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Technological Innovations and Employees' Employability Development Challenges in Mauritius. The Mediating Effect of Career Anchors

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Abstract: This study investigates the impact of rapid technological innovations, particularly Artificial Intelligence (AI) and digital transformation, on employees' employability in Mauritius during the Fourth Industrial Revolution. It addresses the critical research question of how these technological changes affect skill development, job security, and career perceptions within various sectors of the Mauritian economy. Employing a quantitative research design, data was collected through a questionnaire survey from 217 respondents across multiple industries. The study applies correlation and regression analyses to examine the determinants of technological innovation, organizational strategies, and their effects on employability outcomes, including the mediating role of career anchors. Findings reveal a dual impact of technological advancements: while they threaten job security through automation and disruption, they simultaneously create opportunities for employees to upskill and enhance their competitiveness. Organizations that adopt proactive strategies, such as fostering continuous learning and promoting adaptability, significantly improving workforce employability and resilience amid digital transformation. The results highlight the importance of organizational support in mitigating risks associated with technological change and in facilitating career development. This paper contributes to the understanding of how technological innovation reshapes employment landscapes in Mauritius, emphasizing both favorable and unfavorable consequences for employees. It underscores the need for strategic interventions to balance technological progress with workforce sustainability. The study's insights are valuable for policymakers, business leaders, and educational institutions aiming to navigate the challenges and leverage the opportunities presented by AI and digital transformation in Mauritius's evolving labor market. This research thus offers a comprehensive view of the complex relationship between technology, employability, and career development in a small island developing economy undergoing rapid digital change.

Keywords: technological innovations; employability; artificial intelligence; digital transformation; Mauritius labor market.

Introduction

The rapid technological advancements of Industry 4.0 have reshaped global labor markets, creating dual opportunities and challenges for workforce employability. In Mauritius, this digital revolution has transformed work environments and job requirements, particularly as automation and algorithm-driven applications reduce human involvement in tasks. McAfee and Brynjolfsson (2014) note that the Second Machine Age increasingly substitutes humans with software-driven machines, even in cognitive roles, rather than complementing human labor. Liu and Wagner (2021) emphasize the undeniable impact of these technological shifts on employment dynamics, underscoring the need for detailed case studies to understand their implications for future workforce strategies.

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Vol.13 (2025) no.3, pp.268-282; DOI 10.2478/mdke-2025-0015

Mauritius has established itself as a leader in technological adoption in Africa (Gwagwa et al., 2020), supported by a strong digital infrastructure. The Global Cybersecurity Index (2024) ranks Mauritius first in Africa and among the top Tier 1 countries globally, with a perfect score of 100 per cent across all five assessment pillars, and the ICT sector plays a crucial role in the economy. The Digital Mauritius 2030 Strategic Plan guides the country's shift toward a digitally enabled and sustainable economy, emphasizing digital literacy, e-commerce, and innovation. Rapid technological change is bringing changing job requirements to the front burner, necessitating continuous workforce development (World Economic Forum, 2025). The skills required for current jobs are constantly referring to continuous learning and development from employees, so that they can respond adequately. Companies across all sectors face the pressing question not of whether to embrace digital transformation but how to effectively navigate this radical shift in recent years. A significant challenge identified in Mauritius is the mismatch between the demand for skilled labor in the ICT sector and the supply of qualified professionals from the higher education system. Research conducted in 2022 (Radda & Rydhem, 2022) revealed that this skills gap exists in both quantitative and qualitative terms.

Despite the profound impact of technology on business practices and workforce requirements, research examining these transformations in the Mauritian context remains limited. Organizations adopting new technologies face dual challenges: managing job security concerns and enabling employees to acquire new skills. However, the notable gap is about understanding how technological transformations specifically affect employees' employability development in Mauritius.

This study investigates the relationship between technological innovations and employability development within the Mauritian context, focusing on the skills needed in the rapidly evolving digital landscape. The key research questions are: How do technological innovations affect employees' employability development in Mauritius? And how do employees' career anchors mediate this relationship?

Literature review

The existing literature presents contrasting perspectives on whether technological innovations create or destroy jobs, with numerous studies (Acemoglu & Restrepo, 2020; Autor, 2015; Bessen, 2019) suggesting that while automation, for example, may eliminate certain positions, it simultaneously generates new opportunities. The integration of technology innovations, especially Artificial Intelligence (AI), across diverse sectors has generated considerable interest and debate concerning its effects on employment, organizational dynamics, and the wider socio-economic environment. This literature review explores the current research on technological innovations, emphasizing their influence on employability and the changing nature of work. By synthesizing insights from multiple studies, it seeks to offer a comprehensive understanding of how technological advancements are reshaping employment practices and defining the essential skills required for the future workforce.

Technological innovations and their impact on employment

Historically, technological innovations have been a catalyst for change in the workplace. In the context of the Fourth Industrial Revolution (Schwab, 2016), characterized by rapid advancements in AI, robotics, and digital technologies, the relationship between technology and employment has become increasingly complex. McKinsey Global Institute (2017) points out that while technological advancements may lead to job displacement in certain sectors, they also create new opportunities that require different skill sets. This duality emphasizes the importance of addressing employees' employability challenges to ensure a workforce that is both available and capable of meeting the demands of the evolving job market (Labor Market Survey, 2024). Based on these arguments, we infer that:

H1: There is a positive relationship between technological innovations and employees' employability development.

The role of digital transformation as a driver of technological innovation

Digital transformation, broadly defined as the significant organizational change driven by the adoption of digital technologies to enhance performance and value creation, remains a pivotal force in technological innovation (Verhoef et al., 2021). Recent studies emphasize that governments increasingly prioritize Information and Communication Technologies (ICT) and Artificial Intelligence (AI) as critical components for economic diversification and employment generation, particularly targeting youth workforce integration (Neffati & Jbir, 2024). While digitalization opens new career pathways in emerging domains such as AI, data analytics, and cybersecurity, it presents challenges, including workforce displacement and the urgent need for reskilling and upskilling (McKinsey, 2024). Addressing these challenges requires a commitment to lifelong learning and fostering a culture of continuous professional development within organizations (Jaldemark et al., 2021). Moreover, strengthening partnerships between educational institutions and industry is essential to ensure that curricula remain relevant and that students gain practical experience through internships and apprenticeships, thereby better preparing them for the dynamic labor market (Akash & Suganya, 2024).

Employability

Employability is a multifaceted concept involving the skills, knowledge, and attributes necessary for individuals to obtain and sustain employment in a rapidly evolving job market. Its key dimensions influence career success and adaptability, especially as technological advancements reshape industries and workplace demands. This section evokes the key dimensions of employability, providing insights into how they influence career success and adaptability in the face of technological innovations.

Empirical evidence and dimensions of employability

Employability is defined as an individual's active adaptability to identify and realize career opportunities, increasingly relying on lifelong learning and adaptability, especially as automation and technology advance (Fugate et al., 2004). The focus has shifted from merely aligning education to employment to ensuring that skills evolve to meet current job market demands. Companies must adapt to human resources management (HRM) strategies to enhance employee skills and maintain competitiveness. Qualitative studies exploring student perspectives reveal employability as a multifactorial construct centered on the "fit" between individual capabilities and job requirements, influenced by knowledge, skills, social factors, and workplace experiences (Flanagan, 2025).

Employability is difficult to measure empirically and has been the focus of limited research (Neroorkar, 2022). The OECD Employment Outlook (2018) mentions labor market trends affecting employability, such as wage stagnation despite rising employment rates, and emphasizes the importance of adaptability and skill development to navigate evolving economic conditions. Hofaidhllaoui and Vatteville (2011) identified three key studies from 2004 that help clarify employability measurement. Van Dam (2004) developed a four-point, seven-item scale measuring "employability orientation," focusing on employees' attitudes toward changes in their work situations. De Grip et al. (2004) constructed the "Industry Employability Index" using statistical data to compare workforce employability across industries, incorporating individual, organizational, and economic factors. They defined individual employability through attitudes of willingness and ability regarding mobility, training participation, and flexibility. Van Der Heijde and Van Der Heijden (2006) proposed a competence-based approach, defining employability as the continuous fulfillment, acquisition, or creation of work through optimal use of competencies, which include knowledge, skills, attitudes, and behaviors linked to high performance and sustainable competitive advantage (Athey & Orth, 1999, as cited in Van

Vol.13 (2025) no.3, pp.268-282; DOI 10.2478/mdke-2025-0015

Der Heijde & Van Der Heijden, 2006). Fugate and Kinicki (2008) concurred with Van Der Heijde and Van Der Heijden (2006) that employability is multidimensional and proposed a competence-based model comprising five competencies: occupational expertise as the core, complemented by anticipation and optimization, personal flexibility, corporate sense, and balance. These frameworks emphasize that employability involves a broad set of skills and attitudes that enable individuals to adapt to changing job demands and sustain career success.

Technological innovations and employability development

Technological innovation continues to generate debates about its impact on employment. While often associated with job losses, recent research indicates that innovation generally fosters job creation, particularly in highly innovative regions (Vivarelli & Arenas Díaz, 2025). The importance of distinguishing between employment and employability is necessary, as job displacement is frequently driven more by skill mismatches in evolving work environments than by technology itself. Since 2010, scholars have associated employability with labor market transformations characterized by market volatility, precarious job conditions, labor market externalization, and rising underemployment (McKinsey Global Institute, 2023; World Economic Forum, 2025). These dynamics highlight the need for continuous skill development to adapt to technological and economic shifts. Based on these arguments, we infer that:

H2: There is a positive relationship between technological innovations and the occupational expertise of employees in Mauritius.
H3: There is a positive relationship between technological innovations and the anticipation and optimization of employees in Mauritius.
H4: There is a positive relationship between technological innovations and the personal flexibility of employees in Mauritius.
H5: There is a positive relationship between technological innovations and the collaborative spirit of employees in Mauritius.
H6: There is a positive relationship between technological innovations and the work-life balance of employers and employees in Mauritius.

Technological innovations and career anchors

The growing impact of technological innovations such as automation, robotics, and artificial intelligence is fundamentally reshaping career development, as emphasized by Veloso et al. (2020). These advancements affect not only routine tasks but also intellectual and creative roles, underscoring the need for a systematic analysis of evolving career dynamics. Veloso et al. (2020) also point out that while millennials value skill development through new technologies, they often underestimate the emotional stress caused by rapid change. Furthermore, organizations must adapt their human resource management strategies to foster cross-disciplinary skills like communication, problem-solving, and adaptability, which are crucial for navigating the complexities introduced by technological progress. Recent studies by Veloso et al. (2020), as well as Cabot and Gagnon (2021), emphasize career anchors-individuals' intrinsic motivations-as critical to understanding professionals' adaptation to technological shifts. This gap underlines the need to investigate how technological innovations reshape employability and career anchors, offering insights to help employees align their motivations with evolving career demands and enabling organizations to better support workforce development amid rapid technological change. Based on these arguments, we infer that:

H7: There is a positive relationship between technological innovations and career anchors.
H8: There is a positive relationship between career anchors and the employability development of employees.

Research framework

Figure 1 illustrates the conceptual framework guiding this study, outlining the hypothesized relationships among technological innovations, career anchors, employability, and relevant control variables. First, it is posited that technological innovations, particularly those focused on digitalization and artificial intelligence, have a direct positive effect on employability. This relationship is expected to manifest both directly and indirectly through the mediating role of career anchors.

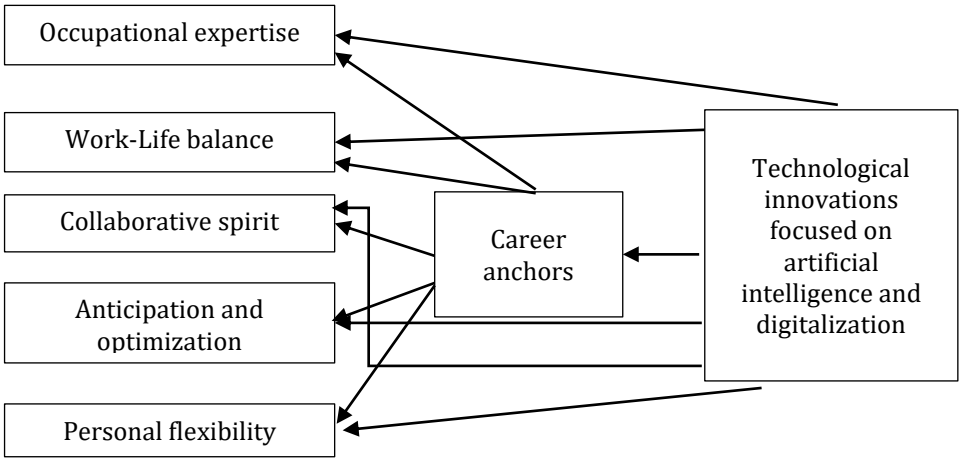

Figure 1. Conceptual research model
Source: own processing

Second, career anchors are hypothesized to serve as a significant mediating variable, shaping how technological innovations translate into enhanced employability outcomes. Specifically, individuals who adapt to technological changes and align their career anchors accordingly are anticipated to exhibit greater employability. Third, employability is conceptualized as a multidimensional construct, encompassing occupational expertise, work-life balance, collaborative spirit, anticipation and optimization, and personal flexibility. It is expected that technological innovations and career anchors will positively impact each of these facets. Finally, by integrating these elements whereby organizations manage to isolate the unique contributions of technological innovations and career anchors, the framework provides a comprehensive approach to understanding how digital transformation and personal career orientations jointly shape employability in contemporary work environments.

Research methodology

Sample

The sampling frame for this study consists of professionals from various sectors within the Mauritian economy. Of the 217 respondents, a significant proportion—58%—represents the IT industry. This emphasis reflects the IT sector's leading role in technological innovation and its direct relevance to employability issues. Participants were selected based on their direct experience or exposure to technological changes and their effects on skill requirements and employment prospects. Sampling was conducted electronically, enabling the recruitment of a diverse group of professionals across different industries via Google Forms.

Materials and methods

A structured, quantitative questionnaire was developed and distributed electronically using Google Forms. The survey targeted individuals with relevant knowledge or

Vol.13 (2025) no.3, pp.268-282; DOI 10.2478/mdke-2025-0015

experience concerning technological innovations and their impact on skills and employability. To ensure the reliability and validity of the instrument, a pilot study was first conducted with a small subset of participants. Feedback from this group was used to refine the final questionnaire.

Upon completion of data collection, responses were processed and analyzed statistically using SPSS. Descriptive statistical methods summarized the demographic characteristics and key variables, while regression analysis was employed to assess potential relationships between technological innovations and employees' perceptions of employability.

Measures

The primary tool for data collection was a structured questionnaire, which included both demographic items and Likert-scale statements that measured perceptions of technological innovation, skill development, and employability. The Likert items enabled respondents to express the extent of their agreement or disagreement with various statements about workplace technological change and its consequences for their skills and career prospects.

Findings

Demographic characteristics

The demographics presented in Table 1 provide a comprehensive overview of the respondent population sample, with a focus on key variables such as age group, gender, marital status, highest qualifications, and work experience.

Table 1. Demographic characteristics

Items	Variable label	Total number of participants	Total number of responses	Percentage of response
Age group	Less than 25 years	217	28	12.9%
	25-35	217	83	38.2%
	35-45	217	66	30.4%
	45-55	217	24	11.1%
	More than 55	217	16	7.4%
Gender	Male	217	147	67.7%
	Female	217	70	32.3%
Marital status	Married/Cohabiting	217	88	40.6%
	Married	217	3	1.4%
	Not married	217	115	53%
	Separated/Divorced	217	11	5.1%
Highest Academic qualifications	High School Certificate (HSC)	217	9	4.1%
	Certificate of Learning/Diploma	217	12	5.5%
	National Diploma	217	4	1.8%
	Bachelor's Degree	217	58	26.7%
	Graduate	217	1	.5%
	Master's Degree	217	95	43.8%
	NQF Level 8 Certificate in Law	217	2	.9%
	Professional Degree	217	6	2.8%
	Doctoral Degree	217	30	13.8%
Number of years of work experience	Less than 5 years	217	63	29%
	(5-10) years	217	48	22.1%
	(10-15) years	217	54	24.9%
	(15-20) years	217	22	10.1%
	More than 20 years	217	30	13.8%

Source: own processing

Correlation analysis

Table 2 introduces the relationships between technological innovations score and career anchors while Table 3 shows the relationships between employability score and career anchors.

Table 2. Relationship between technological innovations score and career anchors

Career Anchors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Technological innovations (1)	1	.520	.310	.400	.180	.460	.290	.450	.200	.360
Technical and functional expertise (2)	.520	1	.230	.300	.150	.420	.250	.370	.180	.340
General management (3)	.310	.230	1	.500	.140	.550	.320	.390	.210	.370
Autonomy and independence (4)	.400	.300	.500	1	.220	.280	.240	.330	.160	.380
Security and stability anchor (5)	.180	.150	.140	.220	1	.190	0.100	0.050	0.030	0.200
Entrepreneurial creativity anchor (6)	.460	.420	.550	.280	.190	1	.500	0.300	0.120	0.360
Service and dedication (7)	.290	.250	.320	.240	0.100	.500	1	0.270	0.160	0.200
Pure challenge (8)	.450	.370	.390	.330	0.050	0.300	0.270	1	0.250	0.170
Lifestyle anchor (9)	0.200	0.180	0.210	0.160	0.030	0.120	0.160	0.250	1	0.200
International mobility (10)	0.360	0.340	0.370	0.380	0.200	0.360	0.200	0.170	0.200	1

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Source: own processing

Table 3. Relationship between employability score and career anchors

Career anchors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Employability (1)	1	.505	.292	.389	.174*	.375	.312	.440	0.106	.178
Technical and functional expertise (2)	.505	1	.200	.277	.263	.200	0.128	.426	.213	.364
General management (3)	.292	.200	1	.484	.167*	.566	.438	.359	.262	.345
Autonomy and independence (4)	.389	.277	.484	1	.310	.275	.222	.330	.159*	.375
Security and stability anchor (5)	.174*	.263	.167*	.310	1	.180	0.109	.193	0.039	.383
Entrepreneurial creativity anchor (6)	.375	.200	.566	.275	.180	1	.495	.476	0.133	.318
Service and dedication (7)	.312	0.128	.438	.222	0.109	.495	1	.570	.307	.199
Pure challenge (8)	.440	.426	.359	.330	.193	.476	.570	1	.277	.352
Lifestyle anchor (9)	0.106	.213	.262	.159*	0.039	0.133	.307	.277	1	.400
International mobility (10)	.178	.364	.345	.375	.383	.318	.199	.352	.400	1

Source: own processing

The correlation analysis between career anchors and technological innovations reveals actionable insights for aligning career growth with workplace technological shifts. Technical/Functional Expertise and Entrepreneurial Creativity anchors show strong positive correlations with technological adaptability (e.g., r=0.520 and r=0.550, respectively), suggesting individuals in these roles thrive in tech-driven environments. In contrast, Security/Stability anchors exhibit weaker correlations (r=0.180), indicating potential resistance to disruptive innovations.

Meanwhile, the General Management and Autonomy/Independence anchors display moderate correlations with technological innovation scores (r=0.310 and r=0.400,

Vol.13 (2025) no.3, pp.268-282; DOI 10.2478/mdke-2025-0015

respectively), implying that professionals emphasizing leadership and self-direction are positively, though less strongly, associated with technological adaptability. Notably, the Pure Challenge anchor (r=0.450) also aligns closely with innovation, suggesting that individuals drawn to overcoming complex problems can be key drivers of tech adoption. Conversely, anchors such as Service/Dedication (r=0.290), Lifestyle (r=0.200), and International Mobility (r=0.360) reveal lower to moderate relationships with technological innovation. This pattern indicates that while these individuals are not averse to technology, their primary motivations may lie outside of technological advancement, focusing instead on work-life balance, mobility, or service motivations.

The correlation analysis between career anchors and employability score reveals important insights for aligning individual career priorities with overall career resilience and adaptability. Technical and Functional Expertise (r=0.505) and Pure Challenge (r=0.440) anchors demonstrate strong positive correlations with employability, indicating that individuals who prioritize technical skills or thrive on overcoming difficult problems are particularly well-positioned to remain employable in a changing job market. Entrepreneurial Creativity (r=0.375) and Autonomy/Independence (r=0.389) also display moderately strong correlations with employability. This suggests that those inclined toward innovation, risk-taking, and self-direction are similarly adept at maintaining their career relevance over time. The General Management anchor (r=0.292) shows a moderate relationship as well, indicating that broad leadership competencies provide a notable, if less pronounced, boost to employability.

In contrast, the Security/Stability anchor (r=0.174*) presents the weakest significant correlation, implying that individuals primarily motivated by job security or predictability may face greater challenges in sustaining employability amid labor market shifts or organizational change. Similarly, the Lifestyle anchor (r=0.106) and International Mobility (r=0.178) registers only weak associations, reflecting that while flexible work arrangements and mobility offer situational advantages, they're less directly tied to employability overall. Service/Dedication (r=0.312) also has a positive but moderate correlation with employability, signaling that a commitment to serving others is valuable but may not be as directly transferable to new roles as technical, managerial, or entrepreneurial skills.

Multiple regression analysis

To test the proposed hypotheses, this study utilized regression analysis to examine the relationships among technological innovations, career anchors, and employees' employability development across various sectors in Mauritius. Additionally, the means of the influencing factors were calculated and subjected to ANOVA to assess their impact on employability outcomes. As presented in the following Table 5, the ANOVA results reveal a significant value of 0.000 (p=0.000), which is well below the conventional threshold of 0.05. This indicates a statistically significant difference in the mean scores of employability development challenges across different levels of exposure to technological innovations.

The model demonstrated a strong overall fit, with an R value of 0.766, indicating a substantial correlation between the predictors and the dependent variable. The R^2 of 0.586 suggests that approximately 58.6% of the variance in employability development is explained by the combined independent variables. The adjusted R^2 of 0.566 confirms the model's robustness after accounting for the number of predictors. The Durbin-Watson statistic of 1.774 indicates no significant autocorrelation in the residuals. The ANOVA results further validate the model's significance ($F=29.164$, $p < 0.001$), confirming that the set of predictors reliably explains variations in employability development. Examining individual predictors, several variables showed statistically significant effects (Table 4).

Table 4. Multiple regression analysis

R	**R square**	**Adjusted R square**	**Std. error of the estimate**	**Durbin-Watson**	
.766a	0.586	0.566	0.29351	1.774	
ANOVA Table					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	25.125	10	2.513	29.164	.000b
Residual	17.747	206	0.086		
Total	42.872	216			
Model	**Unstandardized coefficients**		**Standardized coefficients**	**t**	**Sig.**
	B	Std. Error	Beta		
(Constant)	0.413	0.228		1.814	0.071
Number of years of work experience	-0.038	0.018	-0.117	-2.124	0.035
Digitalization and artificial intelligence	0.209	0.039	0.296	5.387	0.001
Workplace technology	0.121	0.054	0.142	2.239	0.026
Implemented technology innovations	0.1	0.037	0.153	2.699	0.008
Technology and functional expertise	0.346	0.039	0.495	8.885	0.001
General management	-0.122	0.038	-0.206	-3.191	0.002
Autonomy and independence	0.166	0.036	0.267	4.676	0.001
Entrepreneur anchor	0.072	0.03	0.154	2.39	0.018
Pure challenge	0.126	0.035	0.209	3.561	0.001
International mobility	-0.135	0.035	-0.225	-3.876	0.0001

Source: own processing

Digitalization and artificial intelligence (β=0.296, p=0.001) and technology and functional expertise (β=0.495, p=0.001) emerged as the strongest positive contributors, highlighting the critical role of advanced technological skills in enhancing employability. Technological innovations at the workplace (β=0.142, p=0.026), implemented technology innovations (β=0.153, p=0.008), career anchors such as autonomy and independence (β=0.267, p=0.001), entrepreneur anchor (β=0.154, p=0.018), and pure challenge (β=0.209, p=0.001) also positively influenced employability, emphasizing the importance of both technological adaptation and career orientation factors.

In contrast, number of years of work experience (β=-0.117, p=0.035), the remaining types of career anchors like general management (β=-0.206, p=0.002), and international mobility (β=-0.225, p < 0.001) were negatively associated with employability, suggesting potential challenges related to experience level, managerial roles, and geographic mobility in the context of technological innovation.

The mediated regression analysis

Based on Baron and Kenny (1986), this study rigorously examined whether career anchors mediate the dynamic relationship between cutting-edge technological innovations, specifically artificial intelligence and digitalization, and the development of employees' employability.

The positive coefficient (0.1918) shows that there is a positive relationship between digitalization and artificial intelligence and employability, and this is statistically significant with a p-value (0.001) (see Tables 5 and 6).

Vol.13 (2025) no.3, pp.268-282; DOI 10.2478/mdke-2025-0015

Table 5. The effect of technological innovations on employability

Path	Coefficient	Std error	Z-value	p-value
Technological Innovations (based on Digitalization and Artificial Intelligence) on Employability	0.1918	.0464	4.14	0.001

Source: own processing

Table 6. The effect of technological innovations on career anchors

Path	Coefficient	Std error	Z-value	p-value
Career Anchor on Digitalization and Artificial Intelligence	0.2119	.0641	3.31	0.001

Source: own processing

The positive coefficient (0.2119) shows that there is a positive relationship between digitalization and artificial intelligence and the career anchor (mediator variable), and the mediator variable is statistically significant (0.001) (Table 7).

Table 7. The effects of career anchors on the relationship between technological innovations and employability

Path Technological innovations (Digitalisation and Artificial Intelligence)		Coefficient	Std error	Z- value	p- value
Employability dimensions	Occupational Expertise	-0.2008 **0.2424**	0.6478 **0.6389**	-3.10 **3.79**	0.002 **0.000**
	Work-life Balance	0.3012 **-0.0345**	0.0620 **0.0663**	4.86 **-0.52**	0.000 **(0.603)**
	Collaborative Spirit	-0.0533 **0.2874**	0.0665 **0.0627**	-0.80 **4.58**	(0.423) **0.000**
	Anticipation and Optimization	0.1041 **0.3792**	0.0628 **0.0593**	3.19 **5.23**	0.001 **0.000**
	Personal flexibility	0.1975 **0.3102**	0.0619 **0.0593**	3.19 **5.23**	0.001 **0.000**

Source: own processing

The results reveal a significant direct positive effect of digitalization and AI on employability (coefficient=0.1918, p=0.001), indicating that advancements in these technologies enhance employability outcomes. Additionally, digitalization and AI significantly predict career anchors (coefficient=0.2119, p=0.001), suggesting that increased technological adoption strengthens employees' career orientations.

The indirect effects through career anchors were examined across several employability dimensions. Career anchors showed a significant positive mediation effect on work-life balance (coefficient=0.3012, p<0.001), anticipation and optimization (coefficient=0.1041, p=0.001), and personal flexibility (coefficient=0.1975, p=0.001), highlighting how strong career anchors enable employees to better manage work-life integration, anticipate changes, and adapt flexibly to technological shifts. Conversely, a significant negative mediation effect was observed on occupational expertise (coefficient=-0.2008, p=0.002), implying that stronger career anchors may lead to reduced focus on specific technical skills amidst rapid technological change. No significant mediation effect was found for collaborative spirit (p=0.423), indicating that career anchors do not substantially influence this dimension with digitalization and AI.

Overall, these findings demonstrate that career anchors partially mediate the influence of digitalization and AI on employability development, with nuanced effects across different employability components. This underscores the importance of supporting employees' career orientations to maximize the benefits of technological innovations in Mauritius's evolving labor market.

Mediating effect based on the Sobel test

The use of the Sobel Test after applying Baron & Kenny's model is a strategic choice that enhances the rigor and clarity of the mediation analysis by providing a focused assessment of indirect effects. It helps to verify the significance of the mediation effect by statistically testing whether the indirect path from the independent variable (employability) to the dependent variable (technological innovations) through the mediator (e.g., career anchor) is different from zero, thereby confirming whether the mediator carries the influence of the predictor to the outcome beyond mere correlation (Table 8).

Table 8. Regression analysis of career anchor on technological innovations

Model	Coefficient	Standard error of the estimate
Technological Innovations	0.1627	0.0721699

Source: own processing

The coefficient for technological innovations is 0.1627, which means that for every one-unit increase in technological innovation, there is an expected increase of 0.1627 units in career (Table 9).

Table 9. Regression analysis of employability on career anchor and technological innovations

Model	Coefficient	Standard error of the estimate
Career Anchor	0.0437987	0.0438278
Technological Innovation	0.1846936	0.0469243

Source: own processing

The coefficient for career anchor is 0.0437987, indicating that for every one-unit increase in career anchor, employability increases by approximately 0.0438 units. The coefficient for technological innovations is 0.1846936, meaning that for every one-unit increase in technological innovation, employability increases by about 0.1847 units.

Discussion of the findings

This study provides an in-depth examination of how technological innovations, particularly digitalization and artificial intelligence, interact with career anchors to shape employability development across various sectors in Mauritius. Recent research supports these findings, emphasizing that technological proficiency and practical experience increasingly outweigh traditional demographic factors such as gender, marital status, and academic qualifications in determining employability (Wang & Ahmed, 2020). This shift reflects the evolving demands of labor markets worldwide, where digital skills and adaptability are paramount (OECD, 2021).

Crucially, the nuanced role of career anchors in mediating the effects of technological change on employability merits special attention. In this context, the alignment between individuals' intrinsic values, such as autonomy and creativity, and emergent technological competencies fosters a more dynamic approach to professional growth (Savickas & Porfeli, 2012). As digital transformation accelerates, professionals who actively cultivate technical and entrepreneurial anchors demonstrate greater resilience and agility in managing career transitions, supporting arguments presented by De Vos and Van der Heijden (2015). This ability to embrace technological disruption not only improves personal marketability but also encourages a workforce culture oriented toward innovation and self-directed learning.

At the organizational level, the study indicates that companies in Mauritius that integrate digital technologies and AI-based processes into skill development programs achieve tangible improvements in employee adaptability and market-readiness. Building on the evidence provided by Nakibugwe and Crispus (2024), organizations prioritizing digital skills training ensure their employees remain competitive, regardless of traditional

Vol.13 (2025) no.3, pp.268-282; DOI 10.2478/mdke-2025-0015

markers such as tenure or hierarchical status. Moreover, the observed decline in the predictive power of managerial experience and sector longevity underscores a broader paradigm shift, one in which static career ladders are gradually replaced by dynamic frameworks that reward upskilling, cross-functional mobility, and digital literacy (Cappelli, 2019).

These trends also reshape the approach employers must take when designing career development pathways. The mediation effect, as validated through the Baron and Kenny framework, highlights the importance of fostering career anchors that support flexibility, an entrepreneurial mindset, and readiness for lifelong learning. When technological change is rapid and continuous, work-life balance and adaptability become man differentiators of employability, as suggested by Koen et al. (2013). However, the compromise revealed, particularly the inverse relationship between strong career anchors and specific technical expertise, suggests the need for targeted interventions. Employers might consider blended development models that blend the cultivation of broad-based career anchors with periodic reinforcement of job-specific competencies to prevent skills atrophy (Hall & Chandler, 2005).

It is also evident that while individual attributes play a substantial role, organizational and even sectoral cultures have an enduring impact on collaborative dynamics. The absence of mediation for collaborative spirit, despite the proliferation of digital teamwork tools, suggests the persistence of contextual influences that go beyond the scope of individual adaptability (Salas et al., 2015). Hence, fostering collaborative capabilities in the digital age may require culture-oriented interventions in addition to individual skill building.

Finally, at the policy level, these findings underscore an urgent imperative for continuous recalibration of education and training systems in Mauritius. Policymakers are called upon to bridge gaps between formal academic curricula, evolving market needs, and the non-linear nature of digital career paths. Consistent with the recommendations of the World Economic Forum (2020), lifelong access to upskilling, reskilling, and technological exposure must be embedded across the workforce lifecycle, transcending traditional milestones of education and employment.

Overall, the intersection of digitalization, AI, and career anchors is profoundly reshaping the landscape of employability in Mauritius. The shift toward skills-driven, anchor-informed career planning signals a new era in which successful career trajectories are defined not by static qualifications but by adaptability, technological fluency, and proactive career management. Going forward, an integrated approach, encompassing organizational strategy, public policy, and individual initiative, will be essential in cultivating a workforce that is both future-ready and resilient in the face of ongoing digital transformation.

Conclusions and implications

This study has presented a nuanced understanding of how technological innovations, with an emphasis on digitalization and artificial intelligence, are fundamentally affecting the evolution of employability competencies within the rapidly transforming labor markets of Mauritius. The research demonstrates that these technologies are not limited to enhancing efficiency but have become pivotal in redefining the essential skills and adaptive capacities required to thrive in a digital economy. For researchers, the findings establish a foundational platform for empirical investigation into the interaction between technology adoption, career development, and workforce readiness in emerging economies, enabling more targeted exploration of sector-specific and cross-national dynamics.

Practitioners and policymakers are provided with actionable insights for the design and implementation of strategic training initiatives and workforce programs, facilitating alignment between organizational goals and individual professional aspirations. The

evidence supports the notion that fostering an environment that actively engages employees in the process of acquiring new skills increases motivation, enhances relevance, and ultimately boosts both productivity and organizational resilience in the face of continual technological change. As Mauritius and similar nations contend with the pressures and opportunities introduced by the Fourth Industrial Revolution, these insights position them as instructive case studies for other countries undergoing parallel workforce transitions.

Nevertheless, the study's contributions must be weighed against several notable limitations. The sampling method, which centered on select sectors within Mauritius, may restrict the broader applicability of the findings to other industries or geographical contexts, particularly those outside the formal sector or in different socioeconomic settings. Future research should intentionally expand the sampling frame to include a more diverse population, encompassing informal sectors as well as multiple regions, to enhance external validity and ensure a comprehensive representation of the labor market's heterogeneity.

Additionally, the cross-sectional design adopted in this study limits causal inference, capturing a snapshot rather than the longitudinal evolution of employability, skills acquisition, and adaptability in the context of persistent technological advancement. Subsequent studies would benefit from a longitudinal approach to more accurately chart shifts in career trajectories and workforce adaptability over time. A further limitation stems from the reliance on self-reported data, which can introduce biases such as social desirability effects or common method variance, potentially skewing the empirical assessment of skill development and employability. The integration of objective performance indicators and data from multiple sources would greatly enhance the robustness and triangulation of future analyses.

Finally, while the research focused explicitly on artificial intelligence and the digital transformation, the relentless pace of technological change means that emerging innovations, such as blockchain and the internet of things' extended reality, and automation, also deserve scrutiny for their distinct and combined impacts on workforce competencies. Ongoing research must therefore adapt continuously to capture the implications of these developments for labor markets. Addressing these constraints in future investigations would significantly strengthen the understanding of how digitalization and AI shape employability and contribute to the formulation of effective workforce strategies tailored to the realities of Mauritius and analogous settings. In this way, the study lays essential groundwork for the systematic adaptation of education, training, and policy frameworks in the era of digital transformation.

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References

Acemoglu, D., & Restrepo, P. (2020). Robots and jobs: Evidence from US labor markets. *Journal of Political Economy, 128*(6), 2188–2244. https://doi.org/10.1086/705716

Akash, R., & Suganya, V. (2024). Bridging the gap between industry needs and student skills for quality education through SDGs: An industry-academia collaboration in curriculum development. *Journal of Lifestyle and SDGs Review*, *4*(4), e03616. https://doi.org/10.47172/2965-730X.SDGsReview.v4.n04.pe03616

Athey, T. R., & Orth, M. S. (1999). Emerging competency methods for the future. *Human Resource Management, 38*(3), 215–226.

Autor, D. H. (2015). Why are there still so many jobs? The history and future of workplace automation. *Journal of Economic Perspectives*, *29*(3), 3–30. https://doi.org/10.1257/jep.29.3.3

Bessen, J. E. (2019). AI and jobs: The role of demand (NBER Working Paper No. 24235). *National Bureau of Economic Research*. https://www.nber.org/papers/w24235

Cabot, C., & Gagnon, S. (2021). Understanding the career dynamics of IT professionals in Digital Transformation Times: A systematic review of career anchors studies. *International Journal of Information Systems and Project Management, 9*(2). www.sciencesphere.org/ijispm

Cappelli, P. (2019). The Future of Work: We Must Adapt to the New Age of Automation. *Harvard Business Review, 97*, 32-40. https://doi.org/10.4236/jhrss.2023.114046

De Grip, A., Van Loo, J., & Sanders, J. (2004). The industry employability index: Taking account of supply and demand characteristics*. International Labor Review, 143*(3), 211–233.https://doi.org/10.1111/j.1564-913X.2004.tb00550.x

De Vos, A., & Van der Heijden, B. I. J. M. (2015). Sustainable careers: Introductory chapter. In A. De Vos & B. I. J. M. Van der Heijden (Eds.), *Handbook of research on sustainable careers* (pp. 1–19). Edward Elgar Publishing.

Flanagan, S. (2025). It's mainly about fit: Employability perspectives from undergraduate learners on a vocational course in England. *Industry and Higher Education, 39*(2), 223–233. https://doi.org/10.1177/09504222241277620

Fugate, M., & Kinicki, A. J. (2008). A dispositional approach to employability: Development of a measure and test of implications for employee reactions to organizational change*. Journal of Occupational and Organizational Psychology, 81*(3), 503–527. https://doi.org/10.1348/096317907X241579

Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions and applications*. Journal of Vocational Behavior*, *65*(1), 14–38. https://doi.org/10.1016/j.jvb.2003.10.005

Gwagwa, A., Kraemer-Mbula, E., Rizk, N., Rutenberg, I., & De Beer, J. (2020). Artificial Intelligence (AI) deployments in Africa: Benefits, challenges, and policy dimensions. *The African Journal of Information and Communication (AJIC), 26*, 1-28. https://doi.org/10.23962/10539/30361

Hall, D., & Chandler, D. (2005). Psychological success: When the career is a calling. *Journal of Organizational Behavior, 26*(2), 155–176. https://doi.org/10.1002/job.301

Hofaidhllaoui M., & Vatteville E., (2011). Mesurer l'employabilité des jeunes diplômés: l'exemple des titulaires de masters tunisiens. *22ème colloque de l'AGRH*. https://scholar.google.com/scholar?cluster=13042626590788409388

Jaldemark, J., Lindqvist, H. M., Mozelius, P., & Ryberg, T. (2021). Editorial introduction: Lifelong learning in the digital era. *British Journal of Educational Technology, 52*(6), 1576-1579. https://doi.org/10.1111/bjet.13128

Koen, J., Klehe, U.-C., & Van Vianen, A. E. M. (2013). Employability among the long-term unemployed: A futile quest or worth the effort? *Journal of Vocational Behavior, 82*(1), 37–48. https://doi.org/10.1016/j.jvb.2012.11.001

Liu, H. X., & Wagner, C. (2021). Technology disrupts employment relationships and brings chaotic turbulence in High-tech: A Multiple Case Study Approach*. International Journal of Economics and Management Systems*, *6*(1), 39–47. https://www.researchgate.net/publication/354879958

McAfee, A., & Brynjolfsson, E. (2014). *The Second Machine Age: Work, progress, and prosperity in a time of brilliant technologies.* W.W. Norton & Company. https://psycnet.apa.org/record/2014-07087-000

McKinsey Global Institute. (2017). *A future that works: Automation, employment, and productivity.* McKinsey & Company. https://www.mckinsey.com/

McKinsey Global Institute. (2023). *The future of work after COVID-19*. McKinsey & Company. https://www.mckinsey.com/

McKinsey Global Institute. (2024). *Automation and the future of the workforce*. McKinsey & Company. https://www.mckinsey.com/

Nakibugwe, S., & Crispus, F. (2024). Relationship between digital skills and employability: A case study of graduates from Makerere University. *Metropolitan Journal of Business & Economics*, *3*(9), 412–423. https://www.researchgate.net/publication/384332762

Neffati, M., & Jbir, R. (2024). The impact of digitalization and economic diversification on Economic growth: Evidence from Saudi Arabia. *Technological and Economic Development of Economy, 30*(5), 1510–1532. https://doi.org/10.3846/tede.2024.22105

Neroorkar, S. (2022). A systematic review of measures of employability. *Education + Training, 64*(6), 844–867. https://doi.org/10.1108/ET-08-2020-0243

OECD. (2018). *OECD Employment Outlook 2018.* OECD Publishing. http://dx.doi.org/10.1787/empl_outlook-2018-en

OECD. (2021). *Digital transformation and the future of work in small island states.* OECD Publishing. https://www.oecd.org/en/topics/digital-transformation.html

Radda, S., & Rydhem, H. (2022). Bridging the skills gap in Mauritius: Challenges and opportunities. *African Journal of Science, Technology, Innovation and Development, 14*(7), 171–183.https://hdl.handle.net/2077/73533

Rudolph, C. W., Katz, I. M., Lavigne, K. N., & Zacher, H. (2017). Job crafting: A meta-analysis of relationships with individual differences, job characteristics, and work outcomes. *Journal of Vocational Behavior, 102*, 112–138. https://doi.org/10.1016/j.jvb.2017.05.008

Saafi, S. (2012). *Effects of technological innovations on industrial employment: An analytical essay based on the Tunisian case* [Doctoral thesis, Université du Littoral Côte d'Opale]. HAL Archives Ouvertes. https://theses.hal.science/tel-00872661v1

Salas, E., Shuffler, M. L., Thayer, A. L., Bedwell, W. L., & Lazzara, E. H. (2015). Understanding improving teamwork in organizations: A scientifically based, practical guide. *Human Resource Management, 54*(4), 599–622. https://doi.org/10.1002/hrm.21628

Savickas, M. L., & Porfeli, E. J. (2012). Career adapt-abilities scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational, 80(3), 661–673*. https://doi.org/10.1016/j.jvb.2012.01.011

Schwab, K. (2016). *The Fourth Industrial Revolution*. Portfolio Penguin. http://weforum.org/about/the-fourth-industrial-revolution-by-klaus-schwab/

Smith, V. (2010). Review article: Enhancing employability: Human, cultural, and social capital in an era of turbulent unpredictability. *Human Relations, 63*(2), 279–300. https://doi.org/10.1177/0018726709353639

Van Dam, K. (2004). Antecedents and consequences of employability orientation. *European Journal of Work and Organizational Psychology*, *13*(1), 29–51. https://doi.org/10.1080/13594320344000237

Van Der Heijde, C. M., & Van Der Heijden, B. I. J. M. (2006). A competence-based and Multidimensional operationalization and measurement of employability. *Human Resource Management, 45*(3), 449–476. https://doi.org/10.1002/hrm.20119

Veloso, E., da Silva, R. C., Trevisan, L., & Dutra, J. S. (2020). Technological innovations in the work environment and the career of the millennium generation. *Innovation & Management Review, 17*(4), 379–394. https://doi.org/10.1108/INMR-05-2019-0070

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research, 122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Vivarelli, M., & Arenas Díaz, G. (2025). New technologies and employment: The state of the art (IZA Discussion Paper No. 17686). *Institute of Labor Economics (IZA)*. https://doi.org/10.2139/ssrn.5134014

World Economic Forum. (2020). *The future of jobs report 2020.* World Economic Forum. https://www.weforum.org/reports/the-future-of-jobs-report-2020

World Economic Forum. (2025). *The future of jobs report 2025.* World Economic Forum. https://weforum.org/publications/the-future-of-jobs-report-2025