions of young graduates, particularly when the labour market remains heavily dominated by informality?

The article highlights a paradox: despite high expectations regarding schooling (as a stepping stone to the civil service), graduates face difficulties in entering the labour market (unemployment and a shift towards subsistence-based informal work rather than entrepreneurship with growth potential). Conceptually, the article links two dimensions: human capital theory, which suggests that education increases productivity and therefore the ability to engage in entrepreneurial activities; and the empirical realities in Mali, which show that education can also act as a constraint if it fails to sufficiently foster initiative and an entrepreneurial culture, and if institutional constraints increase risk aversion.

To explore this relationship, the article formulates five hypotheses concerning: the influence of education on attitudes towards entrepreneurship; the role of subjective norms (family/social support); the effect of self-efficacy and entrepreneurship training; the existence of disparities related to gender and field of study; and the potentially ambiguous impact of current awareness modules, especially if they are not supported by practical guidance.

Finally, the methodology employs a mixed approach: a descriptive analysis using macroeconomic and social data (EMOP/INSTAT), followed by an econometric analysis using multinomial logistic regression. This model compares employment choices across three categories: entrepreneurship (starting a business), employment in the private sector or NGOs, and entry into the civil service.

Keywords: Human capital, Entrepreneurial intention, Education, Labour market, Self-efficacy.

1. Introduction

The intersection between the education system and entrepreneurial dynamics constitutes one of the fundamental pillars of contemporary economic thinking, particularly in developing economies such as Mali. In a globalised context where innovation and organisational agility dictate growth, a country's ability to transform its educational investments into a force for value creation is paramount. For Mali, this issue is part of a demographic and social emergency: with a

population estimated at over 22.3 million in 2022 and an annual influx of nearly 150,000 young people entering the labour market, matching training with employment is becoming the major challenge of the decade.[1]

The research question guiding this analysis is as follows: To what extent does the Malian education system, through the development of human capital, influence the entrepreneurial intentions and actions of young graduates in the face of the constraints of a labour market dominated by informality?

This question raises a multifaceted issue. On the one hand, classical human capital theory posits that education increases productivity and, by extension, the ability to run a successful business.[3] On the other hand, empirical evidence in Mali reveals a persistent paradox: high unemployment among graduates (24% for those who have attained upper- e level) and a drift towards subsistence-based informal work rather than growth-oriented entrepreneurship.[4]

The central issue addressed in this report is the observed mismatch between students' career aspirations and the actual opportunities offered by the formal private sector. Whilst school is traditionally seen as a springboard to the civil service, the saturation of the latter necessitates a shift towards self-employment. However, this transition is hampered by shortcomings in the quality of education, a lack of entrepreneurial culture and rigid institutional barriers.[4] The aim is therefore to analyse whether the current education system in Mali acts as a catalyst or, paradoxically, as a brake on private initiative by reinforcing risk aversion among the most educated. Based on this problem framework, several research hypotheses are formulated. The first hypothesis (H1) suggests that a positive attitude towards entrepreneurship, shaped by education, increases the likelihood of choosing to start a business. The second hypothesis (H2) posits that subjective norms, particularly support from one's social and family circle, are critical determinants of entrepreneurial intention in the Malian context. Hypothesis three (H3) posits that perceived behavioural control, or self-efficacy, is positively correlated with specific entrepreneurship training. Hypothesis four (H4) suggests that contextual factors such as gender and field of study create significant disparities in the intention to start a business. Finally, Hypothesis Five (H5) examines the effectiveness of current awareness-raising modules, positing that they could have an ambivalent, or even negative, effect on entrepreneurial engagement if they are not accompanied by practical guidance.[7]

The methodology adopted to address these questions is based on a mixed-methods approach. At the descriptive level, the study draws on the analysis of macroeconomic and social indicators from the Permanent Modular Household Surveys (EMOP) and reports from the National Institute of Statistics (INSTAT).[5] At the analytical level, a multinomial logistic regression econometric model is employed. This method allows for the estimation of the probabilities of choice between three pathways to professional integration: business creation, employment in the private sector/NGOs, and entry into the civil service.[7] The data analysed are drawn in particular from recent surveys conducted among students at the Faculty of Economics and Management in Bamako, providing a representative sample of the country's future managers.[7]

2. Context

Mali is undergoing a complex phase of political and economic transition, marked by a certain resilience despite internal and external shocks. In 2023, the Malian economy recorded growth of 4.7%, compared with 3.5% in 2022, driven mainly by the tertiary sector and services.[1] However, this growth momentum has not yet succeeded in reducing the monetary poverty that has affected around 42% of the population for the past decade.[11] The primary sector, although dominant in terms of employment (particularly through family farming, which accounts for 35.1% of GDP), remains the weak link in productivity due to its heavy dependence on climatic hazards.[9]

The Malian labour market is characterised by almost total informality, affecting 97.2% of the workforce.[5] Formal private enterprises are rare and account for only a tiny fraction of the job market (between 2% and 3.8% according to studies).[2] In this context, entrepreneurship is not merely a career choice for young people, but often the only alternative to unemployment or precarious employment. The government has responded by launching the Second-Generation Ten-Year Programme for the Development of Education and Vocational Training (PRODEC 2, 2019–2028), which aims to reform the system to make it more responsive to market needs.[13]

2.1. Literature review

The analysis of the relationship between education and entrepreneurship has its roots in human capital theory, the foundations of which were laid by Theodore Schultz and Gary Becker in the 1960s. Schultz (1961) revolutionised economic thinking by demonstrating that investment in individuals' skills, knowledge and health generates higher returns than investment in physical capital.[3] For Schultz, education enhances agents' ability to manage economic imbalances, a skill at the very heart of the entrepreneurial function.[15]

Gary Becker (1964) expanded on this concept by formalising

the analytical framework for individual investment. He distinguishes between general human capital, which is transferable between different firms, and specific human capital, which has value only within a specific organisational context.[17] From an entrepreneurial perspective, general capital is crucial as it provides the flexibility needed to navigate market uncertainty. Human capital theory assumes that individuals act rationally, investing in education as long as the expected rate of return (in the form of future income or profits) exceeds the cost of the investment.[17]

Jacob Mincer (1974) expanded on this work by introducing the earnings function, which links wages to the number of years of education and work experience. Mincer emphasises that the accumulation of human capital does not stop at school but continues in the workplace through on-the-job learning.[15] This distinction is fundamental to Malian entrepreneurship, where practical experience often compensates for gaps in formal education.

A more recent major theoretical contribution comes from Lazear (2005) with the theory of 'Balanced Skills' or 'Jack-of-all-trades'.[19] Lazear posits that, unlike the employee who maximises their income by specialising in a single skill (the 'specialist'), the entrepreneur must possess a diversified portfolio of skills. They need not necessarily excel in one field, but must be competent in several (finance, management, marketing, technical skills).[20] Mathematically, the entrepreneur's income is limited by their weakest skill ($YE = \lambda \cdot \min(x_1, x_2)$), which incentivises them to invest in a balanced set of human capital.[16]

Finally, from a psychological and behavioural perspective, Albert Bandura's social learning theory highlights the role of self-efficacy. An individual's belief in their ability to perform complex tasks, such as starting a business, is influenced by the observation of role models (vicarious learning) and social reinforcement.[22] This theory is complemented by Ajzen's Theory of Planned Behaviour (TPB) (1991), which identifies attitude, subjective norms and perceived control as the three pillars of entrepreneurial intention.[8]

2.2. Empirical review

International and regional empirical studies offer contrasting perspectives on the effectiveness of entrepreneurship education (EE). In Algeria, a study conducted at the University of Laghouat shows that education positively influences entrepreneurial intention by developing 'entrepreneurial vigilance', i.e. the ability to identify market opportunities.[25] Students who have undergone this training display greater confidence in their ability to set up an innovative business than those from traditional degree programmes.[25]

Conversely, research carried out in France reveals that the impact of such training is often skewed. Whilst it increases the desire to start a business in the short term, the actual move to action remains dependent on external factors. Furthermore, it is observed that women tend to internalise barriers (risk aversion, fear of failure) to a greater extent, reducing the effectiveness of awareness-raising initiatives.[26] In the Democratic Republic of the Congo, studies on students in Kinshasa highlight that despite strong intentions, the lack of access to credit and insufficient capital constitute insurmountable barriers.[8]

In Mali, recent studies by Sissoko (2025) and Sanogo & Traoré (2026) provide crucial data. Analysis of Malian students shows that whilst attitude and subjective norms play a positive role, entrepreneurship education as currently practised has mixed effects.[7] Merely raising awareness, without practical support or coaching, can paradoxically reduce entrepreneurial intent by placing too much emphasis on administrative and financial difficulties, thereby pushing students towards the security of salaried employment.[7] These results suggest that the quality and method of teaching (active vs. theoretical pedagogy) are more decisive than mere exposure to the subject.

3. Relationships between variables

The link between education and entrepreneurship in Mali must be analysed in the light of the specific structure of its labour market. Education is supposed to be a pathway out of the informal sector, but statistics reveal a more nuanced reality where a degree no longer guarantees access to the formal sector.

3.1. Indicators

An examination of macroeconomic indicators helps to quantify the scale of the challenges. Mali still has a low adult literacy rate (26.2%) and a primary school completion rate of just 45%.[2] This fragile foundation has a direct impact on the quality of entrepreneurship, which remains largely a matter of necessity rather than opportunity.

Table 1: Macroeconomic indicators

Indicator	Value / Proportion	Source
Youth unemployment rate (15–29 years)	63%	4
National informal employment	97.2%	5
Informal employment (without education)	99.7%	5
Informal employment (secondary education)	57.0%	5
Informal employment (higher education)	61.1%	5
Proportion of female entrepreneurs	34%	28
Share of the formal private sector in employment	2.0%–3.8%	2
Learners in vocational training	22 per 100,000 inhabitants	29

Analysis of these figures reveals a striking correlation between educational attainment and the nature of employment. Whilst 99.7% of the uneducated workforce are employed in the informal sector, this figure falls to 57% for those with secondary education, before rising slightly for those with tertiary education (61.1%).[5] This paradoxical rebound at the tertiary level can be explained by the mismatch between university qualifications and the technical needs of the few formal enterprises, forcing graduates to set up their own informal micro-units in urban services.[5]

3.2. Description of sectoral dynamics and obstacles

The Malian private sector, although a key driver of development, is hampered by major structural challenges that education has not yet managed to resolve. The following table summarises the obstacles faced by entrepreneurs, based on a sample of 30 Malian ‘’ enterprises.[6]

Table 2: Sectoral dynamics and difficulties

Challenge Category	Difficulty Indicator	Impact as perceived by entrepreneurs
Governance	Family structure of businesses	89% of businesses
Management	Lack of internal audit	97% of companies
Planning	No business plan drawn up at start-up	64% of entrepreneurs
Legal/Administrative	Slow administrative procedures	82% of respondents
Finance	Lack of a reliable accounting system	42% of SMEs
Infrastructure	Limited access to electricity and transport	Major cost factor

Source: AUTHORS

These data suggest that entrepreneurial human capital in Mali suffers from a lack of professionalisation. The predominance of family-run structures and the absence of modern management tools limit businesses’ ability to attract external investment and grow beyond the size of a micro-enterprise.[6]

3.3. Descriptive analysis

Self-employment is the dominant form of work among young Malians (31% are entrepreneurs compared with 19% in paid employment).[28] However, this statistic masks a profound gender disparity. Whilst 34% of women identify as entrepreneurs, they are overwhelmingly concentrated in the agri-food sector and small-scale retail, often engaging in multiple activities to ensure the household’s survival.[5] In contrast, men have greater access to salaried employment (33% compared to 7% for women).[28]

Vocational training seeks to redress these imbalances. In 2021, the proportion of women enrolled in vocational training centres (VTCs) was higher than that of men (except in certain northern regions such as Gao or Timbuktu).[29] Around 80.9%

of graduates from these schemes are in jobs related to their training, indicating that skills-based training is a more effective lever for integration than general education.[29]

However, persistent challenges remain within the country's overall entrepreneurial ecosystem. The Global Entrepreneurship Monitor (GEM) 2025/2026 report highlights the emergence of two new gaps: the 'Survival Gap' (too few start-ups survive beyond 3.5 years) and the 'AI Readiness Gap' (lack of access to digital technologies and artificial intelligence).[30] For Mali, these gaps are directly linked to the weakness of entrepreneurship education in schools, ranked as the poorest framework condition in the majority of economies monitored by the GEM.[32]

4. Model equation

In order to accurately identify the determinants of entrepreneurial intention among Malian students, we use a multinomial logit model. This model is particularly suitable when the dependent variable is qualitative and has more than two unordered categories.

4.1. Model specification

An individual's choice i of a career path j is modelled by the probability:

$$P(Y_i = j|X_i) = \frac{\exp(X_i\beta_j)}{\sum_{k=1}^{J}\exp(X_i\beta_k)}$$

In our study, $J = 3$ (1 = Business start-up, 2 = Private sector/NGO employment, 3 = Civil service). The 'Business start-up' category is chosen as the reference category. The model thus estimates the log-odds (logarithm of the odds ratio) of choosing the private or public sector over entrepreneurship.[7]

4.2. Definition of variables

The explanatory variables X_i are classified into four groups:

- Cognitive Variables: Attitude towards entrepreneurship (ATT), Subjective Norms (SN), and Perceived Behavioural Control (PBC) based on a Likert scale.[7]
- Educational variables: Field of study (Management, Economics, Finance/Banking), Level of education (Bachelor's, Master's), Participation in specific entrepreneurship training (Dummy).[7]
- Sociodemographic variables: Gender (1 = Female, 0 = Male), Age, Place of residence (1 = Bamako, 2 = Other city, 3 = Rural).[7]
- Contextual variables: Family background (parent is an entrepreneur), Internship experience.[7]

4.3. Data analysis and results

The estimates derived from the survey of 567 FSEG students reveal key insights into the determinants of career intentions in Mali.[7]

Table 3: Results

Variable	Coefficient (β) - Private	Odds Ratio (OR) - Private	Coefficient (β) - Public	Odds Ratio (OR) - Public
Gender (Female)	1.242	3.46	1.086	2.96
Age (> 30 years)	-12.285	0.00	13.633	> 1,000,000
Finance/Banking sector	1,655	5.24	-	-
EE Awareness	-	-	0.761	2.14
Positive Attitude	-0.872	0.42	-0.915	0.40

Note: An OR < 1 relative to the reference category (Entrepreneurship) means that the variable increases the probability of choosing entrepreneurship.

Interpretation of these results shows that:

- Gender bias is very pronounced: women are 3.46 times more likely to aim for the private sector and 2.96 times more likely to aim for the civil service than to start a business. In terms of marginal effects, being a woman reduces the probability of choosing entrepreneurship by 21.7 percentage points.[7]

- Age and security: Students over the age of 30 overwhelmingly reject the private sector in favour of the civil service. This can be explained by a search for greater stability as family responsibilities increase.[7]

- The effect of academic disciplines: Students studying finance or insurance are strongly drawn to private-sector employment (OR = 5.24). They perceive a high market value for their specific skills in the formal labour market, which increases the opportunity cost of entrepreneurship.[7]

- The training paradox: Participation in awareness-raising modules does not stimulate entrepreneurial intent. On the contrary, it increases the likelihood of aiming for the civil service (OR = 2.14). This result suggests that students perceive entrepreneurship as too risky after being exposed to the real constraints of the Malian market without receiving practical coaching.[7]

5. Discussion

The validation of hypotheses H1, H2 and H3 confirms that cognitive factors remain the universal drivers of intention. A favourable attitude and a sense of self-efficacy boost the desire to start a business. However, the case of Mali illustrates the predominance of contextual (H4) and educational (H5) factors.[7] The negative effect of awareness-raising highlights a flaw in the PRODEC 2 strategy. If the objective is to promote self-employment, the current educational content appears too focused on theory or on obstacles, without providing the necessary tools for resilience. As Bandura suggests, self-efficacy is not built through discourse but through the experience of mastery.[22] It is therefore imperative to transform these modules into practical incubators where students test their ideas in the field.[4] Furthermore, Lazear's 'Balanced Skills' theory is validated by the behaviour of finance students. By specialising, they move away from entrepreneurship because they do not develop the versatile profile needed to manage a Malian SME, where one must be an accountant, a salesperson and a logistics specialist all at once.[20] The education system would benefit from promoting interdisciplinarity to encourage 'jack-of-all-trades' profiles.[20]

Finally, the challenges facing the private sector (lack of auditing, family-run management) highlight that education must also aim to professionalise management. Training entrepreneurs is pointless if the institutional environment and basic management skills do not allow for growth and formalisation.[6]

5.1. Outlook

Mali has a pool of young people motivated by self-employment, but the transition to value-creating entrepreneurship requires structural reforms. PRODEC 2 must accelerate the implementation of the competency-based approach (CBA) and strengthen partnerships between universities and businesses. It is no longer simply a matter of educating, but of equipping students. Recommendations include: The systematic introduction of long-term work placements from the first years of undergraduate study.[4]

The creation of functional placement and incubation units in every higher education institution (currently only 46.9% of higher education institutions have them).[29] The promotion of local 'success stories' to encourage vicarious learning and break down gender stereotypes.[4]

Entrepreneurship cannot thrive without easier access to capital. The Youth Business Start-up Support Fund (FACEJ) and the Fund for Women's Empowerment and Child Development (FAFE) must be strengthened and decentralised.[5] The use of digital technologies to formalise businesses could also reduce corruption and administrative delays, which are cited by 82% of entrepreneurs.[6] Mali offers major investment opportunities in agri-food processing and renewable energy.[12] Demand for technical training in these sectors (TVET) is set to quadruple by 2040.[12] The integration of digital tools and artificial intelligence (AI) into curricula is essential to bridge the 'AI Readiness Gap' and enable Malian entrepreneurs to boost productivity in regional and international markets.[30]

6. Conclusion

An analysis of education and entrepreneurship in Mali reveals a complex dynamic in which human capital is both a promising resource and a lever that remains under-exploited. Whilst classical theory emphasises the importance of investment in education, the reality in Mali shows that a qualification alone is not enough to trigger growth-oriented entrepreneurship. The structural constraints of the market, dominated by informality, and the shortcomings of an education system that is at times overly theoretical, create a climate of uncertainty that holds back the most qualified

individuals. Econometric modelling has highlighted crucial determinants: the influence of gender, the appeal of skilled salaried employment for finance graduates, and the sometimes-dissuasive effect of awareness-raising without guidance. These findings call for a break with traditional teaching methods. Entrepreneurship education in Mali must become a school of action, fostering versatile skills and strengthening young people's self-efficacy.

In conclusion, the prospect of an emerging Mali rests on its ability to transform its demographic challenges into economic opportunities. This requires genuine synergy between the educational reforms of PRODEC 2 and a secure, transparent and innovation-oriented business environment. Entrepreneurship must no longer be a refuge from unemployment, but the driving force behind a resilient, green and inclusive economy, capable of offering every graduate the means to become fully self-reliant and contribute to the nation's wealth.

Bibliography

1. BEIJING+30 REPORT UN Women, https://www.unwomen.org/sites/default/files/2024-09/b30_report_mali_fr.pdf

2. Ten-Year Programme for the Development of Vocational Training for Employment (PRODEFPE) Phase 1 – FAR Network, 2026, https://www.reseau-far.com/wp-content/uploads/2018/07/Doc_PRODEFPE_MALI.pdf

3. Human Capital Theory: Strengthening the Employer Brand - EGYM Wellpass, 2026, https://fr.egym-wellpass.com/fr-fr/blog/marque-employeur/capital-humain-cle-d-une-marque-employeur-forte

4. The Career Path of Young People in Mali Towards Self-... , accessed 14 April 2026, https://journals.openedition.org/cea/3764

5. Women's Entrepreneurship in Mali: Challenges and Prospects ... - ijafame, https://ijafame.org/index.php/ijafame/article/download/489/489/1454

6. DYNAMICS OF THE MALIAN PRIVATE SECTOR: The challenges of ..., 14 April 2026, https://revue-isg.com/index.php/home/article/download/1473/1185/5175

7. ENTREPRENEURIAL INTENTIONS AMONG MALIAN STUDENTS, https://www.revue-irs.com/index.php/home/article/download/1002/658/1740

8. Determinants of entrepreneurial intention in the DRC: Empirical evidence from students in Kinshasa Determinants of entrepr - ijafame, https://ijafame.org/index.php/ijafame/article/download/1152/1151/2456

9. 'KHI-DEUX' – INSTAT (Mali), https://www.instat-mali.org/laravel-filemanager/files/shares/pub/khideux38_pub.pdf

10. Determinants of entrepreneurial intention | PDF | Entrepreneurship | perception - Scribd, https://fr.scribd.com/document/848502349/DETERMINANTS-OF-ENTREPRENEURIAL-INTENTION-AMONG-FSEG-USSGB-STUDENTS

11. Mali: 2023 Common Country Assessment, https://uninfo.blob.core.windows.net/uninfo-production-main/fb5c3310-7527-4fd4-9b18-55515034972f_RapportFinalMaliACP2023int%C3%A9grantCommentairesMK15042024.pdf

12. The SDG-oriented Investment Map for Mali, https://www.undp.org/sites/g/files/zskgke326/files/2025-12/the_mali_sdg_investor_map-rapport_narratif_version_finale_aout_2025.pdf

13. Annual Performance Report of the Second Ten-Year Programme for the Development of Education and Vocational Training ( ), https://www.globalpartnership.org/fr/node/document/download?file=document/file/2022-10-mali-rapport-mise-%C5%93uvre-plan-sectoriel-education.pdf

14. Second Generation Ten-Year Programme for the Development of Education and Vocational Training (PRODEC 2), 2019–2028 | Planipolis, https://planipolis.iiep.unesco.org/en/2020/programme-d%C3%A9cennal-de-d%C3%A9veloppement-de-l%E2%80%99%C3%A9ducation-et-de-la-formation-professionnelle-deuxi%C3%A8me

15. Education and Economic Growth: A Literature Review - Munich .., https://mpra.ub.uni-muenchen.de/122831/1/MPRA_paper_122831.pdf

16. BALANCED SKILLS AMONG NASCENT ENTREPRENEURS - Swinburne figshare, accessed 14 April 2026, https://figshare.swinburne.edu.au/ndownloader/files/47653987

17. Becker's Theory of Human Capital | PDF - Scribd, https://fr.scribd.com/document/838823543/Chapitre-1-La-Theorie-du-Capital-Humain-N

18. Human Capital and Human Resource Management: A Theoretical Perspective. - Moroccan Scientific Journals, https://revues.imist.ma/index.php/ISSM/article/download/24102/14922/75867

19. Entrepreneurship - IDEAS/RePEc, accessedhttps://ideas.repec.org/a/ucp/jlabec/v23y2005i4p649-680.html

20. Entrepreneurship | Journal of Labour Economics: Vol 23, No 4, https://www.journals.uchicago.edu/doi/10.1086/491605

21. (PDF) Who Chooses to Become an Entrepreneur? The Jacks-of-All-Trades in Social and Human Capital - ResearchGate, https://www.researchgate.net/publication/5130224_Who_Chooses_to_Become_an_Entrepreneur_The_Jacks-of-All-Trades_in_Social_and_Human_Capital

22. Bandura's social learning theory: key concepts - Lemon Learning, https://lemonlearning.com/fr/blog/theorie-de-lapprentissage-social-de-bandura

23. XXIII. Albert Bandura – Sociocognitive theory and moral disengagement: personal, professional and ethical performancehttps://shs.cairn.info/les-grands-auteurs-en-gestion-des-ressources-humaines--9782376879763-page-314?lang=fr

24. Analysis of the impact of entrepreneurship on poverty reduction in Mali: The case of several entrepreneurs in Bamako - WOAS Journals, https://woas-journals.com/index.php/ijesm/article/download/766/512/1296

25. The impact of entrepreneurship education on the intention ... - ASJP, https://asjp.cerist.dz/en/downArticle/83/11/1/159794

26. Do entrepreneurship training courses have an impact on students' future careers? - OpenEdition Books, https://books.openedition.org/pulm/27221

27. ANALYSIS REPORT ON THE BASIC EDUCATION SECTOR - MALI - - JICA Report PDF, accessed 14 April 2026, https://openjicareport.jica.go.jp/pdf/12083291.pdf

28. YOUTH ENTREPRENEURSHIP IN MALI - CASE STUDIES: BAMAKO, SEGOU, KONOBOUGOU AND NIONO, https://um.dk/media/0ytfhl14/emploi-jeune.pdf

29. MINISTRY OF NATIONAL ENTREPRENEURSHIP AND EMPLOYMENT, REPUBLIC OF MALI: RESEARCH REPORTS, http://bibliotheque.onef.ml:8383/greenstone3/library/collection/etudes/document/HASHb96ba8ca021c7c267a86b6;jsessionid=9A9E556C3FA1EDDF3C90652FAA8276B3?ed=1

30. GEM 2025/2026 Global Report: From Uncertainty to Opportunity - GEM Global Entrepreneurship Monitor, accessed 14 April 2026, https://gemconsortium.org/report/51858

31. GEM 2025/2026 Global Report: From Uncertainty to Opportunity, https://www.gemconsortium.org/reports/latest-global-report

32. (GEM) Global Report - Global Entrepreneurship Monitor, https://www.gemconsortium.org/report

33. Statistical Methodology M 2016/01 The Logit Model: Theory and Application - INSEE, accessed 14 April 2026, https://www.insee.fr/fr/statistiques/fichier/2022139/le-modele-logit-cb.pdf

34. Theme: Explanatory factors of the entrepreneurial intention of university students in Mali, , https://digitalcommons.pepperdine.edu/cgi/viewcontent.cgi, article=1447&context=jef

35. How can social learning be encouraged in training courses? - Cegos, https://www.cegos.fr/ressources/mag/formation-2/formateurs-et-tuteurs/social-learning-

apprentissage-social-de-quoi-parle-ton

36. DIAWARA Daman-Guilé, BALLO Amidou, & BAGAYOKO Boubacar. (2025). Higher Education and the Labour Market in Mali. *International Journal of Scientific Research and Innovation (IRSI Journal)*, *3*(5), 1203–1216. https://doi.org/10.5281/zenodo.17131669

37. DIAWARA DAMANGUILE. Human Capital and Economic Growth in Mali. French Journal of Economics and Management, forthcoming, 4 (4). ⟨hal-04681670⟩

38. DIAWARA, D.-G. and TRAORE, M. 2023. Higher education and human capital formation in Mali. *Revue Internationale du Chercheur*. 4, 1 (Mar. 2023).

39. Artificial Intelligence and Employment in the International Economy – Published Articles – (1 October 2025) – Daman-Guilé DIAWARA and Amidou BALLO Vol. 11 No. 130 (2025)