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A: Level 2,
The Business Centre, 3, Triq
Nikol Muscat, Mosta,
MST 1870

T: +356 2145 6310

W: mt.ideaeducation.com

Editors in chief:

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Dr Nadia Maria Vassallo

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Foreword

IDEA Journal of Applied Research, June 2026 Edition

Between Automation and the Human Element Malta in Transition: Work, Technology and Equity

It is a pleasure to present the June 2026 edition of The IDEA Journal of Applied Research. The papers gathered here arrive at a formative moment for Malta, a nation whose scale makes it an unusually clear vantage point from which to observe two forces reshaping working and consumer life: rapid technological adoption and steady social change. Read together, they offer a coherent picture of how these forces are reshaping the professional and consumer landscapes of a small island economy.

The Digital Frontier: Efficiency, Ethics and the Human Element

A first set of contributions examines the digital transformation of Malta's public and private spheres. Scerri and Camilleri find a favourable predisposition towards self-service technologies among passengers at Malta International Airport, where perceived usefulness strongly predicts future adoption. Yet a continued need for human assistance persists, reminding us that the success of digitalisation rests on a careful balance between automation and human-assisted service.

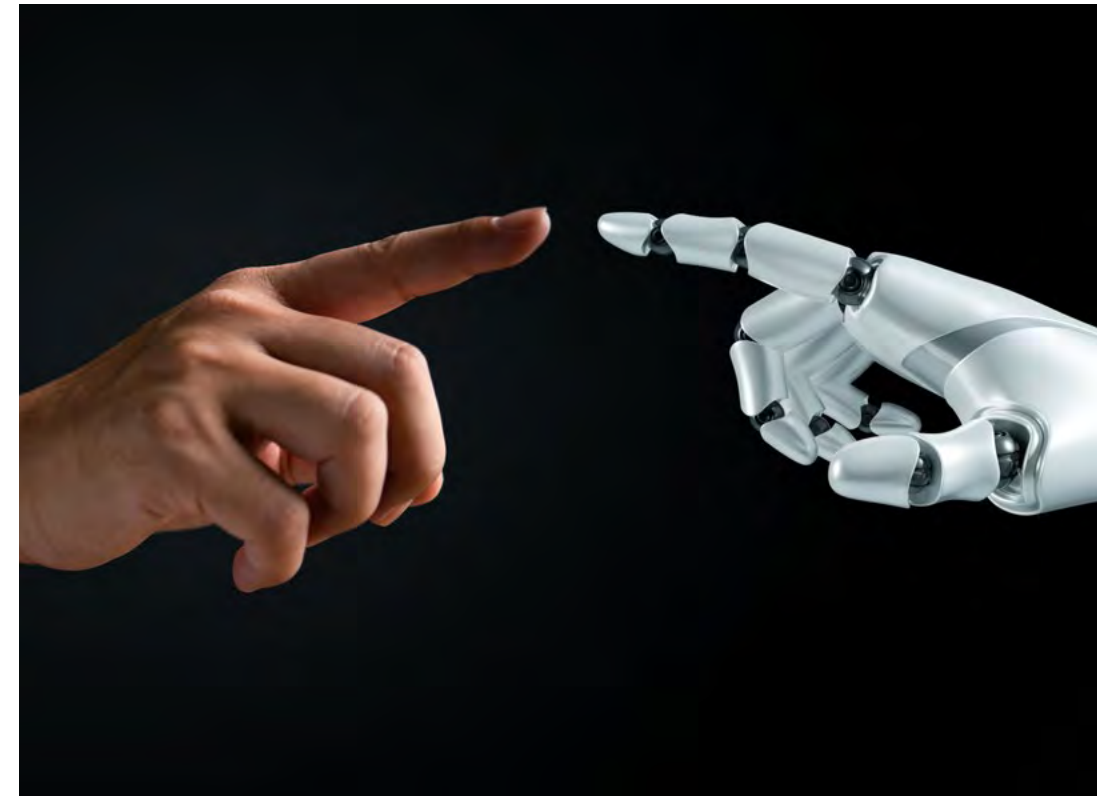
That balance recurs in the study of artificial intelligence. Camilleri and Micallef Capello show that AI adoption across the Maltese public administration remains early and fragmented, often driven by individual initiative rather than a settled strategy, even as it delivers gains in efficiency, workflow and creativity. Lauria, examining AI in project management across the iGaming and financial services sectors, reaches a complementary conclusion: AI sharpens forecasting and relieves repetitive work, but cannot substitute for human emotional intelligence, creativity and judgement. Both authors point to the same requirement: clearer policy, targeted training and robust ethical safeguards.

The consumer sphere is changing too. Sant and Scicluna trace how eCommerce is reshaping brand loyalty in the beauty sector, with marked generational differences: Millennials are the most digitally engaged purchasers, while Generation X retains the greatest spending power alongside a partial preference for traditional shopping. Their findings give Maltese businesses a basis for moving towards digital-first commerce without alienating established customers.

The Evolving Workplace: Balance and Isolation

A second group of papers turns to the social dynamics of the modern workforce. Aquilina and Camilleri find that the hybrid model has become the preferred arrangement among iGaming employees, offering the strongest balance of productivity, well-being and job satisfaction; contrary to much prior literature, their respondents did not report heightened stress where clear policies and support were in place.

Flexibility, however, carries its own risks. Axiaq and Calleja document workplace isolation among community-based speech-language pathologists, who often work alone across dispersed settings. They identify physical, professional and social dimensions of isolation that erode motivation and well-being, with early-career professionals most exposed. Their study is a useful corrective: decentralised work succeeds only where connection and support are deliberately built in.



Equity and Sustainability: Toward Resilient Growth

A final set of contributions addresses the structural shifts a more equitable and sustainable economy will require. Gaffarena and Zarb offer a candid analysis of women's progression in Malta's finance sector, where strong educational attainment has not translated into senior representation. They trace this to performance-evaluation practices, uneven access to sponsorship, organisational culture and the unequal distribution of caregiving, and propose concrete remedies: a sectoral right-to-disconnect code, cross-company sponsorship and boardroom apprenticeships.

On the environmental side, Aquilina and Mallia examine circular-economy adoption among Maltese SMEs, identifying stakeholder engagement, institutional readiness, economic viability and regulatory support as decisive factors, while financial constraints remain the chief obstacle for smaller firms. Vella and Camilleri reach a parallel conclusion in their study of sustainable project management in corporate events: stakeholder engagement is high, but value-driven leadership and cultural alignment are needed to bring environmental goals level with economic and social ones.

In a small island setting these shifts are magnified by tight social networks and limited scale. Taken together, the papers make a consistent case: that Malta's transformation will depend on strategic and humane HR practices, ethically grounded technology, and clearer national policy. They offer practitioners and policymakers not only evidence but direction toward a more digitalised, equitable and sustainable future.

Dr Nadia Maria Vassallo

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01 Exploring the Aptitude of Airport Passengers towards Self-Service Technologies: A Local Perspective

Annalisa Scerri & Dr. Emanuel Camilleri

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Annalisa Scerri- ORCID: <https://orcid.org/0009-0000-2944-6020> | IDEA College, Maltal Email: annaliscerri@gmail.com

Dr. Emanuel Camilleri- ORCID: <https://orcid.org/0000-0002-3829-6164> | Visiting Senior Lecturer, University of Maltal Emanuel-camilleri@outlook.com

Abstract

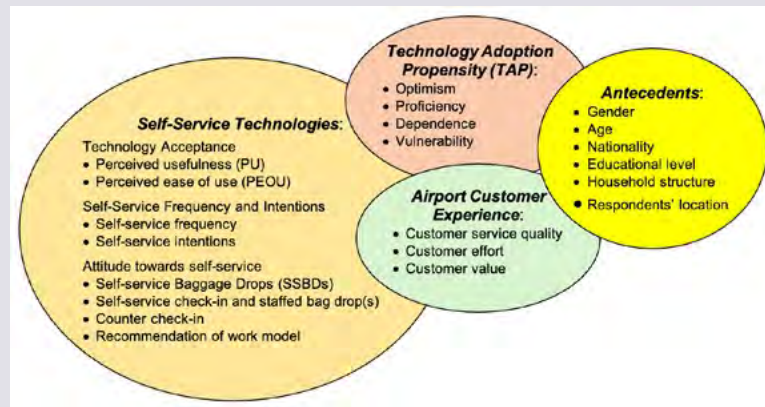
Objectives: This study provides a local perspective on technology adoption in the air transport industry by exploring the aptitude of airport passengers towards self-service technologies (SSTs) at Malta International Airport (MIA). The study investigates the relationship between passengers' Technology Adoption Propensity (TAP), the airport customer experience (CX) and the use of SSTs.

Methods: A quantitative research approach was selected using a structured questionnaire distributed online and in person at MIA. The survey measured four TAP dimensions alongside three key CX dimensions together with attitude towards SSTs, SST use and acceptance. Data was analysed using descriptive statistics, regression models and Spearman's bivariate correlations.

Results: Findings indicate that MIA passengers demonstrate a favourable predisposition towards SSTs. Perceived usefulness (PU) is also a key predictor of future adoption but the need for human assistance persists. CX dimensions strongly confirm that MIA passengers are receiving a distinguished service which paves the way for further digitalisation. Overall, findings indicate a weak to moderate relationship between TAP, SST use and CX.

Conclusions: The study suggests that passengers are generally receptive to technology, but the success of digitalisation depends on a careful balance between automation and human-assisted services.

Keywords: "Technology Adoption Propensity"; "Self-Service Technologies"; "Digitalisation"; "Customer Airport Experience"



Graphical Abstract

Highlights:

- Addresses a gap in international literature which typically overlooks small-airport contexts.
- Supports data-driven investment decisions at MIA by identifying which barriers still exist for SST use thereby guiding future digital upgrades.
- Demonstrates how to balance automation with human service to enhance satisfaction by reducing bottlenecks and improving SST usability.

Abbreviations:

CX	Airport customer experience
MIA	Malta International Airport
PU	Perceived usefulness
SST	Self-service technologies
TAP	Technology Adoption Propensity
PEOU	Perceived ease of use

Introduction

Air travel continues to dominate Europe's transport landscape, with Eurostat (2024) reporting 973 million passengers in 2023 and Malta registering the highest growth rate among EU member states. This is reinforced by statistics published by MIA, which recorded an increase of 1.95 million passenger movements in 2023 (Malta International Airport, 2024). As the island's only airport terminal, MIA has consistently been recognised for operational efficiency, post-pandemic recovery and customer-centred service (Airport Council International, 2024).

At the foundation of this operational success lie ground handling processes, in particular check-in and baggage processing, which continue to influence the passenger experience (Hatipoğlu, Ergül & Kepti, 2025). Despite technological progress, the aviation sector remains heavily dependent on skilled personnel (Kilic, Ucler & Martin-Domingo, 2020) and with rising passenger volumes and increasingly constrained human resources, airports must balance digitalisation with effective human support. Digitalisation, described by Kovynyov and Mikut (2019) as the deployment of modern digital technologies to improve customer experience and streamline operations, is becoming a critical strategic direction.

Study Significance

The study provides both theoretical and practical value by offering insights into how local passengers perceive SSTs and how their technology adoption behaviours are shaped by CX factors. Literature suggests that variables such as travel purpose, culture, language and situational stress can significantly influence SST acceptance (Halpern & Mwesiumo, 2021). Global studies tend to favour large airports over smaller terminals such as MIA (Taufik & Hanafiah, 2019) hence this research contributes to a localised understanding of SST adoption, enabling MIA's management to make informed decisions regarding digital investments, resource allocation and customer service strategies. Its findings also support service optimisation and long-term planning for airports, airlines and technology providers.

The Evolving Role of Airports

Airports have evolved into multi-functional commercial hubs that drive tourism, employment and economic development (Thums et al., 2023). Rising passenger volumes place pressure on airports to balance operational efficiency and customer

satisfaction (Graham, 2023). According to Tan and Masood (2021) digitalisation, particularly SST integration, has emerged as a key solution and SITA (2024b) associates widespread adoption of web check-in, kiosks and unassisted bag drops, with strong future investment trends.

Research also shows that reduced queueing times increase commercial revenue, as longer dwell times elevate passenger spending (Wu, Morlotti & Mantin, 2024; Yong et al., 2023; Oliveira, Oliveira & Vassallo, 2023). However, small airports remain facing structural and financial challenges in adopting advanced digital solutions (Kováčiková et al., 2022; Remencová & Novák-Sedláčková, 2021).

Self-Service Technologies (SSTs)

SSTs allow customers to perform tasks autonomously (Curran & Meuter, 2005) and have become deeply embedded in many service industries (Eastlick et al., 2012). The Covid-19 pandemic further accelerated SST deployment at airports, which shifted to contactless processes (Ivannikova et al., 2021) and became increasingly reliant on SSTs for operational efficiency, reduced staffing needs and improved passenger autonomy (Wong, 2024; Thales, 2025).

The Technology Acceptance Model (Davis, 1989) remains central to understanding adoption, highlighting PU and perceived ease of use (PEOU) as primary predictors. However, challenges such as usability issues, poor design and demographic factors persist and are known to influence adoption (Yang & Zheng, 2021; Monge Zamorano, Fernandez-Laso & De Esteban Curiel, 2020; Kim, Song & Lee, 2023).

Airport Customer Experience (CX)

CX encompasses all interactions passengers have within the airport environment (Lemon & Verhoef, 2016; Ayodeji & Rjoub, 2021). The Airport-Customer Experience Measurement Model (CXMM) (Choi et al., 2024) outlines three core dimensions: customer effort, customer value and service quality. Research consistently shows that efficient, low-effort processes and cohesive digital-human service ecosystems enhance satisfaction (Halpern & Mwesiumo, 2021; Booranakittipinyo, Li & Phakdeephrot, 2024; Alansari, Soomro & Belgaum, 2019).

Technology Adoption Propensity (TAP)

The TAP index (Ratchford & Barnhart, 2012) measures individuals' predisposition towards new technologies across four dimensions: optimism, proficiency, dependence and vulnerability. High TAP correlates with stronger technology engagement (Celik & Aybas, 2024). Age, gender, digital literacy, cultural norms and experience

Methodology

Introduction and Research Philosophy

This section outlines the methodological framework adopted to investigate how passengers at MIA perceive and engage with SSTs and how these perceptions relate to TAP and CX. Given the study's aim to measure attitudes, identify patterns and statistically analyse relationships between variables, a quantitative research approach was selected.

The research philosophy follows the structure of the research onion (Saunders, Lewis & Thornhill, 2019), which guides the methodological choices from philosophical stance to data collection techniques. The adopted philosophy is positivism, which assumes that knowledge is best gained through objective measurement and observable phenomena (Al Ababneh, 2020). Aligned with positivist principles, the study avoids subjective interpretation and instead relies on empirical, measurable data to explain passenger behaviour. Positivism is widely used in natural and social sciences where the goals include testing hypotheses, identifying trends and forming generalisable conclusions (Park, Konge & Artino, 2020).

In terms of theory development, a deductive approach was chosen. As explained by Melnikovas (2018), deductive reasoning tests hypotheses derived from established theories, making it appropriate for studies using pre-validated scales such as TAP, Technology Readiness and Acceptance Model (TRAM) and CXMM. Unlike induction, which generates new theory, or abduction, which seeks to explain anomalies, deduction aligns with this research's aim to empirically test predefined relationships among variables.

Research Population, Sampling and Data Collection

The target population consisted of passengers, aged 18 years and over who would have travelled through MIA within the last year. A non-probability, convenience sampling method was adopted due to time, access and operational constraints as

influence TAP and SST adoption (Graham et al., 2023; Kaur & Kaur, 2024; Kabakus, Bahcekapili & Ayaz, 2023; IATA, 2024). TAP, SST use and CX are also moderately interlinked since readiness influences channel choice which in turn shapes the travel experience (Bogicevic et al., 2017; Wongyai et al., 2024).

argued by Ahmed (2024) and Obilor (2023) who declare that advantages of this sampling method include the facility of gathering data quickly and simplistically and that there are no strict guidelines or standards for choosing the sample. The required sample size was derived using Cochran's formula (Ahmed, 2024) for determining adequate population representation. Data collection took place over a period of five weeks between February 27 and April 7, 2025, using both online and on-site strategies.

Ethical Considerations

Ethical compliance was ensured through voluntary participation, anonymity, informed consent, and adherence to IDEA College requirements. Compliance to GDPR 2018 regulation was sought throughout and no personal identifiers were collected whereas participants were well-informed of the study's purpose and confidentiality procedures.

Data Processing and Analysis

Data collected was screened, coded and prepared using IBM SPSS and Microsoft Excel. Reverse-scoring was applied where necessary to preserve directionality of responses. The validity and reliability test conducted for the instruments used was Factor Principal Component analysis with Varimax Rotation and Cronbach's Alpha respectively. Factor Principal Component analysis assesses the extent to which each construct captures the concept it was meant to measure (Leech, Barrett & Morgan, 2015) whereas Cronbach's Alpha reliability tests measure internal consistency. Statistical analysis included descriptive statistics, inferential testing, regression analysis and Spearman's bivariate correlations to evaluate relationships and to address the identified research questions.

Research Strategy, Design and Time Horizon

The strategy selected for this study was the use of a survey, which enabled broad data collection from a large and diverse sample of airport passengers. Surveys are consistent with quantitative, positivist research and support the systematic measurement of attitudes using structured instruments (Creswell & Creswell, 2019). The study

employed a cross-sectional time horizon, that is, data was collected once from passengers during March 2025. Cross-sectional designs provide a snapshot of phenomena at a specific moment in time, making them efficient and appropriate for identifying relationships between variables without requiring long-term tracking (Sopact University, 2024).



Figure 1: Graphical Representation of Attributes & Relationships Explored

The theoretical model at Figure 1 prompted several research questions as itemised below:

- What is the level of technology adoption propensity (TAP) and its dimensions for airport passengers using Malta International Airport (MIA)?
- What are dominant factors affecting the use of self-service technologies (SSTs) for airport passengers using MIA?
- What are the dominant factors impacting airport customer experience for airport passengers using MIA?
- What are the relationships between TAP, use of SSTs and airport customer experience (and their dimensions) for airport passengers using MIA?
- What are the relationships between the various antecedents and TAP, use of SSTs and airport customer experience (and their dimensions) for airport passengers using MIA?

Research Instruments

Data was gathered using a self-administered questionnaire, made available in Google Forms and in printed format. The instrument was structured into four sections, combining demographic

data with validated scales measuring TAP, SST usage and acceptance, and the airport experience as follows:

- Section 1 (Demographics) captured variables such as gender, locality, age group, nationality, education, travel purpose and frequency, and SST use history. These variables enabled subgroup comparisons and contextual interpretation.
- Section 2 (TAP) applied the 14-item TAP scale by Ratchford & Barnhart (2012), measuring optimism, proficiency, dependence, and vulnerability. A 5-point Likert scale (Strongly disagree to Strongly agree) was used and negatively worded items (dependence and vulnerability) were reverse-coded during analysis.
- Section 3 (SSTs) drew on validated instruments measuring PU, PEOU, frequency of SST use, behavioural intentions and attitudes toward SSTs (Lin, Shih & Sher, 2007; Lin & Chang, 2011; Smith, Robert-Lombard & Mpinganjira, 2018a, 2018b). This section used both a 7-point Likert scale and a 7-point bipolar semantic differential scale having opposing endpoints. Items measuring negative likelihood or dissatisfaction were reverse-coded.

• Section 4 (CX) was then adapted from the Airport-CXMM (Choi et al., 2024), covering customer service quality, customer effort and customer value through twenty statements using a 5-point Likert scale.

Data Validity and Reliability of the Research Instrument Applied in the Study

The number of valid responses received was 328 resulting in a margin of error of ±5.3% (at 95% confidence level, p=.05). According to LoBion-

do-Wood & Haber (2022), a margin of error up to 7% is acceptable. The findings of the validity and reliability tests are found at Table 1 to Table 5. Questions that did not converge with the required dimension were removed. The only dimension which requires caution in its interpretation is the 'Self-Service Intentions' which did not converge as predicted. Otherwise, the findings suggest that all the data pertaining to the instruments and their respective dimensions were valid and achieved a high reliability rating.

Questions	Component			
	Optimism	Proficiency	Dependence	Vulnerability
Optimism	0.943	0.299	-0.100	-0.091
TAP1	0.855	0.226	-0.079	-0.046
TAP2	0.839	0.248	-0.095	-0.068
TAP3	0.832	0.281	-0.117	-0.184
TAP4	0.788	0.296	-0.060	-0.026
Proficiency	0.341	0.928	-0.136	-0.054
TAP7	0.157	0.879	-0.172	-0.014
TAP6	0.239	0.828	-0.112	-0.067
TAP8	0.370	0.731	-0.116	-0.050
TAP5	0.414	0.699	-0.052	-0.058
Dependence	-0.101	-0.132	0.973	0.158
TAP10	-0.161	-0.152	0.863	0.041
TAP11	-0.018	-0.038	0.851	0.199
TAP9	-0.086	-0.155	0.790	0.160
Vulnerability	-0.090	-0.052	0.151	0.982
TAP14	0.027	0.014	0.168	0.822
TAP13	-0.094	-0.090	0.180	0.819
TAP12	-0.147	-0.053	0.036	0.792
Cronbach Alpha Value:	0.944	0.920	0.910	0.880

Table 1: Technology Adoption Propensity (TAP)

Questions	Component	
	Usefulness	Ease of Use
Technology Acceptance Perceived Usefulness	0.877	0.480
TA4	0.849	0.451
TA3	0.841	0.461
TA5	0.829	0.475
TA1	0.826	0.443
TA2	0.819	0.420
TA6	0.812	0.472
Technology Acceptance Perceived Ease of Use	0.487	0.873
TA9	0.428	0.865
TA11	0.409	0.856
TA10	0.446	0.837
TA12	0.476	0.822
TA8	0.523	0.800
TA7	0.487	0.789
Cronbach Alpha Value:	0.983	0.984

Table 2: Self-Service Technologies: Acceptance

Questions	Component	
	Frequency	Intentions
TA13 Self-Service Frequency	0.782	0.417
TA13	0.781	-0.121
TA14	0.757	0.144
TA15	0.114	0.856
TA16 Self-Service Intentions	0.721	0.501
TA16	0.793	-0.020
TA17	0.815	0.004
TA18	-0.059	0.900
Cronbach Alpha Value:	0.746	0.679

Table 3: Self-Service Frequency & Intentions

Attitudes	Component		
	Self Service Check In & Staffed Bag Drops	Self Service Baggage Drops	Counter check-in
Self-service check-in & Staff Bag Drops	0.926	0.368	0.076
TA26	0.875	0.270	0.049
TA23	0.841	0.341	0.073
TA20	0.800	0.323	0.085
TA29	0.758	0.384	0.078
Self Service Baggage Drops	0.501	0.859	-0.021
TA28	0.265	0.876	-0.031
TA22	0.357	0.851	-0.029
TA25	0.333	0.840	-0.073
TA19	0.323	0.837	-0.076
Counter check-in	0.056	-0.042	0.997
TA24	0.011	-0.029	0.892
TA27	-0.020	-0.160	0.879
TA30	0.061	0.021	0.871
TA21	0.164	0.034	0.823
Cronbach Alpha:	0.945	0.951	0.920

Table 4: Attitude Towards Self-Service

Questions	Component		
	Customer Service Quality	Customer effort	Customer value
Customer Value	0.843	0.298	0.395
Q19	0.757	0.286	0.356
Q18	0.727	0.139	0.308
Q17	0.720	0.384	0.305
Q16	0.705	0.366	0.340
Q14	0.700	0.449	0.180
Q15	0.697	0.384	0.126
Q20	0.627	0.117	0.347
Customer Effort	0.525	0.795	0.267
Q11	0.194	0.793	0.208
Q10	0.238	0.791	0.184
Q9	0.203	0.715	0.324
Q12	0.418	0.695	0.214
Q13	0.482	0.669	0.179
Q8	0.231	0.647	0.308
Q6	0.121	0.526	0.479
Customer service quality	0.344	0.377	0.853
Q2	0.320	0.201	0.744
Q1	0.345	0.145	0.739
Q3	0.388	0.204	0.738
Q4	0.224	0.194	0.717
Q5	0.111	0.286	0.557
Q7	0.290	0.387	0.485
Cronbach Alpha Value:	0.897	0.931	0.926

Table 5: Airport Customer Experience Measurement Model

Results

Technology Adoption Propensity (TAP)

A central component of this study is the assessment of passengers' predisposition toward technology (refer to the first research question). Figure 2 illustrates that respondents record high levels of optimism and proficiency, indicating strong confidence in using technology and positive expectations of its benefits. Conversely, dependence and vulnerability score noticeably lower, indicating that while passengers acknowledge risks and concerns, these do not significantly hinder their readiness to adopt new technologies. This pattern aligns with literature describing tech-confident users as early adopters whose behaviour drives broader acceptance trends within service environments (Ratchford & Barnhart, 2012).

Self-Service Technology (SST) Usage and Acceptance

The results reveal a generally strong acceptance and usage of SSTs among MIA passengers (refer to the second research question). Figure 3 shows favourable mean scores across PU, PEOU, satisfaction and intention to use, implying that passengers acknowledge SSTs as efficient and convenient tools which streamline airport processes. Respondents clearly demonstrate a strong acceptance of self-service check-in and bag drop, but the results also indicate that staffed counters are still valued highly. This result does not imply a preference for traditional service, but it does suggest that passengers appreciate having human assistance available when needed, especially for reassurance or more complex enquiries. These findings align with Lin & Chang (2011), who observed that even tech-ready users value human support during stressful or complex tasks.

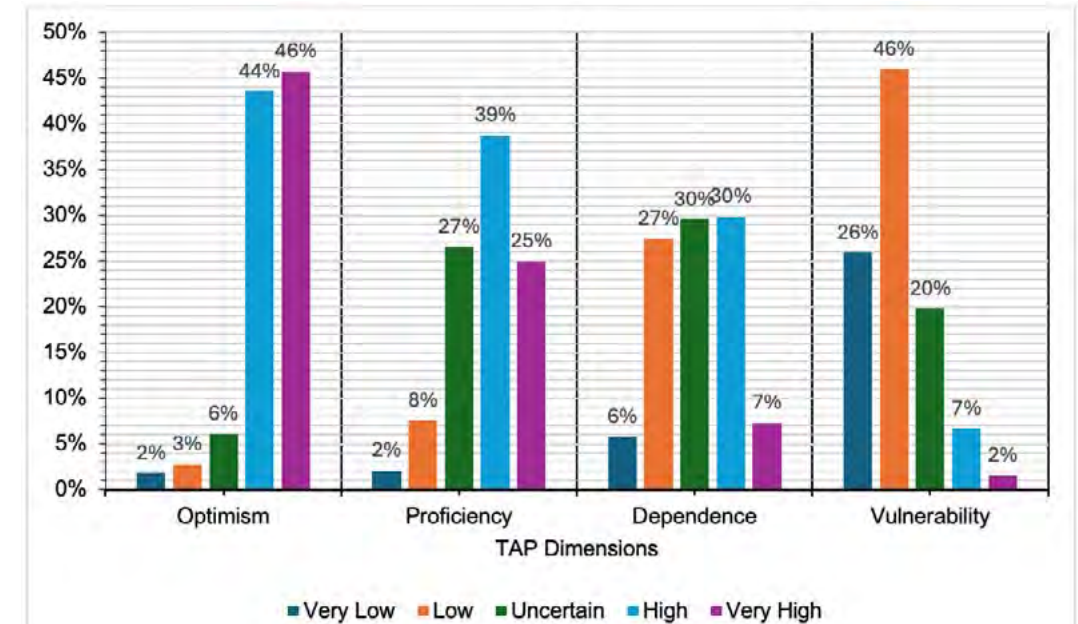


Figure 2: Technology Adoption Propensity (TAP) Dimensions Level

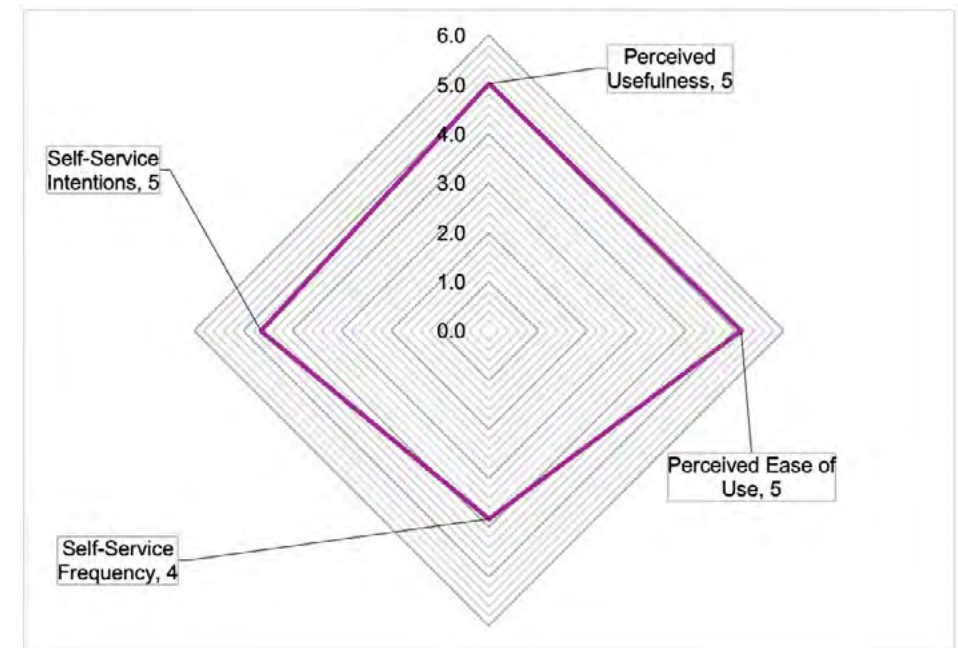


Figure 3: Self-Service Technologies: Technology Readiness & Acceptance Model (TRAM)

Airport Customer Experience (CX)

The CX performance at MIA was evaluated using an adapted Airport-CXMM framework (refer to the third research question). As shown in Figure 4, respondents rated their journey through MIA positively across customer service quality, customer effort and customer value. The ‘customer effort’ dimension scored particularly well, indicating that passengers found the airport easy to nav-

igate, with clear signage and efficient processing times. Such results echo Choi et al. (2024), who emphasise that low-effort service environments support stronger perceptions of airport quality. This positive CX baseline also suggests that MIA is well-positioned to expand digitalisation without harming user satisfaction.

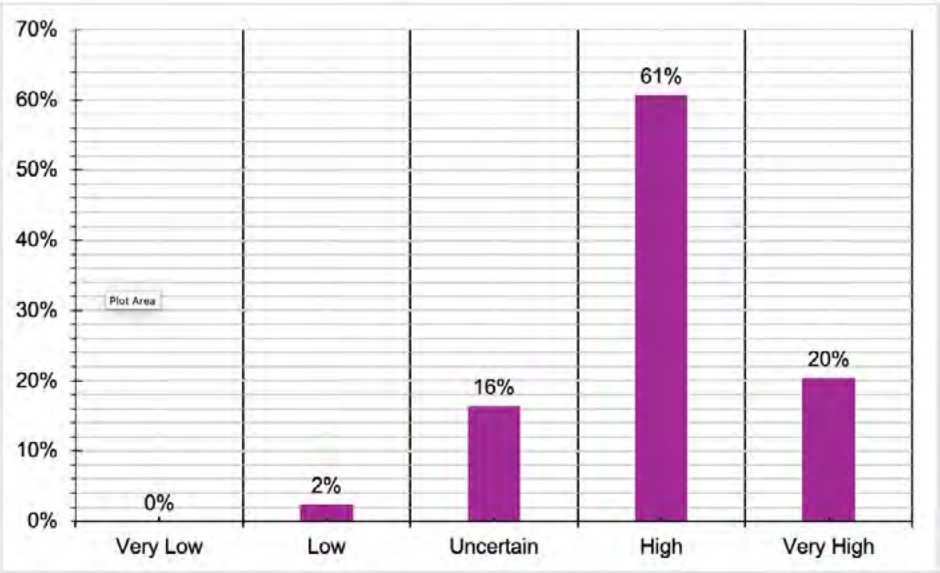


Figure 4: Overall Airport Customer Experience

Regression and Bivariate Findings

Table 6 presents the stepwise, linear-regression results, where the overall airport customer experience (CX) is the dependent variable.

Dependent Variable	R	R-Square	Adj. R-Square	Std. Error of Est.
Airport Customer Experience	.428	0.183	0.168	0.5804
Independent Variables:		Std. Coefficient (Beta)	t	Significance
• Constant			21.326	0.000
• Attitude to Counter check-in		0.279	3.837	0.000
• Residential Location of Respondent		0.099	1.941	0.053
• Perceived Usefulness		-0.165	-2.786	0.006
• TAP Proficiency		0.159	2.912	0.004
• Attitude to Self Service Check In		0.166	2.307	0.022
• Self-Service Frequency		-0.108	-2.002	0.046

Table 6: Regression Analysis: Overall Airport Customer Experience

The predictors which entered the model include attitude to counter check-in, residential location of respondent, PU of technology, TAP proficiency, attitude to self-service check-in and frequency of self-service use. It is noted that attitude of respondents to counter check-in has the highest positive impact on the overall airport customer experience. Although the residential location of the respondents did enter the model, it had a very low impact. It is also noted that the PU with regards to self-service tagging and bag drop and perceived acceptance of self-service facilities (self-service frequency) have a significant negative impact on overall airport customer experience. This may suggest that the current services are more acceptable to the respondents and that self-service services may be viewed in a negative light. However, what is significant to note is that the variables which entered the model account for only 16.8% of the model implying that there are many other unknown variables not accounted

for in the model (83.2%) and were not included in the study.

To understand inter-variable relationships in depth, bivariate correlations were conducted. Table 7 shows the legend for the variables displayed at Table 8 and Table 9. Table 8 shows the relationships between TAP, use of SSTs and CX (refer to the fourth research question) that indicates a broadly positive and significant association linking the technological mindset of passengers (TAP), their interaction with SSTs and the perceived CX. Most of the marked coefficients lie in the ‘low to moderate’ band but within the SST cluster quite a number reflect ‘high’ band values. This implies that while TAP alone does not overwhelmingly dictate behaviour or satisfaction, it reliably steers passengers towards heavier SST use and subsequently towards better rated journeys.

No	Variable	No	Variable
Antecedents		Self-Service Technologies	
1	Gender	14	Technology Acceptance Perceived Usefulness
2	Location	15	Technology Acceptance Perceived Ease of Use
3	Age Group	16	Total Technology Acceptance
4	Household Structure	17	Self-Service Frequency
5	Education Level	18	Self-Service Intentions
6	Nationality	19	Total Self Service
7	Most Common Travel Reason	20	Attitude to Self Service Baggage Drops
8	Ever used self-service at Airport	21	Attitude to Self Service Check In
Technology Adoption Propensity (TAP)		22	Attitude to Staffed Bag Drops
9	Optimism	23	Attitude to Counter check-in
10	Proficiency	24	Total Attitude Self-Service
11	Dependence	Airport Customer Experience (CX)	
12	Vulnerability	25	Customer service quality
13	Total TAP	26	Customer Effort
		27	Customer Value

Table 7: Legend for Bivariate Correlations Variables

Two principal patterns are overall observed. The ‘approach’ dimensions of TAP (optimism and proficiency) positively correlate with every SST construct, from PU to PEOU through to SST frequency, intentions and attitudes. However, for the ‘inhibitor’ dimensions (dependence and vulnerability), dependence shows small negative links and vulnerability is mainly neutral. These patterns are entirely consistent with the Ratchford and Barnhart (2012) study projecting TAP as

a dynamic interplay whereby optimism and competence encourage engagement with technology whereas dependency concerns hold it back. Furthermore, Table 9 confirms that the antecedents have hardly any impact on the dimensions of TAP, use of SSTs and CX.

Variables	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Self-Service Technologies																
14 Perceived Usefulness	.353**	.340**	-.135*	-0.077	.270**	1										
15 Perceived Ease of Use	.343**	.409**	-.113*	-0.004	.345**	.803**	1									
16 Total Tech. Acceptance	.369**	.395**	-.133*	-0.039	.322**	.801**	.643**	1								
17 Self-Service Frequency	.145**	.212**	-0.048	0.051	.192**	.364**	.403**	.411**	1							
18 Self-Service Intentions	.247**	.213**	-0.026	0.023	.226**	.498**	.487**	.526**	.570**	1						
19 Total Self Service	.200**	.237**	-0.044	0.047	.227**	.457**	.478**	.501**	.519**	.828**	1					
20 Self Service Baggage Drops	.300**	.209**	-.112*	0.007	.219**	.391**	.368**	.402**	.298**	.288**	.327**	1				
21 Self Service Check In	.279**	.212**	-.123*	-0.021	.197**	.412**	.390**	.425**	.291**	.296**	.323**	.682**	1			
22 Staffed Bag Drops	.277**	.182**	-.151**	-0.010	.163**	.390**	.378**	.411**	.249**	.247**	.279**	.658**	.722**	1		
23 Counter check-in	.227**	.193**	-0.100	-0.023	.190**	.458**	.436**	.471**	.325**	.349**	.383**	.634**	.713**	.682**	1	
24 Total Attitude Self-Service	.311**	.240**	-.139*	-0.014	.230**	.475**	.453**	.492**	.337**	.341**	.378**	.657**	.845**	.895**	.836**	1
Airport Customer Experience																
25 Customer service quality	.166**	.186**	-0.103*	-.109*	.109*	0.067	0.093	0.073	-0.021	0.041	0.013	.230**	.260**	.274**	.219**	.294**
26 Customer Effort	.162**	.177**	-.165**	-0.062	0.080	0.080	.130**	0.106	0.087	0.074	0.099	.279**	.248**	.273**	.205**	.288**
27 Customer Value	.108*	.165**	-.123*	-.139*	0.061	0.031	0.023	0.024	0.006	-0.006	0.007	.183**	.230**	.261**	.180**	.241**
28 Total Airport Quality	.165**	.201**	-.152**	-.110*	0.101	0.068	0.088	0.076	0.029	0.040	0.045	.256**	.277**	.302**	.226**	.309**
Legend:																
Low = .1 to <.3 Medium = .3 to <.5 High = .5 to 1.0																
-.1 to <-.3 -.3 to <-.5 -.5 to <-1.0																

Table 8: Bivariate Correlations for Relationships between TAP, Use of SSTs and CX
Legend Source: Cohen, Jacob. (1992). A Power Primer. Psychological Bulletin, Vol. 112 (1), pg.155

Discussion

TAP and its Dimensions

The first research objective was to identify TAP levels of airport passengers using MIA. Results revealed high 'optimism' and 'proficiency' among respondents, confirming a strong predisposition toward technology. These findings align with the conceptualisation by Ratchford and Barnhart (2012), who argue that individuals with elevated 'optimism' and 'proficiency' demonstrate a higher behavioural intention to embrace digital services.

However, older passengers recorded slightly lower TAP levels, suggesting greater hesitancy, an observation consistent with Monge Zamorano, Fernandez-Laso & De Esteban Curiel (2020)

and Graham et al. (2023), who identify age-related differences in digital readiness. Nevertheless, age did not significantly inhibit technology use, indicating that the MIA population is generally receptive to digitalisation despite minor generational variations. The relatively low levels of 'dependence' and 'vulnerability' found in the sample suggest that although some passengers harbour concerns regarding privacy or over-reliance on technology, these concerns are not dominant. This complements research by Kim, Song & Lee (2023), who highlight that while security and privacy concerns are relevant, they rarely outweigh convenience and efficiency in SST environments. Hence, TAP appears to operate as a positive driver of technology use within MIA.

Variables	Gender	Location	Age	Household Structure	Education Level	Nationality	Common Travel Reason	Usage self-service at Airport
TAP								
9 Optimism	-0.035	-0.027	-0.055	0.078	0.064	-0.021	-0.015	-0.086
10 Proficiency	.199**	0.063	-.145**	0.006	0.027	0.023	0.048	-0.058
11 Dependence	-0.093	0.034	.153**	0.042	-0.044	0.091	-0.044	0.043
12 Vulnerability	-.137*	0.021	-0.034	0.086	0.050	0.053	-0.022	-0.027
13 Total TAP	-0.031	0.055	-0.043	0.102	0.058	0.054	0.000	-0.050
Use of Self-Service Technologies								
14 Perceived Usefulness	0.052	0.029	-0.060	-0.052	-0.029	0.048	-0.006	-0.093
15 Perceived Ease of Use	-0.002	0.010	-0.074	-0.053	0.023	0.016	0.087	-.119*
16 Total Technology Acceptance	0.035	0.019	-0.078	-0.058	-0.007	0.037	0.042	-.109*
17 Self-Service Frequency	0.022	-0.038	-0.057	-0.008	0.057	.113*	0.053	-.331**
18 Self-Service Intentions	-0.001	-0.070	-0.038	0.012	0.010	-0.003	-0.014	-.185**
19 Total Self Service	0.016	-0.069	-0.068	-0.010	0.033	0.067	0.022	-.313**
20 Self Service Baggage Drops	-0.025	0.046	-0.009	0.058	0.032	0.045	-0.048	-.166**
21 Self Service Check In	-0.066	0.084	-.119*	-0.042	-0.036	0.075	-0.032	-.142**
22 Staffed Bag Drops	-0.020	-0.017	-.160**	-0.065	-0.039	0.069	-0.059	-0.102
23 Counter check-in	-0.036	0.079	-0.081	-0.014	-0.004	0.079	0.010	-.150**
24 Total Attitude Self-Service	-0.053	0.057	-0.097	-0.006	-0.010	0.075	-0.027	-.175**
Airport Customer Experience								
25 Customer service quality	-0.020	.143**	0.098	0.056	-0.004	-0.006	0.019	-0.056
26 Customer Effort	0.016	0.097	0.040	-0.007	-0.006	0.008	0.003	0.004
27 Customer Value	0.013	.142*	-0.018	0.009	-.110*	0.013	-0.040	-0.047
28 Total Airport Quality	0.014	.136*	0.049	0.026	-0.046	-0.007	-0.007	-0.029
Legend:								
Low = .1 to <.3 Medium = .3 to <.5 High = .5 to 1.0								
-.1 to <-.3 -.3 to <-.5 -.5 to <-1.0								

Table 9: Bivariate Correlations Between the Antecedents and TAP, Use of SSTs and CX
Legend Source: Cohen, Jacob. (1992). A Power Primer. Psychological Bulletin, Vol. 112 (1), pg.155

Dominant Factors Affecting SST Use

PU emerged as the strongest determinant of SST adoption, supporting Davis's (1989) Technology Acceptance Model. Passengers who believed that SSTs improved efficiency and convenience exhibited higher usage and greater intention to adopt. This echoes Lin & Chang (2011), who conclude that PU is often the most influential variable when passengers choose between SSTs and staffed alternatives.

However, while ease-of-use perceptions were moderately strong, passengers still expressed the need for accessible staff assistance when situations became complex or unfamiliar. This is consistent with Monge Zamorano, Fernandez-Laso & De Esteban Curiel (2020), who state that poorly designed SST interfaces or insufficient guidance can discourage engagement. For MIA, this suggests that supportive hybrid service models remain essential, especially during peak periods, disruptions, or for passengers with limited digital literacy.

Additionally, prior experience with SSTs positively influenced attitudes and willingness to use these technologies again, underscoring the importance of repeat exposure in enhancing passenger confidence. This aligns with Wongyai et al. (2024), who assert that familiarity significantly shapes acceptance and reduces cognitive barriers.

Dominant Factors Impacting CX

Findings highlight that respondents rate MIA highly across the three Airport-CXMM dimensions: customer service quality; customer effort; and customer value. The discussion reinforces that 'customer effort' was particularly influential, reflecting the airport's clear signage, manageable distances, efficient processing times and well-organised flows. These results complement Choi et al. (2024), who confirm that reduced physical and cognitive effort leads to stronger satisfaction and positive behavioural intentions.

'Customer service quality' also played a notable role, especially regarding courteous staff interactions and operational efficiency.

These findings mirror Alansari, Soomro & Belgaum (2019) who emphasise that staff responsiveness and professionalism remain integral even in highly digitalised airport environments. Passenger perceptions of value - balancing time, effort, comfort and facility quality - further contributed to overall satisfaction. This is consistent with Yong et al. (2023) who link perceived value to enhanced comfort and overall travel experience.

Relationships Between TAP, SST Adoption and CX

‘Optimism’ and ‘proficiency’ were positively correlated with SST usage while ‘dependence’ and ‘vulnerability’ showed mild negative associations consistent with the TAP framework (Ratchford & Barnhart, 2012). SST adoption demonstrated a moderate positive relationship with CX, implying that passengers who successfully engaged with SSTs tend to perceive the airport experience more favourably. This supports Bogicevic et al. (2017) who note that seamless digital services reduce perceived travel stress, increase control and enhance the overall airport journey.

Furthermore, the study identifies a spill-over effect whereby tech-confident passengers who adopt SSTs help reduce queue lengths, indirectly improving the experience for passengers less inclined to use technology. This concept is supported by Wong (2024) who argues that SST adoption redistributes passenger flow to create efficiency benefits. CX also showed weak-to-moderate correlations with the TAP dimensions, indicating that a positive airport environment encourages digital engagement. This echoes Antwi et al. (2021) who

highlight that service quality can reinforce technology acceptance by enhancing trust and perceived value.

Relationships Between Antecedents and Core Variables

The correlation matrix linking the eight antecedents with TAP, use of SSTs and CX (Table 9) provides an overall picture showing a weak statistical relationship. This is strongly evident in that only 20 out of 160 variable coefficients reached significance with most falling within the lower end of the negative spectrum of the Spearman coefficient scale. Two of the variables, gender and age, modestly stand out as active predictors. Older passengers are showing lower technological ‘proficiency’ and higher ‘dependence’ and they are also less inclined towards self-service check-in and staffed bag drops. Gender registers a small positive association with ‘proficiency’ and a negative link with ‘vulnerability’ hinting at subtle, gender-based differences in confidence and perceived risk. These findings are significant because they suggest that digitalisation strategies at MIA can be broadly targeted, without requiring heavy segmentation. Overall, passengers at MIA are digitally receptive, positively disposed toward SSTs and satisfied with their airport experience. This positions MIA as an airport with a strong technological foundation, capable of embracing further digital transformation while maintaining human service quality to support less confident travellers.

Conclusions

The study identifies five principal findings:

- (a) TAP among MIA passengers is generally favourable, with high ‘optimism’ and ‘proficiency’ while ‘dependence’ and ‘vulnerability’ act as mild inhibitors
- (b) Passengers hold a positive but not absolute attitude toward SSTs. Regression results indicate that while self-service check-in contributes to CX, attitudes toward counter check-in remain strongly influential. PU and frequency of SST use showed modest negative coefficients, suggesting passengers value optionality and support alongside digital tools

- (c) The overall airport experience is rated strongly, with high levels of customer effort, service quality and value
- (d) Relationships between TAP, SST use and CX exist but are small in magnitude, reflecting multi-factor behavioural influences
- (e) Antecedents exert minimal influence, with only age, gender and prior SST usage showing weak associations

Implications for the Industry

In view of the strong digital readiness demonstrated by passengers, MIA is well-positioned to invest further in SST infrastructure. Enhancing or expanding automation at key processing points will likely be positively received. Consistently high CX ratings reaffirm that MIA’s operational practices, terminal design and customer service are strong foundations upon which digital advancements can be built. Since customer effort significantly affects satisfaction, the airport should ensure that implementing additional SSTs maintains intuitive workflows and reduces cognitive burden. Despite being receptive to technology, passengers still value human assistance. This underscores the importance of a hybrid service delivery, where automation is supported by skilled frontline staff who can intervene when travellers face difficulties thereby reinforcing trust in digital systems.

Recommendations

Based on the findings, several recommendations are being proposed to support both efficiency and inclusivity at MIA. These include enhancing the visibility and accessibility of SSTs through clearer signage, improved interfaces and multilingual options; strengthening staff training so personnel can provide effective digital assistance; and strategically expanding SST deployment to ease congestion during peak periods. Additionally, MIA should make greater use of passenger feedback to track evolving expectations and adapt services accordingly, while communication

AUTHORSHIP

Annalisa Scerri – 50%
Dr Emanuel Camilleri – 50%

campaigns should be developed to build familiarity and encourage first-time use among hesitant passengers. Together, these actions would allow digitalisation to progress without compromising passenger comfort or the availability of human support.

Limitations and Future Research Recommendations

The study acknowledges limitations, including the reliance on convenience sampling, the focus on a single airport and the use of an English-language questionnaire, which may have excluded some travellers. Future research directions include expanding the sample to incorporate a broader range of nationalities, comparing findings with other small airports and exploring qualitative insights to complement the quantitative results.

Concluding Remarks

The study contributes by addressing a notable research gap on the local front. By establishing the relationship between TAP, SSTs and the CX within a small-airport context, the research provides meaningful guidance for MIA’s strategic planning and future digital transformation efforts. It is evident that MIA is well-prepared for further digitalisation if implementation remains passenger-centred, supported by staff and aligned with the strong experiential baseline already in place.

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02 Exploring the Personal and Organisational Impact of Various Work Models and their relationship to Employees' Perception of the Organisation: An Employee-Centric Analysis in Malta's Evolving iGaming Work Landscape.

Chantelle Aquilina & Dr. Emanuel Camilleri

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Chantelle Aquilina -ORCID: <https://orcid.org/0009-0001-0762-513X> | Quad Central, Maltal Email: chant.aquilina98@gmail.com

Dr. Emanuel Camilleri- ORCID: <https://orcid.org/0000-0002-3829-6164> | Visiting Senior Lecturer, University of Maltal Emanuel-camilleri@outlook.com

Abstract

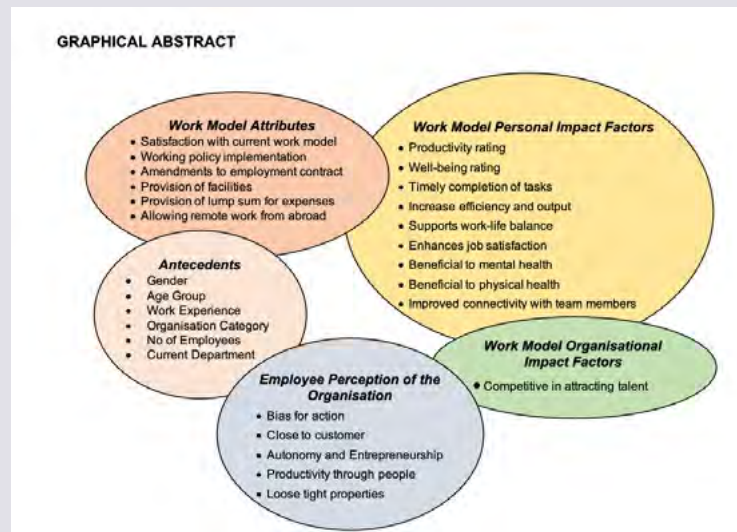
Objectives: This study explores the personal and organisational impact of on-site, hybrid, and fully remote work models on iGaming employees in Malta and examines their relationship with employees' perception of the organisation.

Methods: A positivist epistemology is adopted, with a quantitative, cross-sectional research design. A questionnaire was distributed to iGaming employees in Malta, using stratified random sampling to ensure representativeness. The data was analysed using Factor Analysis for validation, Cronbach alpha for reliability, descriptive and inferential statistics, and bivariate analysis.

Results: Findings show that the hybrid model is the most preferred, offering an optimal balance of productivity, well-being, and job satisfaction. Positive organisational perceptions were stronger when supported by clear policies, adequate resources, and flexible work practices. Notably, unlike previous studies, iGaming employees did not report high stress or overworking under hybrid or remote conditions.

Conclusions: The study underscores the importance of aligning work models with employee expectations and highlights the need for strategic HR practices that promote flexibility, trust, and organisational support. It contributes to the growing discourse on flexible work and offers practical insights for HR professionals, iGaming leaders, and policymakers.

Keywords: "Hybrid Work Model"; "Fully Remote Work Model"; "iGaming; Employees' Perception"; "Personal and Organisational Impact".



Graphical abstract

Highlights:

- Provides insights on how on-site, hybrid, and remote work models impact employee well-being, productivity, and organisational perception in Malta's iGaming sector.
- Being satisfied with the work model strengthens employees' positive attitude toward the organisation.
- When an organisation is seen as more competitive in attracting talent, employees are more likely to hold a positive view of the organisation's management.
- Reveals that hybrid work models are most preferred, with strong links to job satisfaction, positive perception, and organisational support.
- Offers actionable recommendations for HR professionals and policymakers to implement flexible, employee-centric work strategies in such competitive industries.

Abbreviations:

EU	European Union
HR	Human Resources
MGA	Malta Gaming Authority
U.S.	United States
WFO	Work from Office
WLB	Work-life Balance

Introduction

The world of work has undergone considerable change, driven by technological advances, evolving social expectations, and global disruptions. The shift toward hybrid and remote work models, accelerated by the COVID-19 pandemic, has become one of the most significant changes in today's work environment (Byström et al., 2016). However, even after the pandemic, many organisations still opted for remote or hybrid conditions. From the employee perspective, different work models impact productivity, well-being, and job satisfaction. Gregory (2011) asserts that employee satisfaction is vital to organisational success, as declining well-being and performance can lead to higher turnover. As such, understanding employee perceptions of work models is critical for sustaining competitiveness, especially in fast-paced sectors like iGaming (Krajčík et al., 2023).

Despite the growing prevalence of flexible work arrangements, there is limited research examining the relationship between work model attributes, personal and organisational impacts, and employee perceptions, particularly in Malta's iGaming industry. This study addresses this gap by exploring how different work models influence both employee experience and organisational success in a rapidly evolving work landscape. Additionally, this study aims to explore the employee dominant perceptions towards the organisation. Additionally, cybersecurity concerns, common in the iGaming sector, led to some hesitancy among participants.

The concept of telecommuting dates back to 1973, when Jack Niles introduced the term to describe working remotely using telecommunications technology. As computers emerged, "telework" became a more commonly used term. In Malta, although legislation refers to "telework," it is often used interchangeably with "remote work" (Mifsud & Cuschieri, 2023). Remote work typically involves using information technology to perform job tasks outside traditional office settings, while "telework" does not always imply working from home (Grzegorzczuk et al., 2021). The COVID-19 pandemic accelerated the global adoption of three main work models: on-site (work from office), hybrid, and fully remote. The

work-from-office (WFO) model, once considered the norm, involves employees working exclusively from office premises, allowing for real-time collaboration (TechPlay, 2023). Conversely, the fully remote model, prevalent in digital sectors like iGaming, offers employees greater autonomy and flexibility, with studies linking it to improved productivity and work-life balance (Ojaveri, 2021). However, its effectiveness depends on trust and strong managerial practices.

On the other hand, the fully remote work model gained significant attention during the COVID-19 pandemic and remains prevalent, particularly in technology-driven sectors like iGaming. This model allows employees to work from locations outside the office premises, offering professional freedom and responsibility (Ojaveri, 2021). Research studies show that remote work can enhance work-life balance (WLB) and productivity, as employees can tailor their environments to optimize comfort and efficiency. However, its success hinges on effective management practices, including delegation and fostering trust between leaders and employees. The hybrid model blends on-site and remote work, offering employees flexibility while maintaining in-person engagement. Demetriades et al. (2023) define it as a structured balance between office and remote settings, though different hybrid variations present unique challenges and benefits.

The hybrid work model has emerged as the most preferred arrangement. A Gallup survey cited by Hopkins and Bardoe (2023) found that 60% of U.S. employees favoured hybrid work. Similarly, Katanich (2024) highlights a Eurostat survey carried out in 2023, which shows how several European countries are increasingly adopting remote work practises. Malta ranks as the ninth top EU country with 11.5% of employees engaged in remote work options, as illustrated in Figure 1. This shift has prompted organisations to experiment with various hybrid structures to enhance both employee experience and performance (Costa et al., 2022). However, leadership must ensure that such transitions strengthen, rather than compromise, productivity.

Remotely working employees in Europe (2023)
(% of the total employment)

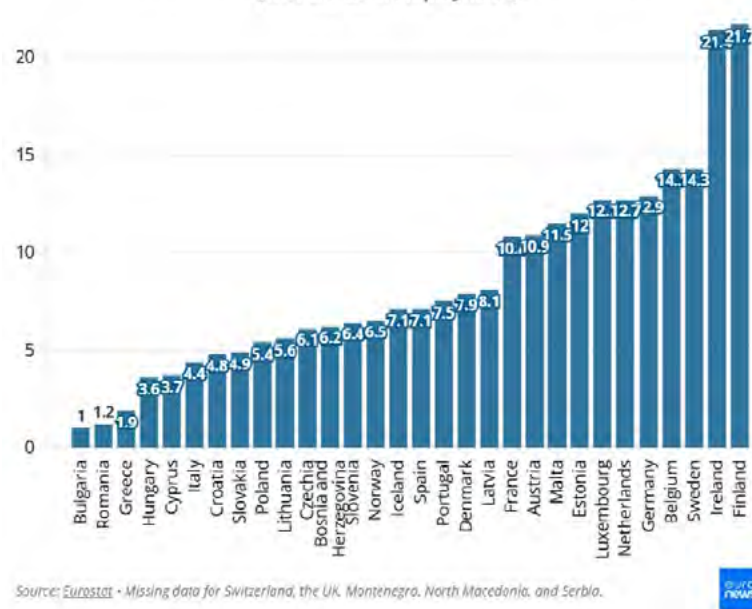


Figure 1: Remote Working Employees in Europe, 2023.

Remote and hybrid work models are often associated with improved productivity, largely due to increased flexibility and autonomy. In Malta, iGaming and financial sectors reported higher productivity during the pandemic (Grant Thornton, 2021). KPMG (2021) and PWC (2020) further link this to enhanced job satisfaction and WLB, as employees gain greater control over their schedules. However, critics argue that remote work can hinder communication, collaboration, and accountability (Mandl, 2021). PWC (2020) found that remote workers often feel pressured to prove productivity, while Eurofound reports highlight risks such as long hours, blurred boundaries, and stress (Costa et al., 2022). Isolation and reduced face-to-face interaction can also impact mental health and well-being. On the other hand, the potential for remote work to improve well-being should not be overlooked. Dahik et al., (2020) found that fully remote employees during the pandemic often prioritised exercise, nutrition, and improved sleep schedules, due to greater flexibility in managing their time compared to the traditional 9-to-5 routine. Gibbs et.al., (2023) emphasise how being physically and mentally healthy influences focus and productivity, demonstrating how well-being is critical for successful remote work.

Ergonomic equipment such as adjustable chairs and monitors is critical for remote workers, who

often spend extended hours seated. Without proper support, physical strain and discomfort may arise (Drewniak et al., 2023). While some organisations offer equipment or financial support to set up home offices, many organisations lack systems to address these concerns in home office settings, due to lack of visibility (Ellison, 2012). Additionally, even though many organisations adopted the hybrid or remote work models, a significant number of businesses have failed to clearly communicate their vision for hybrid and remote work, creating uncertainty and anxiety among employees (Bailey & Kurland, 2002). Vague expectations around working hours and responsibilities can blur work-life boundaries, leading to stress and lower productivity. Furthermore, formal policies addressing core hours, legal entitlements, and cybersecurity are essential.

Ambiguity in work model governance may also erode employee trust, especially in competitive sectors like iGaming. Employees may perceive such gaps as a lack of leadership preparedness. From an HR perspective, the absence of clear remote work frameworks introduces risks related to health, safety, and compliance. Providing clear guidelines and resources is crucial for ensuring employee well-being and organisational resilience.

Flexibility has become a top priority for employees, often surpassing traditional incentives such as salary. Reisinger and Fetterer (2021) report that 59% of workers value flexibility more than wages, with 77% preferring remote work over traditional office settings. Additionally, 44% know someone who has left, or plans to leave a job due to the lack of remote options. This signals a significant shift in workplace expectations, where autonomy and flexibility now drive employment decisions. Minahan (2021) observes that the COVID-19 pandemic accelerated this shift, particularly in sectors like iGaming where talent shortages had previously existed. According to the MGA (2020), 20% of vacancies remain unfilled for over six months, with micro firms facing even steeper challenges. Companies that resist flexible practices risk losing competitiveness by failing to attract and retain skilled talent. Conversely, organisations that embrace flexible work models are better positioned to broaden their talent pool and improve retention. In today's labour market, flexibility is not just a benefit, it is a strategic imperative.

Employee perceptions significantly shape workplace behaviour and engagement, particularly during organisational change (Katsaros et al., 2024). Positive perceptions are often enhanced

by flexible work models, which promote autonomy, trust, and innovation. Ojaveri (2021) found that access to flexible arrangements improves organisational commitment. Moreover, Sanbakken (2006) mentions the EXCEL framework developed by Sharma et al. (1990) that highlights critical attributes such as "Productivity through People" and "Autonomy & Entrepreneurship." These elements align with flexible work models, as they empower employees to innovate and contribute effectively in environments that value autonomy (Daneshmandi et. al., 2023).

In the iGaming sector, the "Close to the Customer" dimension is particularly salient. As Borg (2021) highlights, customer-centricity is central to the industry, and engaged employees tend to deliver superior service. Supporting this, Vorecol's (2024) Gallup survey reports that highly engaged employees contribute to a 20% rise in customer satisfaction and 10% higher customer ratings. Conversely, negative perceptions, often driven by rigid work structures or lack of recognition, can lead to disengagement and higher turnover (Dymock & McCarthy, 2006). When organisations fail to offer flexibility or support WLB, employees may feel undervalued, ultimately harming morale and organisational performance.

Methodology

Research Population Attributes and Research Design of the Study

A theoretical model that forms the basis of this empirical study, together with the literature review is shown in Figure 2. This framework was assessed using online questionnaires. The survey represents an overview of how employees view their preferred work model that best supports employee productivity and well-being. Prior to the actual survey, the researcher conducted a pilot testing of 20 participants, to ensure reliability and correct any errors or misinterpretations. The actual survey had a total of 23 close-ended questions, in which it was then coded to analyse the variables and their relationships. Participation for the survey was voluntary, and the survey responses were anonymous. Participants had the right to withdraw from the survey at any time without providing a reason, with the participants rights protected throughout this study. Due to the study being deductive, all the questions were close ended, therefore, the risk of sampling and non-sampling errors was minimised and simplified statistical analysis (Patten, 2017). The questions included a mix of Dichotomous, Multiple

Choice, Rating/Likert Scale, and Ranking formats. The questionnaire was conducted online using Microsoft Forms, offering a professional design with real-time updates and data tabulation. The questionnaire was distributed through LinkedIn and professional networking events such as iGaming expos and conferences to effectively reach the target sample. The researcher had no direct connect with the participants, with the system acting as gatekeeper to avoid biased feedback.

According to the latest Malta Gaming Authority (MGA) (2024) Interim Report, by the end of June 2024, it was estimated the total of 13,862 employees working with iGaming companies who hold the MGA license. The researcher calculated the sample size according to this estimate, which resulted to 374.

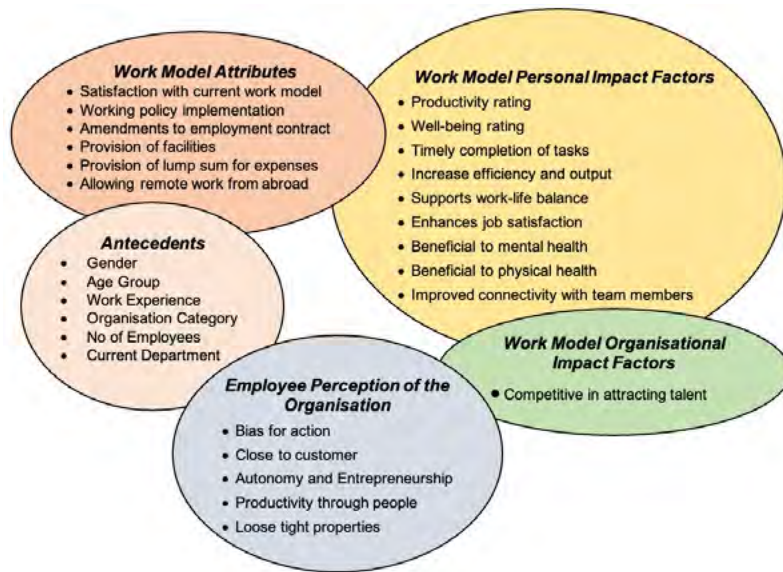


Figure 2: Graphical Representation of Attributes & Relationships Explored

The theoretical model at Figure 2 engendered several research questions as itemised below:

- What are the dominant Work Model Attributes of employees working in the iGaming industry?
- What are the dominant personal factors and impact of the Work Model being used for the employees working in the iGaming industry?
- What are the dominant organisational factors and impact of the Work Model being used for the employees working in the iGaming industry?
- What are the dominant dimensions associated with the Employees' Perception of the Organisation for the employees working in the iGaming industry?
- What is the relationship between the Work Model Attributes, the personal and organisational impact of the Work Model used, and the Employees' Perception of the Organisation for the employees working in the iGaming industry?

Data Validity and Reliability of the Research Instrument Applied in the Study

The number of completed valid questionnaires received was 376, which were validated for completeness. This provided a margin of error of 4.88% at 95% confidence level ($p=.05$). According to LoBiondo-Wood & Haber (2002) a

margin of error of up to 7% is acceptable. The questionnaire was categorised into five sections, namely: demographic data regarding the target population being investigated; attributes of different work model; impact of work models on the employees' well-being and productivity; impact of work models on the organisation; and the employees' perception of the organisation. Only one instrument was used in the study, namely, Employee Perception of the Organisation (Sharma, 1990). All the other survey questions were specific to a particular factor.

The validity and reliability test conducted for the instrument used was Factor Principal Component analysis with Varimax Rotation and Cronbach's Alpha respectively. The validity test revealed and confirmed the underlying construct dimensions, while the reliability tests measure internal consistency using Cronbach's Alpha. Factor analysis evaluates the extent to which the instrument applied showed that what was supposed to be measured was actually measured (Leech et al., 2015). Table 1 shows the validity and reliability results for the Employee Perception of the Organisation instrument. The finding show that all relevant questions converged with the correct instrument dimension and the Cronbach alpha suggest a high level of data reliability. Cronbach alpha does not apply for single item dimensions.

Questions	Instrument Dimensions				
	Productivity thru People	Autonomy & Entrepreneurship	Close to Customer	Loose Tight Properties	Bias for action
Productivity via people	0.850	0.298	0.229	0.231	0.255
Q2	0.833	0.219	0.226	0.211	0.206
Q6	0.751	0.341	0.202	0.221	0.272
Autonomy & Entrepreneurship	0.420	0.805	0.270	0.196	0.239
Q7	0.131	0.799	0.308	0.200	0.164
Q1	0.397	0.714	0.167	0.154	0.205
Q4	0.561	0.583	0.222	0.154	0.250
Close to customer	0.214	0.233	0.926	0.117	0.165
Q3	0.306	0.119	0.830	0.039	0.131
Q8	0.064	0.296	0.804	0.171	0.162
Loose tight properties	0.223	0.190	0.128	0.932	0.166
Q9	0.223	0.190	0.128	0.932	0.166
Bias for action	0.304	0.253	0.221	0.198	0.869
Q5	0.304	0.253	0.221	0.198	0.869
Cronbach Alpha:	0.852	0.832	0.714	Single Item	Single Item

Table 1: Employee Perception of the Organisation
Principal Component Analysis with Varimax rotation and Cronbach Alpha

Results

This research study generated comprehensive findings that are too voluminous to be presented fully in this document. Therefore, this article will mostly focus on the findings regarding selected aspects and the relevant research questions itemised previously.

Work Model Attributes

Table 2 illustrates that 73.9% of the respondents work in organisations that have a hybrid (mix of remote and on-site) model and that 78.2% are satisfied or very satisfied with the model they are

using. Furthermore, the findings also suggests that 34.0% of respondents work for organisations that have flexible hybrid model (working from home or the office at their discretion), while 19.7% having a fixed hybrid model where they follow a pre-determined schedule. Figure 3 illustrates that most organisations implemented a formal hybrid/remote working policy (65.2%). However, only 17.6% of organisations provided remote workers with a lump sum for expenses incurred when working from home.

Variables	%
Work Model Currently Used in Organisation	
Hybrid (Mix of remote & on-site)	73.9%
Fully remote model	14.6%
On-Site (Work from Office)	11.4%
Satisfaction Level with Work Model Used in Organisation	
Satisfied	35.4%
Very Satisfied	42.8%
Type of Hybrid Work Model Used in Organisation	
Not Hybrid	23.9%
Flexible Hybrid (home & Office)	34.0%
Fixed Hybrid (pre-determined schedule)	19.7%
Remote-First Hybrid (mostly remote)	5.6%
Office-Centric Hybrid (Office-First)	11.7%
Team-Based Hybrid	1.9%
Week-by-Week Hybrid	0.8%
Split-Week Hybrid	2.4%

Table 2: Work Model Attributes Findings

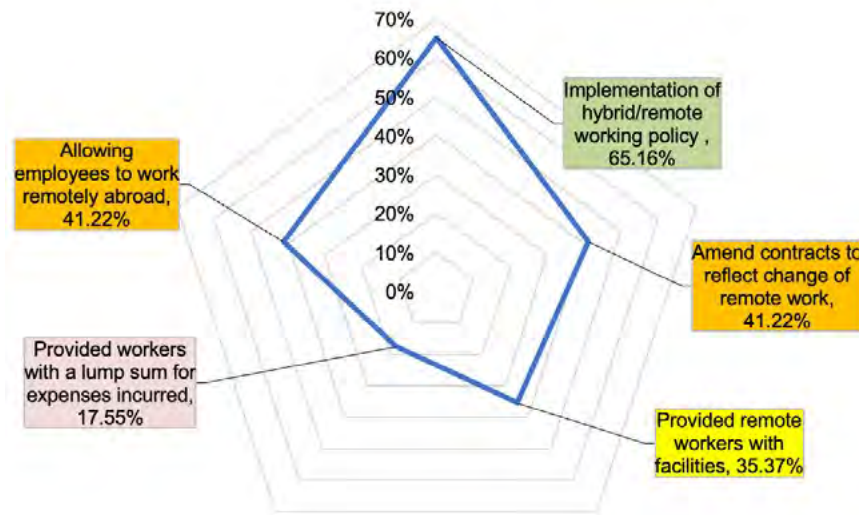


Figure 3: Hybrid/Fully Remote Work Model Practices

Work Model Personal Impact Factors

Figure 4 reveals how the respondents rated their level of agreement with several essential aspects regarding their current work model. Generally, respondents had a very positive attitude towards their current work model on all aspects. It should be noted that 88.5% of respondents indicated that they had a hybrid work model and fully re-

mote model (refer to Table 2). Therefore, unsurprisingly, lower stress level at 46.8% and better physical health (52.9%) had the lowest scores. This suggests that a hybrid and fully remote work models cause less stress but may not be better for physical health.

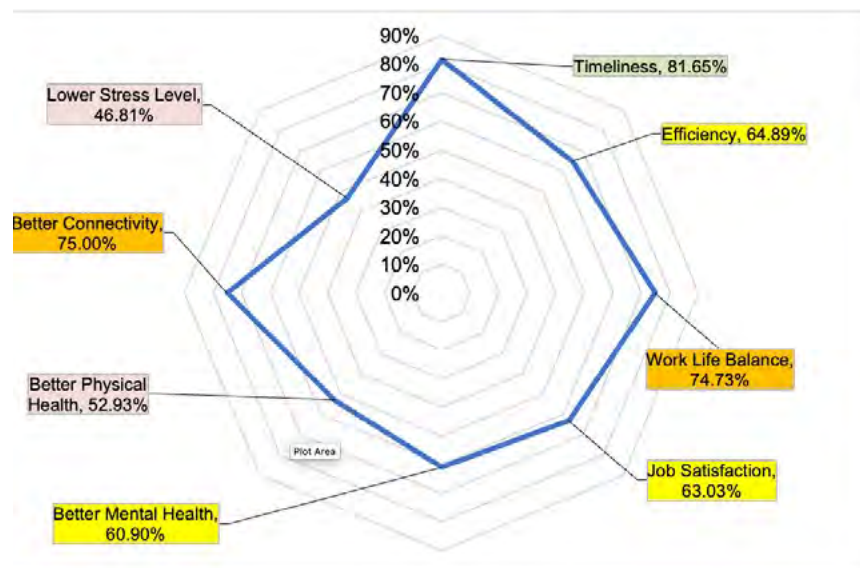


Figure 4: Positive Aspects of Current Work Model

Furthermore, Figure 5 presents the ranking of important aspects when looking for a job. In the gaming industry, wages and benefits are top priority, followed equally by ability to work fully

remote or hybrid and career growth and development opportunities. It is noted that company reputation in the industry and no or less commuting was viewed as being the least important.

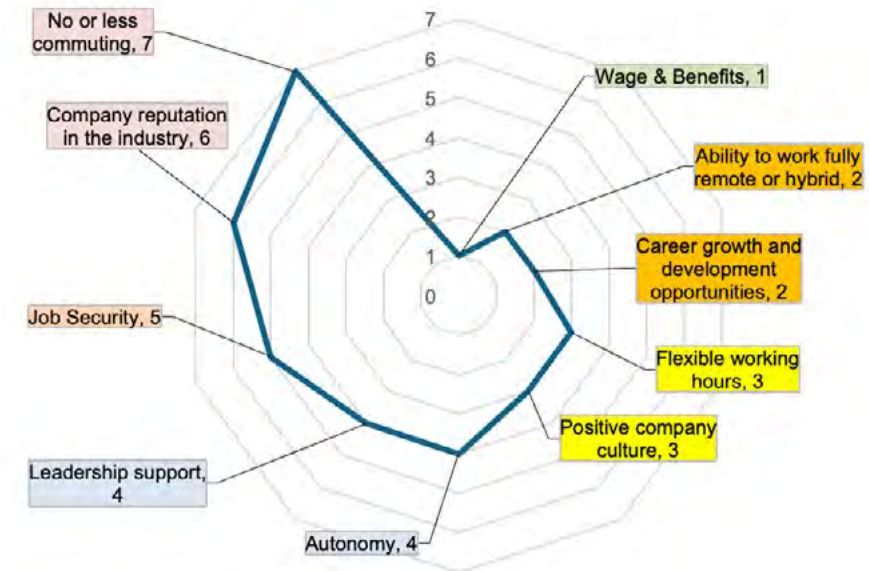


Figure 5: Ranking of Important Aspects When Looking for a Job

Work Model Organisational Impact Factors

Figure 6 provides the findings of the respondents' opinion regarding the challenges that were experienced by the respondents' organisation when managing their current work model. The findings suggest that the key challenges encoun-

tered were difficulty to maintain company culture (36%); team cohesion (35%); monitoring performance and ensuring productivity (33%); lack of trust in employees working remotely (equal at 33%); and communication gaps between remote and onsite employees (30%).

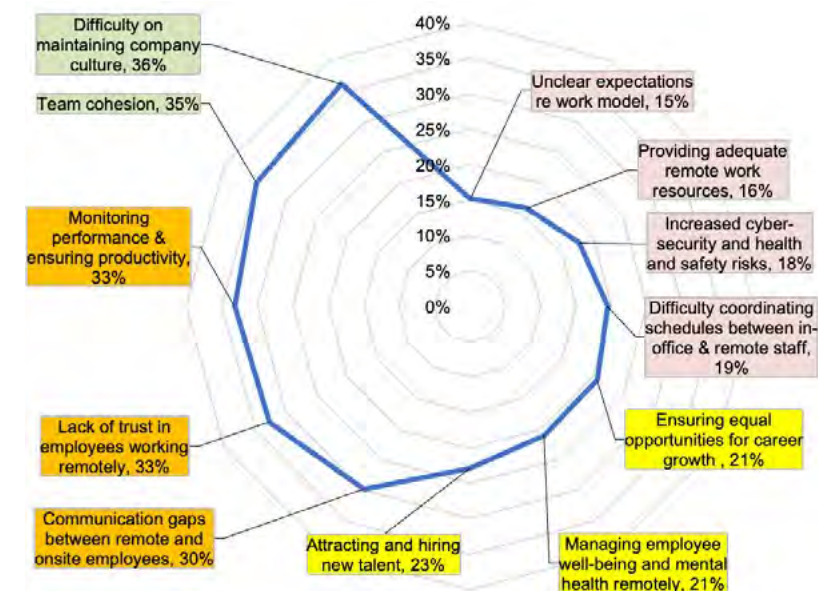


Figure 6: Challenges Experienced Managing Work Model

Moreover, Figure 7 suggests that respondents are of the opinion that their organisation evaluates the effectiveness and success of their current work models (i.e. remote, hybrid, or on-site) through three key activities, namely, conducting regular one-on-one meetings between employees and managers, and evaluating employees by performance reviews both at 55%; and gathering employee feedback through surveys (51%).

It is interesting to note that comparing external benchmarking or industry standards, and monitoring well-being indicators such as sick leave utilisation and attendance trends, have the lowest importance. This may indicate that the respondents' organisation does not use the usual key performance indicators, particularly those concerning the well-being of the employees.

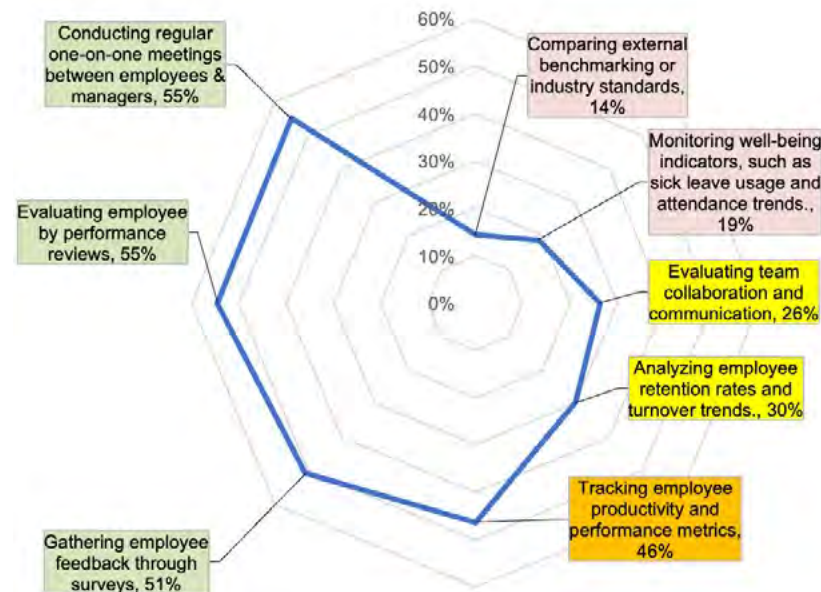


Figure 7: Assessing Effectiveness & Success of Current Work Models

Employee Perception of the Organisation (Management Environment)

Figure 8 illustrates the perceived management environment at the respondents' place of work. The findings suggest that being close to the cus-

tomers attained the highest level, followed closely by the autonomy and entrepreneurship dimension. All the other dimensions scored at a relatively high level.

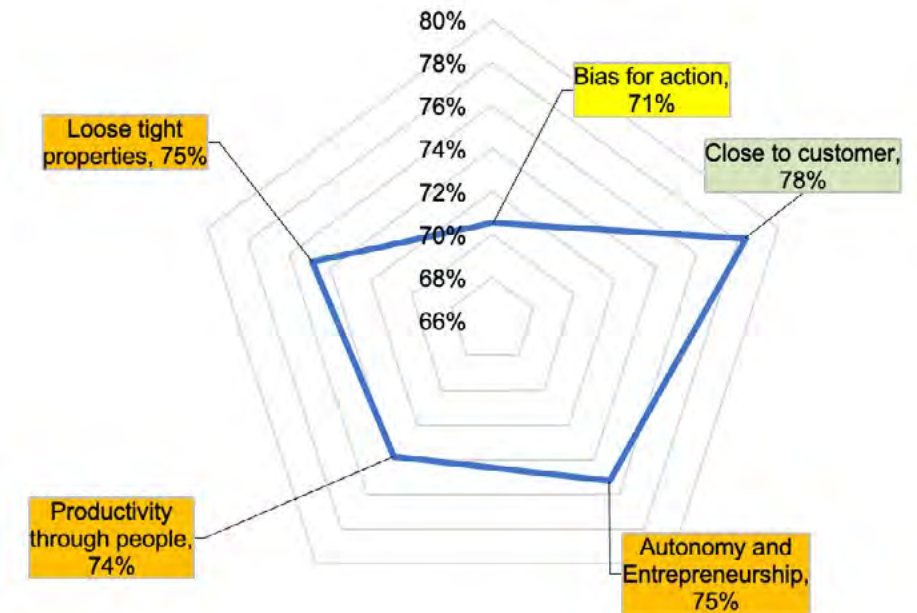


Figure 8: Employee Perception of the Organisation

The management environment of the gaming industry appears to give top priority to the customer, being customer-driven rather than production-driven. Additionally, respondents perceive that management is rather flexible with employees but administers discipline when necessary. However, at the same time, management encourages and provides opportunities for employees to be creative and innovative in their

daily work environment. This suggests that the organisation's management truly believes in its employees. Surprisingly, the management's propensity for bias for action (where management is perceived as flexible and quick in responding to problems) is the least important, although its score is still relatively high.

Bivariate Correlations

Table 3 provides the bivariate correlations between the variables of interest. The Bivariate correlations assess the relationship between variables. However, they do not signify a cause-and-effect relationship (Bertani et al., 2018) but determine the intensity and direction (negative or positive) of the relationships. The nearer the correlation coefficient is to ± 1 , the closer it is to having perfect correlation. Spearman Rho is being utilised since it evaluates monotonic relationships that involve ordinal variables. Only those correlations with an "*" or "***" have a significant relationship.

Generally, the work model attributes have a significant relationship with the personal impact factors, with some exceptions. For example, the satisfaction level with the work model attribute has a negative correlation with personal impact factors. However, since the coding is from very satisfied

(coded 5) to very dissatisfied (coded 1), suggests that the personal impact factors increase with the level of satisfaction of the work model. It is also noted that the work model attributes of working policy, employment contract, required facilities, and lump sum for expenses incurred have a positive relationship with the personal impact factors. This suggests that the work model attributes have a positive influence on the personal impact factors. Moreover, only the satisfaction level with work model attributes variable has a relationship with the employee perception of the organisation dimensions. Due to the coding convention of the satisfaction level, this finding suggests that being satisfied with the working model positively increases the employees' attitude of their organisation.

The findings suggest that the personal impact factors all have a significant positive relationship with the organisational impact factor of being more competitive in attracting talent. The only exception is the high level of stress personal impact factor that has a negative relationship. This finding suggests that if an organisation is viewed as being more competitive in attracting talent, there is a higher probability of employees experiencing better productivity and wellbeing ratings; completing tasks in a timely manner; being more efficient and having higher output; having greater support for work-life balance; higher job satisfaction due to flexibility; improved mental and physical health; better connectivity with team members; and a greater likelihood of recommending the work model to others. However, since the relationship with high levels of stress is negative, this suggests that an organisation being more competitive in attracting talent would

likely result in employees perceiving lower work stress. Interestingly, this finding is replicated with the dimensions of the employee perception of the organisation. This suggests that if an organisation is viewed as being more competitive in attracting talent, there is a higher chance that employees have a better opinion of their organisation's management in terms of being responsive, giving priority to the customer, being innovative, truly believing in its employees, and being both flexible and disciplined. Hence, the findings suggest that if an organisation is viewed as being more competitive in attracting talent, there is a greater likelihood that employees have a more positive view of their working environment in terms of how it is managed. Once again, the findings suggest that employees who view their organisation positively are likely to perceive lower stress levels.

Variables	Work Model Attributes						Personal Impact Factors of Work Model											Org.	Employee Perception of Org.				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Satisfaction with Work Model	1																						
2 Working Policy	-.141**	1																					
3 Employment Contract	-0.057	.152	1																				
4 Required Facilities	-0.090	.548**	.449**	1																			
5 Lump sum for expenses	-.120*	.095	.543**	.653**	1																		
6 Work remotely abroad	-0.040	.354**	.430**	.551**	.362*	1																	
7 Productivity Rating	-.436**	0.056	0.060	0.036	0.098	0.046	1																
8 Wellbeing Rating	.834**	.150*	0.095	0.080	.112*	0.039	.595**	1															
9 Completing tasks timely	-.378**	.171**	.141**	0.080	.103*	0.043	.476**	.409**	1														
10 Efficiency and Output	-.450**	.183**	.102*	.116*	.115*	0.091	.452**	.480**	.544**	1													
11 Supports work-life balance	.534**	.262**	.172**	.150**	.211**	0.066	.405**	.311**	.462**	.830**	1												
12 Job satisfaction to flexibility	.521**	.306**	.235**	.164**	.203**	0.075	.399**	.364**	.454**	.594**	.598**	1											
13 Improved Mental Health	-.464**	.226**	.134**	.129*	.150**	0.058	.357**	.385**	.377**	.518**	.422**	.619**	1										
14 Improved Physical Health	-.402**	.188**	.117*	0.057	0.087	0.046	.349**	.496**	.344**	.463**	.518**	.335**	.464**	1									
15 Connectivity team members	-.228**	-0.080	-0.084	-0.056	-0.030	-0.089	.307**	.269**	.323**	.270**	.232**	.298**	.389**	.354**	1								
16 High levels of stress	.244**	-0.061	0.020	-0.006	-.104*	-.101*	-.179**	-.361**	-.200**	-.171**	-.302**	-.219**	-.231**	-.180**	-.182**	1							
17 Recommend Work Model	.893**	.195**	.131**	.140**	.154**	0.090	.404**	.369**	.437**	.499**	.613**	.608**	.529**	.521**	.366**	-.323**	1						
18 Attracting Talent	-.108*	0.007	-0.054	0.018	0.028	.137**	.191**	.187**	.104*	.160**	.160**	.152**	.133**	.190**	0.046	-.216**	.162**	1					
19 Bias for Action	-.321**	.125*	0.083	0.043	0.040	-0.045	.196**	.337**	.260**	.321**	.396**	.409**	.326**	.268**	.202**	-.172**	.325**	0.088	1				
20 Close to Customer	-.282**	0.004	-0.086	0.009	-0.007	0.097	.225**	.167**	.235**	.273**	.227**	.276**	.164**	.147**	.181**	-.125**	.245**	.200**	.472**	1			
21 Innovation	-.407**	0.036	0.010	-0.003	-0.009	-0.067	.311**	.376**	.363**	.397**	.421**	.442**	.366**	.305**	.269**	-.177**	.394**	.120**	.618**	.543**	1		
22 Productivity thru People	-.409**	0.068	0.042	0.013	0.054	-0.010	.323**	.420**	.299**	.383**	.445**	.434**	.391**	.339**	.206**	-.274**	.376**	.153**	.632**	.498**	.154**	1	
23 Loose Tight Properties	-.320**	0.072	0.028	.107**	0.062	-0.023	.236**	.292**	.259**	.257**	.342**	.331**	.283**	.296**	-.186**	-.183**	.335**	.104*	.452**	.340**	.494**	.495**	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). The variable number in the horizontal axis corresponds to the variable number on the vertical axis.

Legend:	Low = .1 to <.3	Medium = .3 to <.5	High = .5 to 1.0
	-.1 to <-.3	-.3 to <-.5	-.5 to -1.0

Table 3: Relationships Between Work Model Attributes, Personal & Organisational Impact of the Work Model Used, and EPO
Cohen, Jacob. (1992). A Power Primer. Psychological Bulletin, Vol. 112 (1), pg.155

Discussion

Dominant Work Model Attributes of Employees in iGaming industry

The findings indicate that the respondents are generally highly satisfied with their current work model, highlighting a clear preference for the hybrid model. These results align closely with Hopkins and Bardoel's (2023) Gallup survey, which similarly identified the hybrid model as the preferred arrangement among employees in the US, suggesting that Malta's iGaming sector is consistent with broader global trends. Specifically, the findings demonstrate that most iGaming organisations in Malta have formally implemented hybrid or remote work policies, showcasing the industry's strong commitment to workplace flexibility and autonomy.

Additionally, the findings in Table 4 indicate that iGaming companies have proactively amended employment contracts to reflect the new work model, in line with Maltese legislation (L.N. 312 of 2008 – Telework National Standard Order; Malta Legislation, 2008), further underscoring the sector's advanced stance on workplace flexibility. The prevalence of the hybrid model in Malta's iGaming sector also mirrors a broader global shift towards remote work, although this contrasts with other industries that have been slower to adopt such policies (Pabilonia & Redmond, 2024). This indicates that the iGaming sector in Malta is at the forefront of evolving workplace practices.

Another essential attribute identified is the pro-

vision of appropriate facilities such as furniture and IT equipment, contributing significantly to employee well-being in remote or hybrid set-ups. The findings indicate that iGaming organisations typically offer these facilities, suggesting an awareness of the direct link between resource provision and employee satisfaction and performance. This approach aligns with practices leading institutions such as the Massachusetts Institute of Technology (MIT), renowned for equipping their employees with high-quality ergonomic furniture and IT resources (MIT, 2024). Drewniak et al. (2023) further underline this by emphasising that appropriate and ergonomically designed resources are critical not just for physical health but also for mental well-being and productivity.

However, the findings also indicate that most iGaming employees are not provided with a lump-sum payment to reimburse costs related to remote work. This might be attributed to potential complications around taxable income or administrative complexities (Thompson & Booth-Bell, 2022). Lastly, the study highlights that iGaming organisations in Malta typically permit employees to work remotely from abroad. This flexibility is particularly motivating for foreign employees, aligning with Álvarez's (2022) findings that remote-work flexibility significantly enhances employee retention and organisational attractiveness. These work attributes positively suggest that they enhance employees' job satisfaction when working in hybrid or remote conditions.

Work Model Attributes	Full	Partially	Total
Working Policy	65.20%	9.80%	75.0%
Employment Contract	41.2%	10.4%	51.6%
Required Facilities	35.4%	24.2%	59.6%
Lump sum for expenses	17.6%	11.4%	29.0%
Work remotely abroad	41.2%	27.9%	69.1%

Table 4: Summary of Findings Regarding Work Model Attributes

Dominant Personal and Organisational Impact Factors

The findings suggest that the hybrid work model, predominantly adopted by the iGaming sector, has positively influenced employees' productivity levels. This aligns with Grant Thornton (2021) studies, which found increased productivity among employees in the iGaming and financial sectors during the COVID-19 pandemic. The current research extends these insights, highlighting that productivity among iGaming employees re-

mains consistently high in post-pandemic hybrid and remote working environments.

Interestingly, the findings in Table 5 indicate that among various personal impact factors, stress and overworking emerged as the least significant factors for iGaming employees. This contrasts with the Eurofound (2020) survey, which identified increased stress and overworking as a notable concern in hybrid and remote work contexts.

Dominant Personal Impact Factors	Very Low	Low	Neutral	High	Very High	Total
Productivity Rating	0.3%	2.1%	9.6%	44.4%	43.6%	100%
Well-Being Rating	1.6%	6.1%	13.8%	40.7%	37.8%	100%
Completing tasks timely	1.3%	3.7%	13.3%	51.3%	30.3%	100%
Efficiency and Output	1.1%	6.1%	27.9%	43.4%	21.5%	100%
Supports work-life balance	2.9%	5.6%	16.8%	40.7%	34.0%	100%
Job satisfaction	2.9%	7.2%	26.9%	38.0%	25.0%	100%
Improved Mental Health	2.7%	9.6%	26.9%	38.0%	22.9%	100%
Improved Physical Health	2.1%	11.2%	33.8%	34.0%	18.9%	100%
Connectivity to team members	1.3%	6.1%	17.6%	47.6%	27.4%	100%
High levels of stress and overwork	17.3%	29.5%	24.7%	20.7%	7.7%	100%

Table 5: Summary of Findings Regarding Personal Impact Factors

However, this study's findings are consistent with Delicata's (2021) research, which highlights the emphasis the Malta iGaming industry places on fostering excellent working conditions, inclusive workplace cultures, and overall support. Such initiatives appear instrumental in helping employees become more resilient to stress and burnout, contributing positively to their overall well-being. This demonstrates that, in contrast to several other industries and countries, Malta's iGaming sector is particularly attuned to employee needs and expectations. Consequently, this positions iGaming organisations in Malta as attractive workplaces, providing competitive advantages in talent attraction and retention, further enhancing their reputation as forward-thinking employers.

Moreover, the findings indicate that the well-being rating among iGaming employees is notably high. This suggests that the hybrid work model is the ideal model in terms of productivity and well-being, when compared to the other work models (on-site and remote). The strong association between well-being and productivity further emphasizes the importance of organisational investments in employee health, particularly within flexible work models. Moreover, this study's results are consistent with findings by Dahik et al. (2020), which underscore that hybrid working arrangements effectively support employee well-being and facilitate a healthier work-life balance (WLB).

Critically, the high well-being ratings within Malta's iGaming sector likely reflect the industry's progressive organisational culture, characterised by proactive initiatives aimed at mitigating common remote-work stressors such as isolation and excessive workloads, as highlighted by Costa et al., (2021). Moreover, the findings clearly indicate that iGaming employees would recommend their current work model to others (71.6%), further reinforcing the positive impact of flexible arrangements on employee perception.

This recommendation underscores a significant employer-branding advantage, suggesting that organisations offering flexible work arrangements can better attract and retain talent due to enhanced organisational reputation and attractiveness as an employer. In fact, the findings highlight that 92% of employees perceive hybrid and remote work models as critical to competitiveness and talent attraction. This sole organisational impact factor is particularly relevant considering the challenges the iGaming industry faces in recruiting and retaining skilled talent due to intense market competition (KPMG, 2018). Consequently, organisations within this sector cannot afford to overlook the importance of flexible work arrangements, as these significantly contribute to their attractiveness as employers.

Dominant Dimensions Regarding the Employees' Perception of the Organisation

The findings in Figure 8 indicate that Close to Customer emerged as the highest-rated dimension for the Employees' Perception of the Organisation (EPO), closely followed by Loose-Tight Properties, Autonomy and Entrepreneurship and Productivity through People. This aligns with Borg (2021) research, which underscores the iGaming industry's significant emphasis on prioritizing customer relationships. Borg (2021) further highlights the industry's proactive use of advanced analytics, such as machine learning models and artificial intelligence (AI), to anticipate and prevent customer churn, reflecting the sector's dedication to understanding and proactively responding to player behaviour. This focus on customer retention is crucial, as it directly impacts profitability and sustainability within a highly competitive industry.

The findings also suggest that the Autonomy and Entrepreneurship dimension holds significant importance for iGaming employees, largely driven by the industry's inherent culture of innovation and the necessity to maintain a competitive advantage. The results demonstrate a clear positive perception among respondents whose organisations actively prioritise innovation and entrepreneurship. Organisations that remain open to exploring new ideas and experimenting with novel services are likely to experience greater employee satisfaction and loyalty (Daneshmandi et. al., 2023). For instance, adopting a hybrid work model that gives employees greater control over their working schedules and locations contributes significantly to positive perceptions of organisational trust and autonomy. This finding aligns with Reisinger and Fetterer (2021), who argue that flexibility and autonomy are key motivators for employees in today's evolving workplace. This emphasis resonates particularly with this dimension, highlighting that employees highly value independence and flexibility in their roles (Sharma et al., 1990).

The findings also suggest that the Productivity through People dimension is particularly relevant for iGaming employees. This indicates that employees perceive their organisations as supportive, where they feel valued and believe management genuinely trusts their capabilities. Such perceptions motivate employees to take ownership of their tasks and increase their organisational commitment, positively impacting their productivity and overall well-being. In contrast, a recent Gallup (2024) survey indicates that only a minority of employees feel that their organisation prioritises their well-being. This underscores how the iGaming sector in Malta notably differentiates itself through employee-centric practices. Additionally, offering remote or hybrid work models

signals organisational trust and concern for employee health, further strengthening employees' positive perceptions of their employers and enhancing overall organisational attractiveness.

The dimension of Loose-Tight Properties also emerged prominently in the findings, reflecting a notable preference among iGaming employees for organisational flexibility, balanced by clear disciplinary measures. Employees perceive this balanced approach positively, associating the presence of disciplinary protocols with higher organisational professionalism. This aligns with Hair et al.'s (2022) assertion that effective management systems harmoniously integrate employee autonomy with necessary control mechanisms. For instance, when organisations implement hybrid or remote work models, it is important for management to ensure that transparent monitoring mechanisms are in place to uphold accountability. In cases where misuse is identified, appropriate measures may be necessary to maintain organisational integrity and promote fairness.

Lastly, the Bias for Action dimension scored the lowest among all dimensions. This indicates that iGaming employees perceive their organisations as relatively slow or inflexible in addressing and resolving problems. This perception may be influenced by the rapid pace of change and frequent regulatory updates that characterise the iGaming industry, which can cause internal administrative processes to struggle with timely adaptation and responsiveness. Consequently, this mismatch may lead employees to view their organisations as less proactive in managing emerging challenges.

Conclusion

The primary aim of this study was to explore the employee preferences towards the three main working models (on-site, hybrid, remote), and to identify which model is perceived as most beneficial in terms of enhancing productivity and well-being. Beyond this, the study explored the relationships between the dominant work model attributes, personal and organisational impact factors, employees' perceptions of their organisation (EPO), and various antecedents. The key practical implications for HR and iGaming organisations that emerged from this study include:

- **Formalise and Structure Flexible Work Policies:** Clearly defined hybrid/remote policies enhance trust, autonomy, and satisfaction. Aligning with legal standards and embedding flexibility into contracts demonstrates organisational commitment.
- **Embed Flexibility into Organisational Culture:** Flexibility should be strategic, not reactive. Incorporating it into core values fosters engagement, retention, and resilience.

- **Tailor Work Models by Size and Function:** Both large and small firms can succeed with flexible arrangements if these are adapted to their organisational structure. Department-specific needs must also be considered to maximise impact.
- **Strengthen Support and Resources:** Providing remote work tools, ergonomic set-ups, and financial support reinforces employee well-being and performance while reflecting positively on the organisation's image.
- **Prioritise Well-being and WLB:** Flexible models reduce stress and burnout. HR should implement dedicated well-being strategies, including mental health resources and flexible scheduling.
- **Adopt Outcome-Based Performance Management:** Shift from presenteeism to output-driven assessment. Equip managers to evaluate long-term indicators like collaboration, retention, and well-being.
- **Use Flexibility as a Talent Strategy:** Flexible work is a competitive advantage in attracting top talent. Promote policies transparently through employer branding and recruitment.

Conflict of Interest

Authors have no conflict of interest.

Acknowledgements

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- **Foster a Culture of Trust and Innovation:** Encouraging autonomy and entrepreneurial thinking builds loyalty and engagement. Two-way communication and responsiveness are key.
- **Improve Organisational Agility:** Low scores in Bias for Action indicate the need for faster decision-making and less bureaucracy. Agility is critical in the dynamic iGaming landscape.

It is suggested that future research may consider longitudinal studies to explore the long-term sustainability of flexible models on employee outcomes; examine managerial perspectives by comparing employee and management views to identify alignment or gaps; adopt a mixed-methods approach by combining surveys with qualitative methods for deeper insights; and conduct cross-industry comparisons by extending the research to other sectors in Malta to assess adaptability and sector-specific challenges.

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AUTHORSHIP

First author: Chantelle Aquilina 50%

Second author: Dr Emanuel Camilleri 50%

03 Exploring Sustainable Project Management, Stakeholder Engagement and Employee Perception in Managing Corporate Event Projects

Jackie Vella & Dr. Emanuel Camilleri

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Jackie Vella- ORCID: <https://orcid.org/0009-0000-0517-2395> | Email: jckvella@gmail.com

Dr. Emanuel Camilleri -ORCID: <https://orcid.org/0000-0002-3829-6164> | Visiting Senior Lecturer, University of Malta | Emanuel-camilleri@outlook.com

Abstract

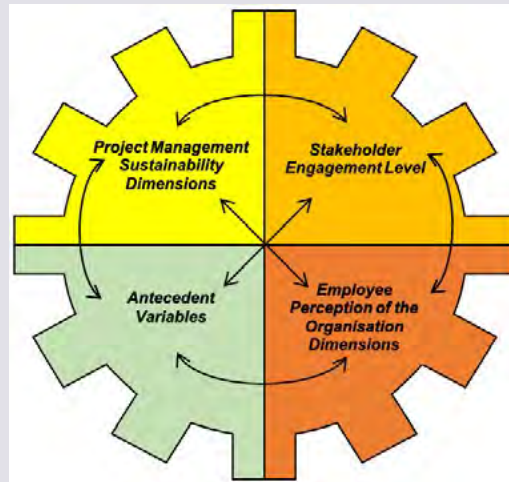
Objectives: This study investigates environmental sustainability in corporate events, and how sustainable project management practices, stakeholder engagement, and Employees' Perception of the Organisation (EPO) interact within this context.

Methods: Quantitative research was adopted using a structured survey comprising variables measuring sustainability, stakeholder engagement, and EPO in corporate event project management. The study employed a cross-sectional survey design, with data collected at a single point in time.

Results: A total of 143 anonymous responses were collected through an online survey platform. The findings indicate that economic and social sustainability were slightly more prominent than environmental sustainability, with stakeholder engagement levels being generally high. The management environment, reflected in EPO, had a positive influence on corporate events and stakeholder engagement. Demographic variables had minimal impact.

Conclusion: Results underscore the growing importance of integrating sustainable practices and stakeholder collaboration in project management frameworks as key dimensions that shape employee attitudes, decision-making, and project outcomes. Fostering value-driven leadership and internal cultural alignment can enhance the effectiveness and perceived success of sustainable project efforts.

Keywords: "sustainable project management"; "stakeholder engagement"; "corporate events".



Graphical Abstract

Highlights:

- Incorporating sustainable practices requires more than policies but demands a supportive organisational culture.
- Projects rooted in internal trust and shared purpose are more likely to succeed in engaging external stakeholders.
- Creating internal alignment and ownership is essential for long-term sustainable success.
- Sustainability must be embedded into the project from the planning phase.

Abbreviations:

CE	Corporate events
EPO	Employees' Perception of the Organisation
PM	Project Management
SE	Stakeholder engagement

Introduction

Environmental sustainability is increasingly prioritised in modern project management, influencing how organisations plan, execute, and evaluate their operations (Suvvari and Sawalkar, 2024). This study explored the integration of sustainable practices in the context of CE by examining the relationships between sustainable PM practices, SE, and EPO. It is significant to note that EPO reflects the management environment of an organisation. CE play a significant role in organisational communication, brand positioning, and stakeholder engagement. The events industry continues to expand globally, and the CE and seminars segment type dominated the events market in 2023 and was expected to keep its positioning (Allied Market Research, 2024). CE encompass activities such as conferences, exhibitions, product launches, and internal organisational events. These are means of education, motivation and networking. According to events industry statistics, 75% of organisations suggest that delivering a corporate conference positively impacts a company's brand image and its reputation (Carter, 2023). However, CE can generate significant environmental impacts due to the large amounts of materials used to create visually striking setups for business purposes (Gilliam, 2015), as well as through other waste production, energy consumption, and transportation when sustainability principles are not effectively integrated.

Methodology

Research Strategy, Design, and Time Horizon

This study employed a cross-sectional quantitative survey design. Primary data was collected through a structured online questionnaire within a cross-sectional research design. The objective of this research was to assess the relationship between sustainability in CE, PM, SE, and EPO. This study examined the theoretical model at Figure 1, which prompted the research questions below.

- What are the perceived dominant project management sustainability dimensions for persons organising and/or attending corporate events?
- What is the perceived level of the stakeholder engagement for persons organising and/or attending corporate events?
- What are perceived dominant Employees' Perception of the Organisation (EPO) dimensions for persons organising and/or attending corporate events?

Event managers operate within complex stakeholder environments and must balance organisational objectives with increasing expectations for environmentally and socially responsible practices. A key factor influencing sustainable project outcomes is SE. Effective collaboration among organisers, sponsors, employees/attendees and suppliers, determine not only the success of an event but also its sustainability footprint. Similarly, employees play a central role in executing sustainable initiatives, particularly in terms of how they perceive their organisation's commitment to sustainable practices. Understanding these perceptions can provide valuable insights into organisational behaviour, motivation, and long-term cultural change.

Although sustainability has been widely examined across various sectors, limited research has focused specifically on sustainable practices within CE (Mair and Smith, 2021; Sustainability Journal, 2022), and no local studies have been identified. This gap highlights the need to understand how sustainability is perceived and implemented among those involved in managing and attending CE. This study investigates sustainability dimensions, SE and EPO in project event management.

• What is the relationship between project management sustainability factors, stakeholder engagement, and the Employees' Perception of the Organisation (EPO) and its dimensions for persons organising and/or attending corporate events?

• What is the relationship between the antecedents and project management sustainability factors, stakeholder engagement, and the Employees' Perception of the Organisation (EPO) and its dimensions for persons organising?

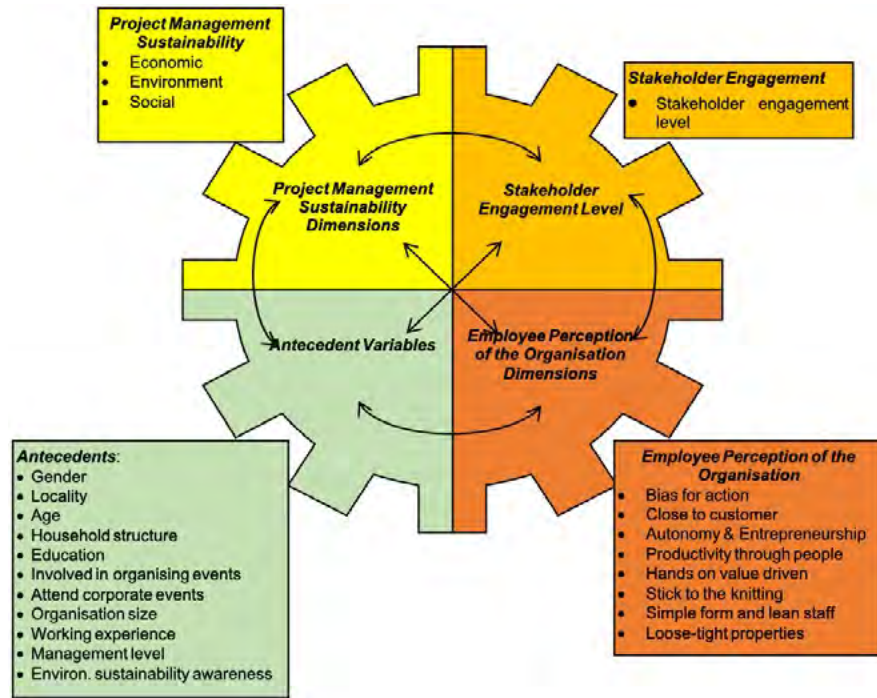


Figure 1: Graphical Representation of the Theoretical Relationships Model

Research Constructs, Research Population, Sampling, and Data Collection

The questionnaire comprised three sections, namely: (i) antecedents in the form of demographic information; (ii) project management sustainability; SE and (iii) EPO. Two instruments based on literature were applied, namely: (i) Sustainability in Project Management (SPM) and SE from Blak-Bernat et al. (2023), and (ii) EPO from Sharma, Netemeyer and Mahajan (1990). The SPM – SE construct consisted of 46 items measur-

ing four dimensions, specifically Economic, Environment and Social aspects, and Stakeholder Engagement. The EPO construct comprised of 16 items and measured eight dimensions, namely bias for action; close to the customer; autonomy and entrepreneurship; productivity through people; hands-on value-driven; stick to the knitting; simple form and lean staff; and loose-tight properties. The definitions of the various dimensions are found at Table 1.

Variable	Definitions of Independent Decision Variables
Antecedents	Self-reported by employee (demographic data).
Gender	The employee's gender status.
Locality	The residential locality of respondents in terms of Gozo and Comino; Northern Harbour; Southeastern; Western; Northern; Southern Harbour.
Age	Age group of respondents to the nearest year.
Household structure	Living arrangements: Single (living alone), Single (living with others), Family household.
Education	The amount of an individual's formal schooling or training.
Involved in organising events	Indicates the extent respondents are involved in the planning and execution of corporate events by rating from 0 to 10, with 0 = Never and 10 = Often.
Attend corporate events	Indicates the extent respondents attend corporate events by rating from 0 to 10, with 0 = Never and 10 = Often.
Organisation size	The organisation size is classified by the range of the number of employees.
Working experience	The number of years the respondent has been working.
Management level	Whether respondent has no management post, or lower or middle or top management.
Position tenure	Number of years the respondent has occupied its current position.
Environmental sustainability awareness	Indicates the extent the respondents are familiar with environmental sustainability.
Sustainability in Project Management (SPM) Scale:	Sustainable Project Management is the planning, monitoring, and controlling of project delivery and support processes, with consideration of the environmental impacts, economic impact economic, and social aspects of such projects.
Economic (EC)	The degree to which economic, environmental, and social factors dominate in the planning, monitoring, and controlling of project delivery and support processes, with consideration of the environmental impacts, economic impact economic, and social aspects of such projects.
Environment (EN)	
Social (SO)	
Stakeholder engagement	Stakeholder engagement is the systematic identification, analysis, planning and implementation of actions designed to influence stakeholders.
Employee Perception of The Organisation	The way employees view their organisation.
Bias for action	The degree the organisation is perceived to be flexible and quick in responding to problems.
Close to customer	The degree the organisation is perceived to give the customer top priority, that is, customer driven rather than production driven.
Autonomy & Entrepreneurship	The degree the organisation is perceived to encourage and provides opportunities for employees to be creative and innovative in their daily work environment.
Productivity through people	The degree the organisation is perceived to truly believe in its employees.
Hands on value driven	Principles directly related to culture; wholesome and ethical values should guide the work of successful companies. Employees, leaders and decision-makers should actively live out these values, demonstrating them to peers and customers.
Stick to the knitting	An organisation should do what it is good at and not become distracted by diversifying into totally different activities or enterprises.
Loose-tight properties	The degree the organisation is perceived to be flexible with employees but administers discipline when necessary.

Table 1: Definitions of Various Research Construct Dimensions

A non-probability purposive sampling technique was used to recruit participants from organisations involved in the planning or delivery of CE. This avoided generalisability and ensured that the data collected supports the objective of the study. Organisations from various sectors were identified using publicly available information and professional networks that indicated their involvement in CE. Companies were contacted by phone, email, or via a professional networking platform. In most cases, permission to distribute the questionnaire was obtained from the Human Resources (HR) representative within the organisation. A total of 254 organisations were contacted across several sectors, including hospitality and entertainment, event management, financial and educational services, advertising, gaming, manufacturing, and pharmaceutical companies.

The number of valid responses received was 143, resulting in a margin of error 6.43% and 7.64% at 90% and 95% confidence level respectively. According to LoBiondo-Wood & Haber (2002), a margin of error of about 7% is acceptable (LoBiondo-Wood & Haber, 2002).

Data Validity and Reliability of the Research Instrument Applied in the Study

The validity and reliability evaluation for the instruments applied Factor Principal Component analysis with Varimax Rotation and Cronbach's

Alpha for reliability assessment respectively. The findings of the validity and reliability tests are found at Table 2 to Table 4.

Questions that did not absolutely converge with the correct dimension were eliminated. A few questions did not converge as predicted but since their coefficient values were very close to the expected dimension, it was decided to retain them. The findings suggest that all the data regarding the instruments and their respective dimensions were valid and achieved a very high (excellent) reliability rating.

Data Processing and Analysis

The data analysis reflecting the findings utilised IBM SPSS and Microsoft Excel. Apart from the validity and reliability tests described above, the data analysis involved descriptive statistics, including frequencies and respective charts, percentages, means, and standard deviations. These were utilised to summarise respondent demographics data and other key variables reflecting the construct dimensions. Spearman's rank-order correlation analysis was used to examine bivariate relationships between the antecedents, PM sustainability dimensions, SE, and EPO. Furthermore, regression analysis was conducted to assess the predictive relationships among the study variables.

Results

Antecedent (Demographic) Data

The antecedent data indicated a higher proportion of female respondents (59.4%). Approximately one-third of participants (33.6%) were under the age of 35, while the majority (84.7%) held a tertiary-level qualification. In terms of professional background, 67.8% of respondents reported having ten years (10) or more of work experience, and 42.7% were employed by organisations with between 1 and 150 employees. Over half of the sample (54.6%) occupied middle- or upper-management positions. With regards to sustainability awareness and engagement, 44.8% of respondents reported being very or extremely familiar with the concept of environmental sustainability. Furthermore, 69.9% indicated moderate to high involvement in organising corporate events, while 88.9% reported attending corporate events at a moderate or high level.

Project Management Sustainability Dimensions in Corporate Events

The findings for the perceived dominant project management sustainability dimensions for persons organising and/or attending corporate events (refer to first research question), indicate that the economic, social, and environmental dimensions of sustainability were perceived at broadly similar levels. However, environmental sustainability was perceived as slightly less dominant than the economic and social dimensions. Additionally, a substantial proportion of respondents (42.7%) reported uncertainty or no clear opinion regarding project management sustainability.

Questions	Dimension			
	Environment Sustainability	Stakeholder Engagement	Economic Sustainability	Social Sustainability
Environment Sustainability	0.901	0.251	0.210	0.260
12p	0.847	0.220	0.100	0.141
12r	0.815	0.230	0.091	0.216
12o	0.798	0.262	0.139	0.084
12t	0.746	0.164	0.192	0.324
12w	0.743	0.100	0.096	0.267
12u	0.739	0.151	0.271	0.236
12s	0.738	0.292	0.169	0.223
12n	0.729	0.242	0.247	0.155
12q	0.723	0.245	0.280	0.200
12v	0.712	0.125	0.220	0.256
12m	0.654	0.280	0.103	0.275
Stakeholder Engagement	0.225	0.946	0.157	0.149
13d	0.170	0.905	0.184	-0.022
13a	0.215	0.876	0.099	0.092
13i	0.138	0.855	0.121	0.239
13c	0.160	0.851	0.224	0.034
13h	0.146	0.848	0.129	0.166
13f	0.213	0.842	0.137	0.232
13b	0.270	0.842	0.126	0.113
13g	0.128	0.815	0.049	0.278
13j	0.252	0.814	0.177	0.149
13e	0.308	0.781	0.150	0.082
Economic Sustainability	0.309	0.224	0.858	0.330
12c	0.523	0.241	0.514	0.060
12a	0.085	0.191	0.768	0.151
12g	0.257	0.090	0.742	0.133
12e	-0.035	0.363	0.660	0.271
12d	0.149	0.302	0.657	0.132
12h	0.207	0.014	0.637	0.208
12b	0.459	0.194	0.631	0.005
12f	0.171	0.302	0.598	0.293
12j	0.322	-0.038	0.593	0.385
12k	0.139	-0.081	0.563	0.378
12i	0.158	0.235	0.530	0.381
Social Sustainability	0.498	0.262	0.411	0.695
12ad	0.582	-0.008	0.326	0.482
12z	0.476	0.227	0.294	0.450
12af	0.253	0.176	0.295	0.729
12ah	0.353	0.207	0.231	0.719
12ai	0.363	0.235	0.252	0.713
12ag	0.317	0.268	0.263	0.672
12aj	0.408	0.160	0.163	0.598
12ab	0.509	0.149	0.302	0.586
12aa	0.132	0.331	0.386	0.546
12ac	0.482	0.012	0.406	0.501
12ae	0.141	0.304	0.430	0.474
12l	0.237	0.044	0.402	0.435
Cronbach Alpha Value:	0.955	0.976	0.924	0.948

Table 2: Sustainability in Project Management and Stakeholder Engagement

Questions	Dimension			
	Productivity through people	Close to customer	Bias for action	Autonomy & Entrepreneurship
Productivity through people	0.744	0.473	0.390	0.212
14c	0.734	0.443	0.388	0.170
14l	0.703	0.471	0.366	0.239
Close to customer	0.434	0.743	0.354	0.353
14o	0.398	0.731	0.174	0.398
14m	0.291	0.712	0.395	0.351
14e	0.490	0.567	0.391	0.208
Bias for action	0.356	0.290	0.857	0.222
14h	0.356	0.290	0.857	0.222
Autonomy & Entrepreneurship	0.564	0.351	0.333	0.664
14n	0.162	0.342	0.173	0.883
14f	0.677	0.175	0.322	0.555
14a	0.654	0.411	0.384	0.357
Cronbach Alpha Value:	0.976	0.944	Single Item	0.934

Table 3: Employee Perception of the Organisation

Questions	Dimension			
	Hands-on value-driven	Simple form and lean staff	Loose-tight properties	Stick to the knitting
Hands-on value-driven	0.851	0.268	0.310	0.302
14g	0.809	0.224	0.242	0.357
14d	0.797	0.283	0.343	0.212
Simple form and lean staff	0.236	0.912	0.267	0.200
14b	0.297	0.886	0.071	0.022
14j	0.123	0.735	0.402	0.331
Loose-tight properties	0.405	0.283	0.827	0.235
14p	0.405	0.283	0.827	0.235
Stick to the knitting	0.481	0.227	0.310	0.773
14k	0.270	0.135	0.155	0.899
14i	0.575	0.264	0.389	0.458
Cronbach Alpha Value:	0.959	0.911	Single Item	0.901

Table 4: Employee Perception of the Organisation (continued)

Stakeholder Engagement in Corporate Event Projects

This refers to the second research question regarding the perceived level of stakeholder engagement for persons organising and/or attending corporate events. Figure 3 suggests that 65.1% of the respondents had a high or very high SE level. However, the findings show that

34.3% were uncertain or had no opinion about SE, which is considered to be a sizable quantity. It should be noted that stakeholder engagement is viewed as the systematic identification, analysis, planning and implementation of actions designed to influence stakeholders.

Employee Perception of the Organisation (EPO)

The perceived dominant EPO dimensions for persons organising and/or attending corporate events is shown at Figure 4 (refer to the third research question). Overall, respondents reported a relatively positive perception of their organisation's management across the eight dimensions assessed in this section. The dimensions 'close to the customer', 'productivity through people', and 'loose-tight properties' recorded the highest mean scores.

The dimension 'simple form and lean staff', which reflects organisations characterised by limited administrative layers and fewer senior management levels, received the lowest mean score. It must be noted that the variation in scoring across the eight dimensions was relatively small, indicating broadly comparable perceptions of organisational management practices. Of note is that, 44.8% of respondents reported uncertainty or had no clear opinion regarding their organisation's management environment.

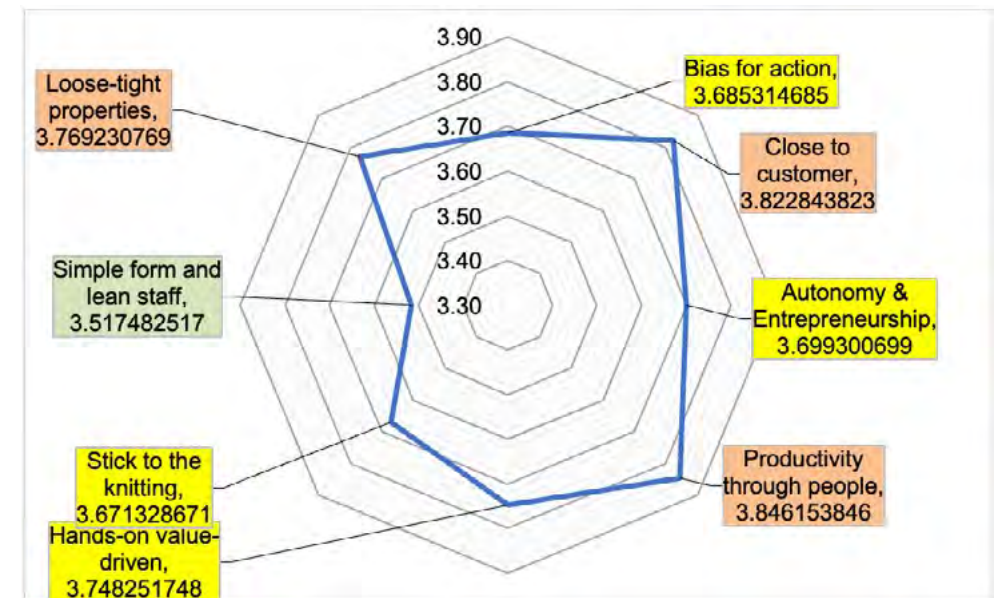


Figure 4: Employee Perception of the Organisation Dimensions

Relationships Between Construct Dimensions

The relationship between project management sustainability factors, stakeholder engagement, and the Employees' Perception of the Organisation and their dimensions refer to the fourth research question. The findings at Table 5 show the bivariate correlations between the relevant constructs and their dimensions. The findings suggest that the economic, social, and environmental dimensions of sustainable PM, together with SE, had a significant positive medium correlation with all eight dimensions of EPO. The only ex-

ception to this finding is the relationship between EPO dimension of "simple form and lean staff" and the Environment, Social and Stakeholder Engagement dimensions of sustainable PM and SE, which had a significant positive low correlation.

Research Results:	Economic	Environment	Social	Stakeholder Engagement
Bias for action	.316**	.347**	.321**	.352**
Close to customer	.443**	.329**	.374**	.393**
Autonomy & Entrepreneurship	.420**	.331**	.384**	.400**
Productivity through people	.366**	.361**	.351**	.384**
Hands-on value-driven	.420**	.461**	.482**	.489**
Stick to the knitting	.458**	.398**	.408**	.442**
Simple form and lean staff	.316**	.262**	.273**	.295**
Loose-tight properties	.357**	.368**	.382**	.386**
Total EPO	.439**	.401**	.414**	.440**
Stakeholder Engagement	.316**	.347**	.321**	
Legend:	Low = .1 to <.3 -.1 to <-.3	Medium = .3 to <.5 -.3 to <-.5	High = .5 to 1.0 -.5 to -1.0	

Table 5: Relationships Between Construct Dimensions

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed)
Legend Source: Cohen, Jacob. (1992). A Power Primer. Psychological Bulletin, Vol. 112 (1), pg.155

Relationships Between Antecedents and the Construct

Dimensions

This refers to the fifth research question. The bi-variate analysis indicated that, overall, antecedent variables that were ordinal categorical variables do not have much impact on the various dimensions of the instruments employed. However, there were several exceptions as shown at Table 6. These exceptions were; 'extent of involvement', 'extent of attendance' in corporate events, 'work experience', 'organisation size', and 'management level'. 'Extent of involvement' in organising corporate events exhibited low significant positive correlation with 'economic sustainability' dimension and with five of the eight dimensions of EPO, namely; 'close to the customer', 'autonomy and entrepreneurship', 'productivity through people', 'hands-on, value-driven', and 'loose-tight properties.' Additionally, the 'extent of attendance' demonstrated low but significant positive correlations with four EPO dimensions: 'autonomy and entrepreneurship.' Furthermore, 'productivity through people', 'hands-on value-driven', and 'loose-tight properties.' 'Organisation size' was negatively

correlated with the majority of EPO dimensions. However, as stated previously, the antecedents do not have much impact.

Linear Regression Analysis: Sustainability in Project Management

Table 7 presents the findings for regression analysis using overall Total Sustainability in Project Management as the dependent variable using linear model with stepwise entry of the variables. The three variables entering three model have a significant impact on the overall level of Sustainability in Project Management, with Stakeholder Engagement and Hands-on value-driven having a positive impact, while productivity through people has a negative impact. Achieving sustainability in project management regarding the organisation of corporate events requires a highly disciplined workforce. The concept of having productivity through people may in some way counter the efforts for having a highly disciplined workforce. It is noted that these variables only explain 34.3% (0.343) of the impact on Sustainability in Project Management, meaning that there are other variables not included in this study that also have an impact.

		Antecedents										
Variables		1	2	3	4	5	6	7	8	9	10	11
1	Gender	1.000										
2	Locality	-.215*	1.000									
3	Age Group	0.121	-.193*	1.000								
4	Household Status	.195*	-0.084	.311**	1.000							
5	Education Level	.179*	-0.056	-.186*	-0.080	1.000						
6	Extent of Involvement	-0.061	-0.104	-0.132	-0.063	.203*	1.000					
7	Extent of Attendance	-0.108	-0.081	-0.074	-0.046	0.151	.434**	1.000				
8	Work Experience	0.076	-0.139	.641**	.176*	-0.140	-0.046	-0.101	1.000			
9	Organisation Size	-0.037	0.001	-0.004	0.072	0.109	0.015	0.121	-0.054	1.000		
10	Management Level	.289**	-0.152	.321**	0.156	.312**	.277**	.241**	.317**	0.095	1.000	
11	Familiar with Sustainability	0.026	-0.065	0.021	0.056	.192*	.219**	.255**	-0.117	.183*	.294**	1.000
12	Economic Sustainability	-0.097	0.150	0.020	-0.113	0.152	.173*	0.070	0.034	-0.109	0.040	0.046
13	Environment Sustainability	-0.111	0.074	0.070	-0.025	-0.123	-0.004	-0.008	0.054	0.030	-.182*	0.073
14	Social Sustainability	-0.122	0.099	-0.003	-0.065	0.015	0.110	0.050	0.047	-0.042	-0.077	0.031
15	Total Sustainability in Project Management	-0.136	0.113	0.028	-0.071	0.005	0.094	0.028	0.041	-0.034	-0.096	0.037
16	Stakeholder Engagement	-0.007	0.057	0.113	0.009	0.152	0.132	0.007	0.071	-0.078	-0.047	-0.055
17	Bias for action	-0.036	-0.020	0.103	0.061	-0.016	0.106	0.100	0.075	-.229**	0.067	-0.059
18	Close to customer	-0.001	-0.011	0.066	-0.001	0.043	.180*	0.157	0.074	-.262**	0.082	-0.041
19	Autonomy & Entrepreneurship	-0.074	-0.060	0.142	0.046	-0.066	.207*	.196*	0.158	-0.159	0.112	-0.044
20	Productivity through people	0.048	-0.027	0.138	0.058	-0.043	.206*	.202*	0.115	-.201*	0.108	-0.025
21	Hands-on value-driven	-0.040	-0.016	0.134	0.044	-0.072	.202*	.217**	.165*	-0.142	0.096	-0.049
22	Stick to the knitting	-0.117	0.068	0.154	-0.054	-0.037	0.126	0.154	.183*	-.210*	0.055	-0.060
23	Simple form and lean staff	-0.010	0.060	0.051	-0.001	-0.059	0.112	0.080	0.142	-.382**	0.004	-0.043
24	Loose-tight properties	-0.068	-0.118	0.102	0.013	0.042	.179*	.186*	0.104	-.221**	0.065	0.025
25	Total EPO	-0.039	-0.024	0.133	0.021	-0.029	.191*	.181*	0.150	-.246**	0.080	-0.049
Legend:		Low = .1 to <.3 -.1 to <-.3				Medium = .3 to <.5 -.3 to <-.5				High = .5 to 1.0 -.5 to -1.0		

Table 6: Relationships Between Antecedents and Construct Dimensions

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed)
Legend Source: Cohen, Jacob. (1992). A Power Primer. Psychological Bulletin, Vol. 112 (1), pg.155

Dependent Variable	R	R-Square	Adj. R-Square	Std. Error of Est.
Sustainability in Project Management	.598	0.357	0.343	0.4660
Independent Variables:	Std. Coefficient (Beta)	t	Significance	
• Constant		8.487	0.000	
• Stakeholder Engagement	0.466	5.170	0.000	
• Hands-on value-driven	0.467	3.254	0.001	
• Productivity through people	-0.335	-2.369	0.019	

Table 7: Regression Analysis: Sustainability in Project Management

Linear Regression Analysis: Stakeholder Engagement

Table 8 presents the findings for regression analysis using Stakeholder Engagement as the dependent variable using linear model with step-wise entry of the variables. The independent variables that entered the model included Close to customer; Environment Sustainability; Education Level; and Extent of Attending Corporate

Events. All the entered variables had an impact on stakeholder engagement. However, being close to the customer had the highest impact, followed by environment sustainability. It should be noted that the four independent variables entering the model explain 62.9% (0.629) of the impact on stakeholder engagement. This means that there are other variables not included in this study that also impact stakeholder engagement.

Dependent Variable	R	R-Square	Adj. R-Square	Std. Error of Est.
Stakeholder Engagement	.800	0.640	0.629	0.4659
Independent Variables:	Std. Coefficient (Beta)	t	Significance	
• Constant		0.110	0.913	
• Close to customer	0.628	11.558	0.000	
• Environment Sustainability	0.340	6.347	0.000	
• Education Level	0.169	3.212	0.002	
• Extent of Attendance	-0.138	-2.590	0.011	

Table 8: Regression Analysis: Stakeholder Engagement

Discussion

The primary aim of this study was to explore the perceived dominant sustainability dimensions in PM, the level of SE, and employee perceptions among individuals organising and/or attending CE. The non-probability purposive sampling method avoided generalisability and ensured that the data collected supported the objective of this study. The participants in this study were linked to CE, 69.9% of the respondents were moderately or highly involved in CE. The fact that 67.8% of the respondents had ten years or over work experience put them in a good position to answer the questions based on their observations. Also, 54.6% held middle or upper management positions, which could suggest an involvement in decision-making processes.

Research Limitations

While quantitative methods facilitate generalisability, they are limited in their ability to capture participants' experiences, emotions, and deeper insights. Response rates may also have been affected by survey fatigue, as potential participants may have been exposed to multiple questionnaires during the data collection period. Organisational and technical constraints further influenced participation. Some organisations' IT security systems restricted access to external web-based platforms.

The nature of certain job roles also posed a limitation. Employees who primarily work in field-based roles may have had limited access to office workstations or organisational email systems, thereby reducing their opportunity to participate. Some organisations were unwilling to permit the distribution of the questionnaire to their employees, which may have restricted the diversity of organisational contexts represented in the sample. Future research could adopt mixed-methods approaches or alternative data collection modes to mitigate these limitations.

Sustainability in PM

'Environmental Sustainability' was revealed as slightly less dominant, this suggests that while organisations acknowledge the importance of environmental practices, they may prioritise economic performance and social responsibility more directly. This pattern reflects greater focus on financial viability or stakeholder pressures seeking a return on investment, which is often more directly aligned with short-term business goals, while environmental considerations, although important, may be perceived as requiring longer-term commitment or implementation is seen as being more complex. These findings confirm previous studies (Martens & Carvalho, 2017; Silvius & Schipper, 2014), where environmental initiatives are typically behind.

The finding also aligns with more recent targets by World Benchmarking Alliance, where it was confirmed that few companies from 2,000 global companies are on track. Many still have sustainability efforts underway (Kramer & Pfitzer, 2022).

From the regression model 'Stakeholder Engagement' and 'Hands-on value-driven' dimensions demonstrated a positive impact on the overall level of Sustainability in PM, supporting the notion that active engagement and, value-driven leadership, drive sustainable outcomes, aligning with Silvius and Schipper (2014) who argue that stakeholder inclusiveness and leadership values are key in integrating sustainability into project management processes (Silvius & Schipper, 2014). 'Productivity through People' dimension, on the other hand, revealed a negative impact. A possible explanation is that while empowering employees is important, an excessive focus on productivity might conflict with the longer-term goals for sustainability. Projects that emphasise too heavily on efficiency and output may overlook environmental or social concerns, thereby compromising sustainability efforts (Martens & Carvalho, 2017).

'Organisation size' is also found to be linked to 'Environmental sustainability', the highest proportion of environmental sustainability was reported among small organisations (1–150 employees). This finding contests the typical assumption that larger organisations comply more due to their access to greater resources and regulatory pressures. In this context, smaller organisations may benefit from simpler operational structures and stronger internal commitment to sustainability. The findings also suggest that the respondents who reported uncertainty or no opinion (42.7%) may indicate either participants' lack of awareness for sustainability principles in PM or they are not informed enough to form an opinion. This uncertainty may result from limited exposure to sustainability-focused training or from project roles that do not actively integrate environmental considerations. This creates a challenge to advancing sustainability in events projects. Effective sustainability implementation relies on awareness, understanding, and active engagement at all levels of the organisation (Silvius & Schipper, 2014).

Stakeholder Engagement

The fact that 65.1% of the respondents had a high or very high SE level suggests that significant efforts are being made to involve stakeholders in CE projects. The regression analysis revealed

that SE was most strongly influenced when the organisation gives the customer top priority, it is customer- driven and not production- driven. This aligns with Peters and Waterman's (1982) principle that 'Close to the customer' is central to excellence. (Peters & Waterman, 1982).

This also supports Freeman's (1984) stakeholder theory, which emphasizes the importance of direct engagement and responsiveness, significantly enhances engagement, it fosters trust, two-way communication, and relationship building, which is fundamental to stakeholder engagement (Freeman, 1984). By being the strongest dimension, 'Close to customer', reinforces the importance of maintaining strong, direct relationships with all stakeholders, to listen, to adapt, and to stay close to the audience.

The second most influential variable is 'Environmental sustainability', which also significantly contributes to SE. This suggests that stakeholders increasingly expect event organisers to act ethically and responsibly (Elkington, 1997; Porter & Kramer, 2011). It supports the argument that stakeholders care about organisations' environmental impact. In CE settings, environmental sustainability can enhance stakeholder trust and commitment (Porter & Kramer, 2011) and may even influence participation/attending decisions (Mair & Laing, 2012). 'Education level' played a moderate role, however this indicates that more educated stakeholders may value engagement and sustainability practices more intensively (Bourne, 2016). Individuals with higher level of education are more likely to understand and appreciate the role of engagement in successful project outputs. (Bourne, 2016).

'Extent of attendance' dimension demonstrates a negative association with SE. Could this have been from 'event fatigue'? Do people get tired attending similar events, with repeated content and lack of newness? Attendees may become less interested, more passive, and become more critical (Newton, 2012). Although for organisations certain events are a must such as launch events, conferences, trade shows, team buildings events, annual general meetings, shareholders' meetings, these companies must prioritise quality over quantity for engagement strategies. It must be noted that 34.3% of participants were uncertain or expressed no opinion on this matter. This level of uncertainty could indicate that engagement efforts were not being communicated effectively or were limited to selected project stakeholders.

These finding highlights the need for greater transparency, inclusivity, and internal communication across all levels of the organisation.

Employee Perception of the Organisation (EPO)

The respondents had a relatively high opinion of their organisation's management regarding the eight variables in this section. It was interesting to note that being 'Close to the customer' (the degree the organisation is perceived to give the customer top priority; customer driven less production driven), 'Productivity through people' (the degree the organisation is perceived to truly believe in its employees), and 'Loose-tight properties' (the degree the organisation is perceived to be flexible with employees but administers discipline when necessary), had the highest score.

The findings related to 'Close to customer' suggests that employees perceived their organisation listens to and responds to customer needs. Employees often feel more motivated and purposeful when they understand how their work directly contributes to customer satisfaction (Kotler et al., 2015). 'Productivity through people', in this context, showed that employees felt trusted and involved. Organisations that invest in people are more likely to enjoy higher job satisfaction, innovation, and retention (Ulrich & Dulebohn, 2015). 'Loose-tight properties' reflecting a balanced management style: flexibility in approach, but firmness in values and expectations. It aligns with leadership models where organisations adapt their style depending on context (Hersey & Blanchard, 1988). Employees may interpret they are free to innovate but must perform within a clear framework. It is often seen in high-performing organisations that combine adaptability with discipline (Collins, 2001).

These top scored EPO dimensions reflected an organisational culture that values external responsiveness, internal empowerment, and more balanced leadership. 'Simple form and lean staff' dimension (an organisation with few administrative layers & few people at the upper levels) was the lowest scored dimension. The employees may have perceived the organisation as having complex or hierarchical structures. Employees might feel disconnected in highly layered structures, particularly if bottom-up communication is limited and may desire more agility in the organisation's structure. The difference in scoring levels between the eight dimensions was minimal. The high scores in dimensions related to people, re-

sponsiveness, and adaptive leadership suggested that employees value organisations that are human-centred, externally engaged, and internally empowering.

The high level (44.8%) of respondents who indicated uncertainty or had no opinion carried important implications. Was it due to lack of awareness or exposure? Many employees may not be sufficiently informed about the organisation's sustainability practices or leadership style. This could result from; limited internal communication from upper management, lack of inclusion in strategic discussions including sustainability initiatives. This could suggest a top-down management approach where sustainability is not effectively relayed throughout the organisation (Epstein & Buhovac, 2014).

High levels of 'no opinion' responses could also indicate organisational silence, where employees choose not to share their views due to fear of negative consequences or as general disengagement (Morrison & Milliken, 2000). This 'silence' can be damaging, as it impedes feedback loops and obstructs learning and adaptation in an organisation. The results underscore the growing importance of integrating sustainable practices and stakeholder collaboration into PM frameworks, not as add-ons, but as key dimensions that shape employee attitudes, decision-making, and project outcomes.

Conclusion

This study demonstrated the interconnected nature of sustainable PM, SE, and EPO within the context of CE. The findings highlight the importance of aligning PM practices with both stakeholder expectations and employee perceptions to support more sustainable event delivery. CE play a strategic role in brand positioning and stakeholder communication, making the adoption of sustainable and inclusive PM practices increasingly essential, and with greater integration of sustainability in CE, organisations are contributing to broader environmental objectives, including Europe's ambition "to make Europe the first climate neutral continent by 2050" (Dingli, Cocu & Pecheanu, 2024). The results also reinforce the evolving role of project managers, not only as coordinators of project activities, but also as key actors in promoting environmental responsibility and organisational values. Within CE management, sustainable PM provides a valuable framework for balancing stakeholder demands, organisational priorities, and the growing expectations for responsible and future-oriented practices.

Practical Contributions

The findings provide practical guidance for corporate event project managers seeking to integrate sustainability into events projects.

Integrating sustainability in corporate events projects require not only formal policies but also demands a supportive organisational culture that empowers employees and promotes clear organisational values. Project managers can use the EPO framework to assess internal readiness

for sustainability initiatives, and identify gaps in leadership, communication, and employee engagement. Stronger EPO is associated with higher stakeholder engagement. Organisations can therefore enhance sustainability outcomes by strengthening internal trust, improving leadership practices, and fostering open communication. These interventions, together with collaborative planning, can lead to stakeholders' commitment towards sustainability goals.

For corporate event project managers, sustainability should be embedded throughout the project lifecycle, from planning to implementation and evaluation stage. Project managers should identify sustainability risks early and align project objectives with organisational values and stakeholders' expectations.

Sustainability performance can be strengthened by adopting transparent stakeholder engagement strategies, integrating environmental and social performance indicators into PM practices, and involving employees in sustainability goal setting throughout the project lifecycle.

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AUTHORSHIP

Jackie Vella – 50%

Dr Emanuel Camilleri – 50%

04 Exploring the implementation of Artificial Intelligence in Communication Strategies within the Maltese Public Administration

Maria Camilleri & Luke Micallef Capello

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Maria Camilleri- ORCID: <https://orcid.org/0009-0001-8324-6537> | Email: camilleri.maria17@gmail.com
Luke Micallef Capello- ORCID: <https://orcid.org/0009-0005-0365-3087> | IDEA College, Maltal Email: lmicallefcapello@gmail.com

Abstract

Objectives

This study explores how Artificial Intelligence (AI) is being integrated into communication strategies within the Maltese public administration. It examines the current level of AI adoption, identify perceived benefits and challenges, and analyse the implications of Malta's national AI strategy for public administration, governance, and society. The study also aims to provide practical recommendations to support more effective and responsible AI use in public administration communication.

Methods

The study adopts a qualitative research design. Data were collected through fifteen in-depth, semi-structured, face-to-face interviews with communication professionals and senior representatives from Malta Digital Innovation Authority, Malta Information Technology Agency, and Tech.mt. The data were analysed using thematic analysis, a method that helps identify recurring patterns and shared perspectives across participant responses.

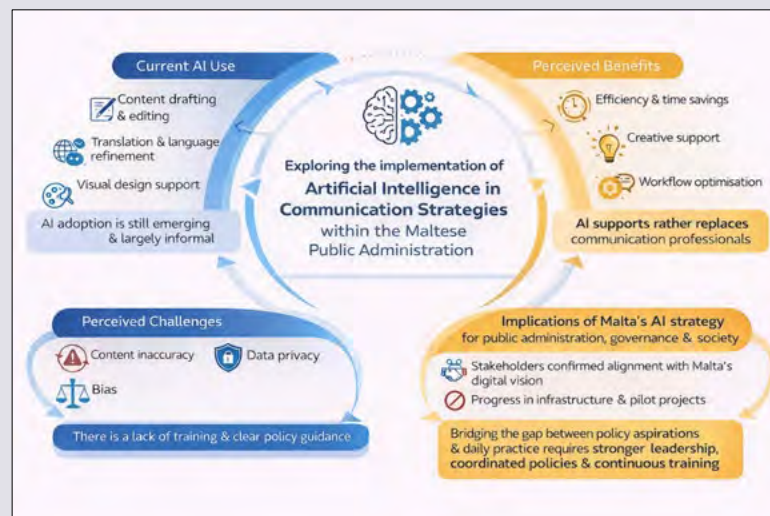
Results

The findings indicate that AI adoption in public administration communication is still in its early stages and remains fragmented. In most cases, adoption is driven by individual initiative rather than by a formal organisational strategy. Participants reported benefits such as increased efficiency, timesaving, workflow optimisation, and support for creativity. However, they also highlighted concerns related to content inaccuracy, bias, data privacy, limited training, and unclear policy guidance.

Conclusions

The study concludes that while Malta's national AI strategy provides strong strategic direction, clearer policies, targeted capacity-building, and robust ethical safeguards are necessary to ensure consistent and responsible AI integration in public administration communication.

Keywords: "Artificial Intelligence"; "AI"; "Communication Strategies"; "Malta"; "Public Administration".



Graphical Abstract: Artificial Intelligence in Communication Strategies within the Maltese Public Administration

Highlights:

- In Malta, despite the national strategy's strong commitment to digital transformation, there is limited empirical evidence on how AI is being integrated into public administration communication.
- This study provides empirical insight into the current use of AI in communication strategies within the Maltese public administration.
- A qualitative interview-based approach captured practitioner and institutional perspectives on AI adoption.
- The study identifies efficiency gains, timesaving, and support for creativity as key benefits, alongside challenges related to content inaccuracy, bias, and data privacy.
- Stronger leadership, coordinated policies, and continuous training are required to bridge the gap between policy aspirations and daily practice.

Abbreviations:

- AI: Artificial Intelligence
- MCA: Malta Communications Authority
- MDIA: Malta Digital Innovation Authority
- MITA: Malta Information Technology Agency
- OPM: Office of the Prime Minister
- PR: Public Relations

Introduction

Artificial intelligence (AI) has become a major driver of technological change, reshaping how individuals and organisations interact with digital systems. By using data-driven algorithms, AI systems can perform tasks that traditionally required human cognitive effort, such as analysing information, identifying patterns, and supporting decision-making (Sneha & Raja, 2019). As these systems develop, they increasingly influence how organisations operate and communicate.

Many organisations now integrate AI into their communication strategies to improve efficiency and engagement. The use of AI-powered tools supports key communication activities, including automated content creation, audience analysis, and message optimisation. These tools allow organisations to streamline workflows and deliver more relevant and targeted communication outputs (Kaczmarek-Śliwińska, 2019).

While research has extensively examined AI adoption in corporate communication, its use within public administration communication remains underexplored. This gap is particularly evident in smaller national contexts such as Malta. To address this limitation, this study examines how AI is currently integrated into communication strategies across the Maltese public administration. Before outlining the study, it is important to clarify how AI is understood.

Understanding AI

Bhbosale et al. (2020) define AI as the development of human-made systems capable of learning, reasoning, and adapting. A key component of AI is machine learning, which allows systems to improve performance by learning from data rather than relying on explicit programming. When trained on large datasets, these systems can rec-

ognise patterns and make increasingly accurate predictions over time (Joshi, 2022).

The use of AI technologies is now used across many sectors to support pattern recognition, personalisation, and data-driven decision-making. More recently, generative AI has gained prominence. Generative systems, often powered by large language models, can produce text, images, audio, and video content (Cao et al., 2018). In contrast, predictive AI focuses on forecasting future outcomes based on historical data (Ucar et al., 2024). Kaplan and Haenlein (2019) further categorise AI into artificial narrow intelligence, artificial general intelligence, and artificial superintelligence, reflecting increasing levels of capability. Building on this overview, the next section outlines how AI is applied in organisational communication.

Background information

The role of AI has become a key enabler of efficiency in contemporary communication practices. Organisations use AI to automate routine tasks and tailor messages based on their target audience, improving both speed and relevance (Kumar et al., 2023). Across the communication process, from planning to evaluation, AI systems support more targeted strategies and real-time engagement while reducing manual workload (Haleem et al., 2022).

One of the most prominent applications of AI in communication is automated content creation. Communication professionals are using AI tools to generate press releases, social media posts, and reports with minimal human input. In addition, AI supports audience engagement by maintaining consistency of organisational voice across platforms.

Internally, tools such as chatbots, virtual assistants, and summarisation systems enhance workflow efficiency and reduce administrative demands (Kaczmarek-Śliwińska, 2019).

International evidence shows that adoption is accelerating rapidly. The 2024 Global Comms Report by Cision and PRWeek found that 32% of senior communication professionals actively use generative AI, 33% use it occasionally, and 27% are experimenting with it. Generative AI is most commonly applied to content creation and research. Similarly, a joint study by the USC Annenberg Center for Public Relations and WE Communications reported that 54% of practitioners use AI to draft written materials. Others rely on it for data analysis (40%), background research (37%), and social media monitoring (31%). These findings suggest that AI is no longer a peripheral tool but a structural shift in communication practice.

Further evidence comes from PProvoke Media's 2023 global survey of 406 communication professionals. The study found that 61% already use AI in their daily work, and 89% expect it to become standard practice in the near future. Adoption is particularly strong in Europe, where 71% use AI at least weekly. Applications span research, brainstorming, content creation, transcription, media monitoring, and visual production. Together, these trends demonstrate AI's growing influence across nearly every communication function.

As AI technologies continue to evolve, their impact on the communication profession has become increasingly evident. Research suggests that communication professionals perceive AI as a transformative force that requires new digital skills while complementing, rather than replacing, human expertise (Zerfass et al., 2020; Panda et al., 2019; Türksoy, 2022).

Despite the growing body of international research, empirical studies focusing specifically on AI integration within public administration communication remain limited. Public sector environments differ from private organisations in terms of regulatory constraints, accountability requirements, and governance structures (Harwood, 2017). These institutional conditions may influence both the pace and form of AI adoption.

In the Maltese context, the national strategy Malta: The Ultimate AI Launchpad – A Strategy and Vision for Artificial Intelligence in Malta 2030 signals strong governmental commitment to digital transformation. Yet, there is limited empiri-

cal evidence examining how this strategic vision translates into everyday communication practices within public administration.

This gap highlights the need for context-specific research that examines not only technological adoption, but also organisational readiness, governance capacity, and professional perceptions within small-state public administrations. In this regard, it is necessary to situate the present study within its specific contextual setting.

Context of the study

Malta is a small European country that has experienced sustained economic growth alongside a strong commitment to digital innovation (Ekonomija, 2023). Key sectors such as financial services, tourism, iGaming, manufacturing, and information technology support this growth. Within this context, AI forms a central part of Malta's digital agenda (European Commission, 2025).

In 2019, the Maltese Government launched its national strategy, Malta: The Ultimate AI Launchpad – A Strategy and Vision for Artificial Intelligence in Malta 2030, setting out the ambition to position Malta as a global AI leader by 2030. The strategy is structured around three core pillars: strengthening the national AI ecosystem through investment and innovation, encouraging private sector adoption, and promoting AI integration within the public sector (Ekonomija, 2023).

A significant component of the strategy focuses on education, workforce development, and re-skilling to ensure long-term national AI readiness. At the public administration level, AI initiatives are being piloted across strategic domains such as traffic management, healthcare, education, tourism, energy, and citizen services. Examples include AI-driven traffic optimisation systems, healthcare forecasting tools, and a multilingual chatbot integrated into the servizz.gov platform to enhance citizen engagement.

Although private organisations have generally adopted AI more rapidly, public administration operates under different priorities, prioritising public interest, social welfare, and service delivery (Harwood, 2017). Public administration in Malta includes ministries, departments, agencies, authorities, and foundations, employing more than 52,900 people (National Statistics Office, 2025). Although some AI initiatives already support automation and citizen services, research on AI use in public administration communication remains limited.

This study therefore adopts a broad public administration perspective to examine AI integration across different departments and entities, in line with the scope of the national AI strategy.

With the study's contextual background established, the following section outlines the rationale for the research and its specific aim.

Rationale and aim of the study

As AI becomes more prominent in organisational communication, it is important to understand how it is used within public administration, where communication plays a central role in governance and public service delivery. Although AI tools offer clear potential to improve efficiency, transparency, and engagement, most existing research focuses on private-sector contexts, leaving public administration communication comparatively underexplored.

This study addresses this gap by examining how AI is currently integrated into communication strategies within Malta's public administration. It explores both the perceived benefits and the challenges of AI adoption. In addition, it considers the implications of Malta's national AI strategy for public administration, governance, and society. The study aims to inform policy and practice and to support more effective, transparent, and citizen-focused communication. To achieve this

Methodology

This section outlines the methodological framework used to examine how AI is integrated into communication strategies within the Maltese public administration. It presents the research philosophy, approach, and design, followed by the methods used for data collection and analysis. We also explain the participant selection and sampling strategy, the steps taken to ensure trustworthiness, and the ethical considerations guiding the study. The section begins with the research philosophy underpinning this research.

Research philosophy

Research philosophy shapes how a study is designed and how knowledge is generated. This study is grounded in an interpretivist research philosophy. Interpretivism assumes that social reality is subjective and constructed through human interaction. From this perspective, understanding people's experiences and interpretations is central to producing knowledge (Kivunja & Kuyini, 2017).

aim, specific objectives have been outlined.

Objectives of the study

The objectives of this study are to:

- assess the extent of AI adoption within public administration communication in Malta;
- identify perceived benefits and challenges associated with its use;
- examine the implications of the national AI strategy for public administration, governance, and society; and
- propose practical recommendations for improving AI integration in public administration communication.

To effectively address these objectives, specific research questions were developed.

Research questions

The main research question examines how Malta's public administration currently incorporates AI into its communication strategies. Three additional secondary questions explore the perceived benefits of AI adoption, the challenges associated with its use, and the implications of the national AI strategy for public administration, governance, and society. The following section outlines the methodological approach used to address these research questions.

In this study, the use of AI in public administration communication is shaped by organisational culture, professional roles, institutional constraints, and individual perceptions. Rather than aiming for objective or generalisable results, the study aimed to understand how communication professionals and key stakeholders interpret and make sense of AI within their work environments. This interpretive stance directly informed the research approach and design.

Research approach and design

An inductive research approach was adopted, allowing findings to emerge from the data rather than testing predefined hypotheses (Azungah, 2018). The qualitative research design was used to explore participants' experiences, attitudes, and expectations in depth. This approach aligned with the study's aim to capture nuanced insights into how AI is used and understood in public administration communication.

Research method

In-depth semi-structured interviews were used as the primary research method. This method offered flexibility and supported detailed exploration of participants’ perspectives (Rutledge & Hogg, 2020). Face-to-face interviews were conducted to build rapport, encourage openness, and observe non-verbal cues that enriched interpretation (Bryman, 2012).

Given the author’s role within the public administration, attention was paid to potential bias and power dynamics. To minimise these risks, a respectful and supportive interview environment was fostered to ensure participants felt comfortable sharing their views without fear of judgement or influence. The following section outlines the participant selection process and sampling strategy adopted for the study.

Participants and sampling

Purposive sampling was adopted to recruit participants with direct experience and expertise relevant to AI use in public administration communication (Palinkas et al., 2015). The sample comprised communication specialists from different departments and entities within the Maltese public administration, each with at least one year of professional experience. Institutional stakeholders from the Malta Digital Innovation Authority (hereinafter referred to as ‘MDIA’), the Malta Information Technology Agency (hereinafter referred to as ‘MITA’), and Tech.mt were also included, selected based on their managerial roles and a minimum of two years’ experience.

These organisations were included due to their distinct roles in Malta’s AI landscape. MDIA oversees the implementation of the national AI strategy, MITA provides government-wide ICT infrastructure and digital services, and Tech.mt promotes innovation and supports the national technology ecosystem.

The Malta Communications Authority (hereinafter referred to as ‘MCA’) was initially contacted to provide insights into the third secondary research question regarding Malta’s AI strategy. However, it was discovered that the MCA doesn’t implement the strategy but rather uses AI tools in its work. In this regard, it was deemed valuable to still include the MCA’s perspective, particularly regarding its use of AI in communication. This allowed for data triangulation, comparing the MCA’s responses with those of public administration participants.

In total, fifteen interviews were conducted, which was enough to achieve thematic saturation, meaning that no new themes emerged from the data. The following section outlines the procedures used to collect data.

Data collection

Data collection commenced after receiving formal approval from the IDEA College Research Ethics Board and the Office of the Prime Minister (hereinafter referred to as ‘OPM’). The OPM circulated a recruitment letter outlining the study’s purpose and inviting eligible participants to take part. Communication specialists contacted the primary author directly, while institutional stakeholders from the MCA, MDIA, MITA, and Tech.mt were approached individually for participation.

An interview guide was developed with two tailored sets of questions: one for communication specialists and another for institutional stakeholders. Fifteen face-to-face, semi-structured interviews between 17th April and 27th May 2025 were conducted. Each interview lasted between 30 and 50 minutes. With participants’ consent, all interviews were audio-recorded and later transcribed verbatim. This systematic process provided a strong foundation for analysis.

Data analysis

Data was analysed using an iterative and structured approach, as recommended by Miles et al. (2014). This approach, often referred to as progressive focusing, involves ongoing analysis throughout the research process. Each interview was manually transcribed within 24 hours to preserve accuracy and context (Davidson, 2009).

To strengthen credibility, transcripts were returned to participants for member checking before formal analysis (Boblin et al., 2013). Braun and Clarke’s (2022) six-phase thematic analysis framework was applied: data familiarisation, initial coding, theme development, theme review, theme definition and naming, and report writing. Deductive codes (derived from the literature) were combined with inductive, in vivo codes drawn directly from participants’ language (Bingham, 2021). DocTools, an add-on for Microsoft Word, was used to support and organise the coding process (DocTools, 2025). Throughout the research process, the issue of trustworthiness was also carefully considered.

Matters of trustworthiness

To ensure trustworthiness, Guba and Lincoln’s (1985) framework was applied, which addresses credibility, transferability, dependability, and confirmability. Credibility was enhanced through purposive sampling, triangulation across participant groups, and member checking. Transferability was supported by providing detailed descriptions of the research context and methods. Dependability was ensured through pilot testing, a standardised interview protocol, and verbatim transcription. Confirmability was supported through reflexive journaling and by maintaining an audit trail of methodological decisions. Ethical considerations were also carefully integrated to support a rigorous and robust research process.

Ethical considerations

Ethical principles guided the research process throughout. Ethical approval was obtained from both the IDEA College Research Ethics Board

and the OPM before collecting data. Participation was voluntary and based on informed consent. Participants were provided with detailed information sheets explaining the study and their rights.

Confidentiality and anonymity were protected in line with the General Data Protection Regulation (GDPR) and stored all data securely. Interview transcripts were returned to participants for review, and participants were informed of their right to withdraw from the study up to two months before dissertation submission. These measures ensured that the study met high ethical standards.

Having established the methodological framework, the following section presents the findings from the interviews and discusses their implications for AI adoption in public administration communication in Malta.

Findings & Discussion

The findings were analysed and organised into five main themes, each with three sub-themes.

These are outlined in Table 1.

Themes	Subthemes
Current use of AI in public administration communication	Communication and content creation
	Research and analytical support
	Cautious and limited adoption
Benefits of AI integration in communication within public administration	Improved efficiency and productivity
	Creative and professional support
	Strategic and organisational impact
Challenges in AI adoption in communication within public administration	Content accuracy, authenticity and reliability
	Ethical and privacy concerns
	Organisational and technical limitations
Organisational readiness and governance capacity	Policy and leadership support
	Capacity building and training needs
Strategic vision and future outlook for AI integration	Institutional investment and infrastructure
	Alignment with national strategy and vision
	Long-term vision for AI in governance
	Risks, opportunities and societal impact

Table 1: Themes and subthemes

Theme 1: Current use of AI in public administration communication

Communication and content creation.

The findings show that AI use in Malta's public administration is concentrated mainly in day-to-day communication and content creation. Participants most often relied on widely available tools such as ChatGPT and Canva. All participants reported using ChatGPT, while ten of the twelve also used Canva. Other AI-enabled tools—such as Adobe Illustrator, Microsoft Copilot, Google Gemini, and Meta Business Suite—were mentioned less frequently and typically by individual users. This pattern suggests exploratory or role-specific use rather than coordinated organisational adoption.

Participants consistently described AI as a support tool rather than a substitute for professional judgement. They used it to generate ideas, refine tone, improve clarity, structure content, and assist with basic visual design. This focus on content creation reflects international trends reported in the 2024 Global Comms Report by Cision and PRWeek, the joint 2025 study by the USC Annenberg Center for PR and WE Communications, and PRovoke Media's 2023 global survey, all of which identify content creation as the primary area of AI use among communication professionals.

Half of the participants used AI-assisted writing across several formats, including emails, social media posts, press materials, website content, and planning documents. In every case, participants reviewed and edited AI-generated material before publication. They did so to ensure accuracy, contextual relevance, and consistency with organisational voice.

The use of AI was largely driven by individual initiative. Access to paid tools varied, and organisational support remained limited. Participants stressed the importance of retaining human authorship and editorial control, often referring to a "human-in-the-loop" approach. This cautious practice reflects the accountability demands of public administration communication, where trust, accuracy, and institutional credibility are essential.

Four out of twelve participants also reported using AI for language-related tasks such as proofreading and translation. This reflects the bilingual nature of public administration communication in Malta. Even in these cases, participants emphasised careful verification, particularly when preparing external or formal content. Overall, participants viewed AI as a productivity aid rather than

an independent communicative authority. The use of AI for research and analytical purposes remained limited among participants.

Research and analytical support.

Only three out of twelve participants reported using AI for research and analytical support, mainly for early-stage research, background exploration, or preparatory drafting. Participants described AI as a starting point rather than a reliable source and avoided direct dependence on its outputs. Only one participant used AI-enabled analytics to assess social media performance. Together, these observations point to a cautious and measured pace of AI adoption.

Cautious and limited adoption.

Across departments, AI adoption remained cautious and uneven. Eight of twelve participants restricted use to low-risk tasks such as drafting and brainstorming. This staged approach aligns with Gupta's (2025) observation that organisations often introduce AI at the periphery before moving toward strategic integration. Only one participant clearly distinguished between generative tools and more advanced knowledge-based systems. As Haleem et al. (2022) also note, such limited differentiation points to a broader literacy gap that may constrain more advanced applications.

Despite these limitations, participants recognised AI's growing relevance and expressed awareness of its potential to support communication work.

Theme 2: Benefits of AI integration in public administration communication

Improved efficiency and productivity.

Participants most often described efficiency and productivity gains as the main benefit of AI integration. Eleven of the twelve participants reported that AI reduced the time needed for routine communication tasks such as drafting, proofreading, translation, summarisation, content organisation, and formatting. By accelerating repetitive processes, these tools helped communication professionals manage heavy workloads more effectively.

These findings align with evidence from the USC Annenberg Center for Public Relations (2023), which found that 88% of communication professionals experienced faster task completion and 72% reported reduced workloads after adopting AI. Similar outcomes are reported by Muck Rack (2024), which highlights improvements in both speed and output quality.

Importantly, participants in this study emphasised that efficiency gains depended on ongoing human oversight. They viewed AI as a tool that supports professional work rather than replacing judgment or responsibility. Participants reinforced Khanzode and Sarode's (2020) argument that AI enhances productivity by reallocating human effort toward higher-value tasks.

Beyond efficiency and productivity, participants also described AI as a valuable source of creative and professional support.

Creative and professional support.

Seven out of twelve participants noted AI's utility for enhancing creativity and providing professional support, especially for time-sensitive tasks or those outside their primary expertise. This finding reflects Ota et al.'s (2024) observation that communication professionals increasingly use AI to support both written and visual content creation.

Participants reported using AI to generate alternative phrasing, overcome creative blocks, refine messages, and assist with basic visual design. In under-resourced settings, AI tools expanded access to content production by enabling non-design specialists to create functional visual materials. At the same time, participants recognised clear quality limitations. They stressed the need for human refinement and creative control, particularly in contexts where credibility, nuance, and trust are essential (Munandar & Irwansyah, 2020). Participants further noted that AI integration is starting to influence broader strategic planning and organisational practices.

Strategic and organisational impact.

Although most benefits were experienced at the individual level, some participants identified early organisational effects. They suggested that AI could support strategic planning, improve resource allocation, and enable more data-informed decisions, especially through analytics that guide content timing and audience targeting. Two out of twelve participants also noted that AI could help sustain communication output in the face of recruitment constraints. This view aligns with Zyed's (2025) argument that public administration increasingly considers AI as a response to labour pressures.

Despite these advantages, participants also highlighted challenges that continue to limit the broader and more systematic integration of AI within public administration communication.

Theme 3: Challenges in AI adoption in public administration communication

Content accuracy, authenticity, and reliability.

Most participants raised concerns about the accuracy and reliability of AI-generated content. Ten of twelve participants highlighted risks related to factual errors, particularly when working with technical material, statistical data, Malta-specific information, or tasks requiring specialised knowledge. These concerns led participants to stress the importance of systematic verification and cross-checking against authoritative sources. Similar concerns appear in the USC Annenberg Center for Public Relations (2023) report, which found that 61% of communication professionals express concern about factual inaccuracies in AI-generated content.

Participants also questioned the authenticity of AI outputs. Several described them as generic, formulaic, or easily recognisable in tone. They feared that overreliance on AI could weaken organisational voice and, more importantly, undermine public trust in official communication. These findings show that human oversight plays a critical role beyond error correction. It also helps preserve tone, protect institutional identity, and maintain credibility. This view aligns with Ota et al. (2024), who argue that achieving efficiency gains without compromising editorial standards remains a complex challenge for communication professionals.

Participants also raised significant concerns regarding the ethical implications and data privacy risks associated with AI integration.

Ethical and privacy concerns.

Half of the participants raised ethical concerns, mainly related to data sensitivity, confidentiality, and the risk of misuse. This reflects findings from Muck Rack (2024), where 40% of PR professionals identified data privacy as a key concern when using AI tools.

Participants expressed unease about entering sensitive organisational information into publicly accessible platforms. To reduce risk, they reported anonymising prompts or avoiding identifiable data altogether. As Jain (2024) and Stöger et al. (2021) note, responsible AI use depends on careful handling and preparation of input data. Several participants also warned that both employees and the public may underestimate the privacy implications of generative tools, creating reputational and governance risks.

Broader concerns included misinformation, manipulation, and algorithmic bias. Together, these issues point to the need for clearer safeguards, stronger AI literacy, and more explicit governance frameworks within public administration.

Participants also highlighted several organisational and technical limitations that hinder the full integration of AI tools into public administration communication workflows.

Organisational and technical limitations.

Participants identified several barriers linked to organisational conditions rather than to the technology itself. Budget constraints limited access to advanced AI tools and encouraged reliance on personal subscriptions, leading to uneven adoption across departments. These findings mirror wider trends. Ota et al. (2024) identify cost as a persistent adoption barrier, while the USC Annenberg Center for Public Relations (2025) reports that 15% of PR professionals cite financial constraints as a key obstacle.

Participants also highlighted skills gaps, resistance to change, and uncertainty about responsible use. Inconsistent uptake across teams reduced opportunities for shared learning and standardisation. Some participants further cautioned that AI could increase pressure to deliver more output, rather than reducing workloads. Similar concerns appear in PRovoke Media (2023), which shows that demand for training remains high while organisational support remains limited. Without targeted preparation, digital skills inequalities may deepen, leaving some teams less able to adapt.

Taken together, these challenges highlight the need for stronger institutional readiness to support responsible and effective AI adoption.

Theme 4: Organisational readiness and governance capacity

Policy and leadership support.

The findings show that AI adoption in public administration communication is largely bottom-up. Five out of twelve participants described uptake as driven by individual initiative rather than by coordinated leadership direction. Many experimented with AI tools on their own, often without formal approval, reimbursement, or strategic guidance. When leadership engagement existed, it was usually informal or permissive. While this approach allowed experimentation, it offered little clarity on ethical standards, accountability, or long-term direction.

The absence of structured leadership support contributed to fragmented practices and uneven adoption across departments. Participants also identified bureaucratic approval processes and regulatory oversight as barriers to agile implementation. These constraints reinforced reliance on informal norms rather than institutional mandates. This pattern aligns with findings from McKinsey & Company (2023), which identify leadership inertia rather than employee resistance as the main obstacle to scaling AI. It also reflects concerns raised by PRovoke Media (2023), where communication professionals emphasised the need for clear internal AI policies to support consistent and responsible use.

Participants highlighted that, in addition to a lack of formal governance, greater investment in capacity building and training is critically needed.

Capacity building and training needs.

A lack of systematic, role-relevant training emerged as a major barrier to sustainable AI adoption. Ten of twelve participants reported having no access to structured training. Most learning occurred through self-directed experimentation or informal peer sharing. Participants stressed the need for applied training that goes beyond general awareness and focuses on practical skills. These included effective prompting, critical evaluation of outputs, and responsible use.

Stakeholders from MDIA, MITA, and Tech.mt reinforced this view. They argued that AI literacy must extend across both technical and non-technical roles to build trust, accountability, and confidence. These findings reflect wider research that highlights the importance of practice-oriented training for embedding AI into creative and communication workflows (Handa & Tamkin, 2025; Ota et al., 2024). Jiménez and Ouariachi (2020) similarly emphasise that strengthening AI-related skills is essential for communication professionals navigating ongoing digital transformation.

This capacity building must be supported by significant institutional investment and infrastructure.

Institutional investment and infrastructure.

Recent policy developments signal a shift toward more coordinated institutional engagement with AI. The Maltese government's €4 million public sector AI investment and the planned rollout of Microsoft Copilot indicate growing strategic commitment. However, most interviews took place before this announcement.

As a result, the study captures a baseline of organisational readiness prior to this intervention.

Stakeholders from MDIA, MITA, and Tech.mt acknowledged progress but cautioned against fragmented implementation. They warned that isolated pilot projects and standalone tool deployments are unlikely to deliver lasting value unless embedded within clear governance structures and coordinated institutional strategies. This concern aligns with Holmström's (2022) argument that infrastructure alone is insufficient without parallel investment in governance, coordination, and operational capacity.

Theme 5: Strategic vision and future outlook for AI integration

Alignment with national strategy and vision.

Stakeholders from MDIA, MITA, and Tech.mt agreed that AI integration within Malta's public administration broadly aligns with the national AI strategy, which positions Malta as an active and forward-looking digital innovator. Participants reported substantial progress, with MDIA indicating that most strategic actions were already implemented or underway. At the same time, they stressed that the strategy must remain adaptive. Emerging risks such as algorithmic bias, misuse, and governance gaps require continuous review rather than fixed policy responses.

This emphasis on ongoing evaluation reflects Kumar and Sharma's (2017) argument that AI adoption in public administration demands constant reassessment of opportunities, risks, and institutional constraints. Stakeholders also highlighted inclusive access and skills development as strategic priorities. This focus aligns with the World Economic Forum (2024), which warns that digital innovation strategies must actively prevent the widening of social inequalities.

Stakeholders emphasised that cross-agency collaboration and continuous adaptation of the national AI strategy are essential to navigate emerging challenges and ensure AI's long-term success in public administration.

Long-term vision for AI in governance.

Participants articulated a long-term vision in which AI becomes embedded in everyday administrative workflows. They expected AI to support service delivery, improve decision-making, and strengthen organisational resilience. Importantly, participants framed AI as an augmentative tool rather than a replacement for human judgment. They anticipated automation mainly in routine functions, such as healthcare administration and transport management, allowing staff to focus on more complex and value-driven work. This view aligns with Tussyadiah (2020), who argues that AI's greatest public-administration value lies in freeing human capacity rather than eliminating it.

Participants also positioned Malta's approach within a broader international context. They viewed current developments as consistent with global trends in public administration AI adoption. However, they stressed that realising AI's long-term value depends on sustained investment in infrastructure, institutional capacity, and cross-sector collaboration. This future-oriented vision must be balanced by a critical consideration of the attendant risks, opportunities, and societal implications.

Risks, opportunities, and societal impact.

Despite optimism, communication professionals and institutional stakeholders also identified significant societal risks. Digital exclusion emerged as a key concern, particularly for older adults and individuals with low digital literacy. Public trust was another major constraint. Participants linked low confidence in AI to concerns about bias, misinformation, and opaque decision-making processes.

Stakeholders argued that ethical frameworks, transparency, and continuous AI literacy initiatives are essential to address these risks. Without deliberate investment in education, governance, and public engagement, AI benefits may be unevenly distributed. Such outcomes could undermine public trust and weaken the legitimacy of AI use in public administration.

Together, these findings suggest that AI's future role in Maltese public administration depends not only on technological capability, but also on ethical leadership, inclusive policy design, and sustained institutional commitment. The key conclusions of this study are presented in the following section.

Conclusions

Summary of key findings and answers to the research questions

The main research question examined how AI is currently integrated into communication practices within Malta's public administration. The findings show that adoption remains at an early and largely informal stage. Communication professionals commonly use tools such as ChatGPT and Canva to support content creation, proof-reading, translation, and planning. This uptake is driven mainly by individual initiative rather than formal institutional strategies or coordinated policies. Despite this, observed practices reflect international trends, where AI increasingly supports everyday communication workflows.

The first secondary research question focused on the perceived benefits of AI. Participants consistently reported gains in efficiency and time management. They also highlighted AI's value in supporting creativity, particularly in high-pressure or resource-constrained contexts. By automating routine tasks, AI allows communication professionals to focus more on strategic and human-centred work. Importantly, participants viewed AI as a complementary tool rather than a replacement for professional expertise, reinforcing the continued need for editorial judgment and oversight.

The second secondary research question addressed challenges linked to AI adoption. Participants raised concerns about factual inaccuracies, algorithmic bias, and data privacy. These risks were seen as threats to authenticity, credibility, and public trust. Participants also highlighted the lack of structured training and clear policy guidance as major barriers. Together, these issues contribute to cautious and inconsistent use across departments and reflect wider concerns in the literature around governance, ethics, and digital literacy.

The third secondary research question explored the implications of Malta's national AI strategy for public administration, governance, and society. Stakeholders confirmed alignment with the country's digital vision and acknowledged progress in infrastructure development and pilot initiatives. However, the findings suggest that translation of policy ambitions into everyday communication practice remains limited. Closing this gap will require stronger leadership engagement, better coordination across departments, and sustained investment in training and capacity building.

Following this summary of the key findings, the next section provides a critical reflection on the study's strengths and limitations.

Strengths and limitations of the study

A key strength of this study lies in its qualitative design, which enabled in-depth exploration of participants' experiences and organisational realities. Interviews with communication professionals and institutional stakeholders generated rich, context-specific insights. Thematic analysis and member checking further strengthened the credibility of the findings. The study also contributes original empirical evidence from a small-state public administration, a context that remains underrepresented in existing research.

Several limitations must also be acknowledged. The sample size, while appropriate for qualitative inquiry, limits generalisability beyond the Maltese public administration. My position within the public administration may have influenced participant responses, despite deliberate efforts to maintain neutrality. Reliance on self-reported data also introduces the risk of social desirability bias. Finally, most interviews took place before the government announced its €4 million public-sector AI investment, meaning that attitudes and practices may have since evolved.

Consequently, this analysis of strengths and limitations directly informs the practical, policy-oriented recommendations that follow.

Recommendations

Recommendations for policy and practice

Based on its findings, this study proposes key recommendations for policy and practice to enable the responsible and effective integration of AI into communication workflows within Malta's public administration.

- Develop a unified national AI governance framework, supported by department-level implementation strategies.
- Introduce continuous, role-specific training in AI literacy, ethics, and practical use.
- Strengthen ethical governance and data protection safeguards to enhance transparency and public trust.
- Formalise a human-in-the-loop approach to communication work involving AI.
- Improve cross-departmental coordination and knowledge sharing.
- Regularly review and update Malta's national AI strategy to reflect operational realities.

To build on these recommendations, future research is needed to deepen understanding of AI adoption within public administration.

Recommendations for further research

Future research should employ mixed methods designs and broaden its focus beyond communication to areas such as human resources, policy development, and procurement. It should also investigate citizens' perceptions and trust in AI-driven services. Furthermore, longitudinal studies are needed to assess the impact of Malta's €4 million AI investment and to evaluate the operationalisation of the national AI strategy. Fi-

nally, further research should examine AI literacy initiatives, training outcomes, and leadership's role in shaping digital transformation.

Based on these recommended pathways, the conclusion that follows synthesises the core findings and considers their significance for Malta's public administration.

Concluding comments

This study shows that AI has significant potential to enhance communication within Malta's public administration, but its integration remains uneven and largely informal. While communication professionals recognise clear benefits in terms of efficiency, creativity, and workflow optimisation, concerns about accuracy, data privacy, and authenticity persist. Effective AI adoption will depend on aligning national ambitions with everyday organisational practice. The use of AI should support, not replace, human judgment, creativity, and ethical responsibility. With clear governance, strong leadership, and sustained investment in skills, AI can help strengthen transparent, responsive, and citizen-centred communication in Malta.

As Charles Darwin is often credited with observing, "it is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change" (Hendrix, 2010). In this light, Malta's public administration must continue to adapt thoughtfully to digital change while remaining grounded in the core values of public service to strengthen democracy, trust and citizen engagement.

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Conflict of Interest

A potential conflict of interest is acknowledged due to the author's position within the public administration that is the subject of this research. To address this, rigorous measures were implemented to minimise bias, including ensuring participant anonymity, securing informed consent, and fostering an interview environment designed to empower participants to share their perspectives freely, without fear of judgment or undue influence.

Authorship

Maria Camilleri – 75%
Luke Micallef Capello – 25%

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05 EXPLORING WORKPLACE ISOLATION EXPERIENCED BY SPEECH-LANGUAGE PATHOLOGISTS WORKING IN COMMUNITY SETTINGS IN MALTA

Michela Axiaq & Dr Paul Calleja

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Michela Axiaq- ORCID: <https://orcid.org/0009-0009-2067-1585N> | Mater Dei Hospital, Msida, Malta | Email: michela.axiaq@gmail.com
Dr Paul Calleja ORCID: <https://orcid.org/0009-0006-0912-5512> | Dar L-Annunzjata, Tarxien, Malta | Email: paulcalleja79@gmail.com

Abstract

Background

Workplace isolation (WI) is an increasingly recognised challenge among allied health professionals working outside traditional institutional settings. Community-based speech-language pathologists (SLPs) often work independently across dispersed locations, which may limit professional interaction, collaboration, and organisational support. This study explores how WI is experienced by community-based SLPs in Malta and examines its emotional, professional, and organisational implications within a small-island healthcare context.

Objectives

To explore the lived experiences of WI among community-based SLPs in Malta. The study examines the physical, professional, and social dimensions of WI and their impact on wellbeing, collaboration, professional identity, and service delivery.

Methods

This qualitative exploratory study employed semi-structured interviews with eight community-based SLPs providing services in health centres, community clinics, schools, and clients' homes. Data were analysed using inductive thematic analysis.

Results

The analysis was conducted primarily using an inductive approach, followed by a deductive phase in which the findings were interpreted through the frameworks of Social Exchange Theory (SET) and the Job Demands–Resources (JD-R) model. These frameworks helped explain how organisational structures, professional resources, and workplace relationships shape experiences of WI among community-based SLPs. Findings revealed that WI manifested across three interconnected dimensions: a) physical isolation arising from working alone in dispersed settings; b) professional isolation resulting from limited access to mentorship, peer feedback, and discipline-specific collaboration; and, c) social isolation characterised by reduced workplace belonging and emotional support. Early-career SLPs were particularly vulnerable due to limited guidance and feedback. Participants reported emotional fatigue, reduced motivation, and challenges in professional development, although some developed informal interprofessional relationships to mitigate isolation. However, these strategies did not fully compensate for the absence of SLP-specific support.

Conclusions

This study highlights WI as a significant occupational challenge for community-based SLPs in Malta, with implications for wellbeing, professional sustainability, and quality of care. The findings underscore the need for organisational strategies that enhance connection, mentorship, collaboration, and access to professional resources. Addressing WI through targeted support measures may strengthen workforce retention and improve service delivery in community-based healthcare settings.

Keywords:

"Speech-Language Pathologists"; "Workplace Isolation"; "Community Practice"; "Professional Support"; "Wellbeing".

Highlights:

1. Workplace isolation among community-based speech-language pathologists in Malta is a multidimensional experience encompassing physical, professional, and social disconnection.
2. Early-career practitioners are particularly vulnerable due to limited access to mentorship, feedback, and discipline-specific support.
3. Workplace isolation negatively impacts wellbeing, professional identity, motivation, and opportunities for collaborative practice.
4. Individual coping strategies provide only partial relief, highlighting the limitations of relying solely on personal resilience.
5. Organisational interventions promoting mentorship, peer connection, and structured collaboration are essential for workforce sustainability and quality service delivery.

Introduction

Workplace Isolation in Contemporary Healthcare

Workplace isolation (WI) refers to the physical, professional, and social disconnection employees may experience from colleagues, supervisors, and organisational support systems. It is often associated with decentralised work structures, geographic dispersion, limited access to peer collaboration, and organisational practices that restrict interaction (Jung, Song & Yoon, 2021). Within healthcare, WI has been linked to reduced motivation, increased stress, and diminished job satisfaction (Jenkins & Van Cohen, 2022; Sahai, Ciby & Dominic, 2022). Employees experiencing isolation may struggle to engage in collaborative practice, feel undervalued, and experience weakened professional relationships (Aira et al., 2010).

The impact of WI extends beyond individual wellbeing and has implications for organisational performance, workforce sustainability, and service quality. Studies indicate that isolation negatively affects communication, emotional engagement, and professional confidence, increasing the risk of burnout and disengagement (Marshall, Michaels & Mulki, 2007; Petitta & Ghezzi, 2023; Yan et al., 2024). Addressing WI therefore requires organisational strategies that promote inclusion, regular communication, and access to supportive professional networks (Morrison & Macky, 2017; Sahai, Ciby & Dominic, 2022).

Community-Based Practice and Speech-Language Pathology

Speech-language pathology is a specialised allied health profession focused on the assessment and intervention of communication and swallowing disorders across the lifespan (ASHA, 2020; ASHA, 2023). Speech-language pathologists (SLPs) work across a range of settings, including hospitals, health centres, schools, residential facilities, and community-based environments (Allied Health Services, 2025). Community-based SLPs frequently work independently, delivering services in clients' homes or local clinics, often with limited direct access to colleagues within the same profession (ASHA, 2016).

This decentralised model of service delivery may increase vulnerability to professional and social isolation. Previous research highlights that allied health professionals working in isolated or remote contexts often experience limited opportunities for peer feedback, reflective practice, and

professional development (Kolehmainen-Aitken, 2004; Ducat, Burge & Kumar, 2014). For SLPs, reduced access to discipline-specific support may affect clinical confidence, professional identity, and professional engagement, particularly among early-career practitioners who rely heavily on mentorship and feedback (Becker, 2024).

The Maltese Context

Within Malta, community-based speech-language pathology services operate within a decentralised public healthcare system (Azzopardi Muscat et al., 2017). SLPs are distributed across multiple regions and service locations, often working independently while managing high caseloads and complex client needs. Clinicians typically work in health centres, schools, community clinics, and clients' homes, with much of their work carried out individually rather than alongside other SLPs. Opportunities for interaction with colleagues may occur during scheduled meetings, case discussions, or communication with other professionals such as teachers and healthcare staff. Although Malta is geographically small, the organisational structure of community services may limit regular peer interaction and structured collaboration. Informal contact with colleagues or interprofessional staff may occur; however, this does not consistently provide discipline-specific professional support.

Despite increasing attention to workforce wellbeing within healthcare, limited research has explored workplace isolation among community-based allied health professionals in Malta. Existing local studies have primarily focused on burnout, workload, and wellbeing among SLPs without fully examining the structural and relational aspects of isolation embedded within community practice (Mifsud, 2021). This gap is particularly relevant given concerns related to professional sustainability, emotional wellbeing, and workforce retention in community-based roles.

Aim of the Study

This study aims to explore the lived experiences of WI among community-based SLPs in Malta. It seeks to identify the physical, professional, and social dimensions of WI and examine their impact on wellbeing, collaboration, professional identity, and service delivery.

Methodology

An exploratory qualitative research design was adopted to explore workplace isolation (WI) as experienced by community-based speech-language pathologists (SLPs). Given the limited local research on this phenomenon and the subjective nature of isolation, a qualitative approach was considered appropriate to capture participants' perspectives and lived experiences (Zahle, 2021; Scotland, 2012). The study employed a primarily inductive approach, allowing themes to emerge from the data without predetermined categories (Azungah, 2018). Following this inductive phase, deductive elements were incorporated to interpret the findings through existing theoretical frameworks, specifically Social Exchange Theory (SET) (Homans, 1958; Blau, 1964) and the Job Demands–Resources (JD-R) model (Bakker & Demerouti, 2007), in line with recommendations for combining inductive and theory-informed qualitative analysis (Varpio et al., 2020).

Participants and Sampling

Purposive sampling was used to recruit qualified SLPs working in community-based settings within the Maltese public healthcare system. Inclusion criteria required participants to be currently practising in community contexts, such as schools, clinics, residential facilities, or home-based services, and to have limited or no face-to-face interaction with other SLPs during a typical clinical workday. Initial access to potential participants was facilitated through a service coordinator acting as a gatekeeper, who circulated the study invitation to eligible clinicians. Interested individuals then contacted the researcher directly to express their willingness to participate. Participants represented varying levels of professional experience, providing a range of perspectives on WI among community-based SLPs.

Data Collection

Data were collected through semi-structured, one-to-one interviews, enabling in-depth exploration while maintaining flexibility to pursue emerging topics (Adeoye-Olatunde & Olenik, 2021). An interview guide was developed based on the study aims and existing literature on WI, wellbeing, and professional development. Interviews were conducted at times and in formats convenient for participants and were audio-recorded with informed consent. Recordings were transcribed verbatim to ensure accuracy and data integrity (Eftekari, 2024).

Data Analysis

Data were analysed using inductive reflexive thematic analysis, following the systematic approach outlined by Braun and Clarke (2006, 2022). Transcripts were read repeatedly to achieve familiarity with the data, after which initial codes were generated. Codes were then organised into broader themes reflecting shared patterns across participants' experiences. Once themes were established inductively, the findings were interpreted using the Job Demands–Resources (JD-R) model (Bakker & Demerouti, 2007) and Social Exchange Theory (Homans, 1958; Blau, 1964), supporting a theoretically informed interpretation of WI and its effects.

Ethical Considerations

Ethical approval was obtained from the IDEA Research Ethics Committee and the Primary Health Care Data Protection Officer before data collection commenced. Participants received detailed information about the study and provided informed consent prior to participation. Confidentiality and anonymity were ensured through the removal of identifying information from transcripts and secure data storage in line with the Data Protection Act (Government of Malta, 2018). Participation was voluntary, and participants were informed of their right to withdraw at any stage without consequence.

To ensure the trustworthiness of the study, strategies aligned with established qualitative criteria for credibility, dependability, confirmability, and transferability were applied. Credibility was strengthened through in-depth semi-structured interviews, verbatim transcription, and prolonged engagement with the data during repeated reading and coding. Dependability was supported through maintaining a clear audit trail documenting coding decisions, theme development, and analytical reflections. Confirmability was enhanced through reflexive awareness of the researcher's professional background and its potential influence on interpretation. Transferability was supported by providing rich contextual descriptions of the Maltese community healthcare setting and participant characteristics, enabling readers to assess the relevance of the findings to similar contexts.

Results

Overview of Findings

Community-based SLPs in Malta typically work across multiple service locations, including health centres, schools, residential facilities, and clients' homes. Their daily routines often involve travelling between sites while managing diverse caseloads that include children with developmental communication disorders as well as adults with acquired communication or swallowing difficulties. Much of this work is carried out independently, with clinicians frequently delivering assessment, therapy, and case management without the physical presence of other SLPs. Interaction with colleagues may occur through scheduled meetings or occasional communication with other professionals such as teachers, carers, or healthcare staff.

Analysis of the interview data revealed that WI was a pervasive and multifaceted experience among community-based SLPs. Participants described WI across three interrelated dimensions: physical isolation, professional isolation, and social isolation. These dimensions frequently overlapped within participants' experiences and provided a framework for understanding WI in community-based speech-language pathology. Five themes emerged from the analysis, illustrating how these dimensions were experienced in practice: physical isolation in community-based practice; professional isolation and limited support; social isolation and workplace belonging; the impact of isolation on wellbeing and professional identity; and coping strategies and their perceived limitations. While participants described individual coping strategies, structural and organisational factors were consistently highlighted as key contributors to their experiences of isolation.

- Theme 1: Physical Isolation in Community-Based Practice
- Theme 2: Professional Isolation and Limited Support
- Theme 3: Social Isolation and Workplace Belonging
- Theme 4: Wellbeing and Professional Identity in the Context of Isolation
- Theme 5: Coping Strategies and Perceived Limitations

Physical Isolation in Community-Based Practice

Participants commonly described physical isolation as a defining feature of community-based speech-language pathology work. Many worked

independently across multiple locations, including schools, clinics, and clients' homes, with limited opportunities for shared workspace or informal interaction with colleagues. The absence of a consistent physical base contributed to feelings of disconnection from the wider service and reduced visibility within the organisation. As one participant explained, she could "complete an entire day without speaking to anyone beyond clients". This description highlights the extent of day-to-day professional separation experienced in community settings.

Several participants noted that working independently for extended periods intensified feelings of isolation, particularly when combined with high caseloads and travel demands. The lack of day-to-day contact with peers limited opportunities for spontaneous discussion, reassurance, or shared problem-solving. While some participants valued the autonomy associated with community-based work, this autonomy was often described as coming "at the cost of connection".

Professional Isolation and Limited Support

Professional isolation emerged as a prominent theme, particularly in relation to limited access to mentorship, peer feedback, and reflective practice. Participants reported minimal opportunities for discipline-specific discussion, supervision, or collaborative decision-making. This was especially challenging when managing complex cases, where participants expressed uncertainty and a desire for professional validation.

Early-career SLPs were particularly affected by professional isolation. Several described feeling unprepared to manage clinical demands independently and expressed frustration at the absence of consistent guidance or feedback. As one participant explained, "you start questioning your own decisions because there's no one there to confirm if you're on the right track". The lack of structured mentorship contributed to self-doubt and reduced professional confidence, with some participants questioning their clinical decisions in isolation.

Although some participants engaged in informal consultation with colleagues via messaging or phone calls, these interactions were described as ad hoc and insufficient. Participants emphasised that while informal contact could provide temporary reassurance, it did not replace sustained professional support or opportunities for reflective learning.

One participant noted that “a quick message helps in the moment, but it’s not the same as having proper mentorship”.

Social Isolation and Workplace Belonging

Social isolation was reflected in participants’ descriptions of reduced workplace belonging and limited emotional support. Many participants reported feeling disconnected from the broader organisational community, particularly when working off-site or independently for prolonged periods. This disconnection extended beyond professional matters, affecting participants’ sense of inclusion and recognition within the service. Several participants described feeling invisible or overlooked within organisational structures, with one participant explaining that “sometimes you feel invisible... like no one really sees what you’re doing”. The absence of shared experiences and informal social interaction contributed to feelings of loneliness and emotional fatigue.

Impact on Wellbeing and Professional Identity

Participants consistently linked WI to emotional strain, including fatigue, frustration, and reduced motivation. Feelings of being unsupported or disconnected contributed to heightened stress and, in some cases, diminished job satisfaction. As one SLP described, “you end up just executing tasks...the motivation is missing when you’re working alone”. Professional identity was closely tied to opportunities for

collaboration and shared learning. The absence of these opportunities led some participants to feel professionally stagnant, with limited avenues for growth or development. Despite a strong commitment to their clients, participants expressed concern that ongoing isolation could negatively affect long-term engagement and workforce retention in community-based roles.

Coping Strategies and Perceived Limitations

Participants described a range of coping strategies used to manage WI, including seeking informal peer support, engaging in self-directed learning, and relying on personal resilience. Digital communication platforms were frequently used to maintain contact with colleagues; however, participants emphasised that these strategies offered only partial relief. As one participant noted, “even a supportive message from a peer can make a big difference”. While individual coping mechanisms were viewed as necessary, participants consistently highlighted their limitations. Many expressed the view that WI should not be addressed solely at an individual level but recognised as an organisational issue requiring systemic solutions. As one participant summarised, “this isn’t just about us coping better. It needs structural change”.

locations, while professional and social isolation were linked to limited access to mentorship, peer interaction, and organisational inclusion. Similar patterns have been reported among healthcare professionals working in community or remote settings, where decentralised service delivery reduces opportunities for collaboration and informal support (Ducat, Burge & Kumar, 2014; Kolehmainen-Aitken, 2004).

Interpreted through the Job Demands–Resources (JD-R) model, these findings suggest that WI functions as a job demand that intensifies when access to resources is restricted (Bakker & Demerouti, 2007). High caseloads, autonomous working, and emotional labour increased demands on participants, while limited supervision, peer support, and protected time for collaboration reduced available resources. This imbalance has been associated with emotional exhaustion, reduced job satisfaction, and disengagement in healthcare professionals (Demerouti & Bakker, 2011; Marzocchi et al., 2024).

Professional Isolation and Early-Career Vulnerability

Professional isolation emerged as particularly salient for early-career community SLPs. Participants described managing complex clinical responsibilities with limited guidance, contributing to self-doubt and reduced professional confidence. This finding aligns with literature highlighting the importance of mentorship and supervision in supporting early-career practitioners and facilitating professional development (Becker, 2024; Hallin & Danielson, 2008).

From a Social Exchange Theory (SET) perspective, the lack of reciprocal professional relationships limited opportunities for feedback, recognition, and mutual support, weakening participants’ sense of organisational commitment (Homans, 1958; Blau, 1964). When professional exchanges are absent or inconsistent, perceived organisational support is reduced, increasing dissatisfaction and disengagement (Russell & Cates, 2013; Mohite & Kulkarni, 2019). The findings therefore reinforce the role of structured mentorship and discipline-specific collaboration in sustaining professional identity and engagement among community SLPs.

Social Isolation and Workplace Belonging

Social isolation was closely linked to participants’ perceptions of workplace belonging. Many described feeling disconnected from the wider organisation, particularly when working off-site for extended periods. This sense of invisibility and exclusion has been identified in previous studies examining isolation among healthcare professionals, where reduced interaction and recognition undermine emotional wellbeing and morale (Bartel, Wrzesniewski & Wiesenfeld, 2012; Baumeister & Leary, 1995).

Within SET, workplace belonging is reinforced through consistent social interaction and recognition. The absence of these exchanges weakened relational ties between participants and their organisation, contributing to emotional strain and reduced organisational identification (Blau, 1964; Pires, 2021). These findings suggest that fostering

belonging requires more than geographic proximity; it necessitates intentional organisational practices that promote inclusion and connection.

Coping Strategies and Organisational Responsibility

Participants employed a range of individual coping strategies, including informal peer contact, self-directed learning, and digital communication. While similar strategies have been reported in studies of isolated healthcare workers (McTernan et al., 2016; Feng, Hodgson & Scott, 2024), participants in this study consistently viewed them as insufficient. This highlights a critical distinction between individual adaptation and organisational responsibility.

Both SET and the JD-R model emphasise that sustainable wellbeing depends on organisational support rather than reliance on individual resilience alone (Bakker & Demerouti, 2007; Homans, 1958). When responsibility for managing isolation is placed primarily on individuals, structural contributors such as workload, lack of protected time, and limited access to collaboration remain unaddressed, increasing the risk of burnout and disengagement (Hayes et al., 2012; Meese et al., 2024).

Implications for Service Delivery and Sustainability

The findings also have implications beyond practitioner wellbeing. Participants described how WI limited opportunities for reflective practice, collaborative decision-making, and shared learning, all of which are central to high-quality, client-centred care (Donabedian, 1988; Donabedian, 2005). Reduced collaboration may therefore affect not only professional development but also service consistency and quality.

Sustained WI has been linked to workforce attrition and reduced job satisfaction across healthcare professions (Petitta & Ghezzi, 2023; Millar et al., 2024). Addressing WI is therefore essential for workforce retention, professional sustainability, and the delivery of effective community-based speech-language pathology services within the Maltese healthcare system.

Discussion

Overview

This study explored how workplace isolation (WI) is experienced by community-based speech-language pathologists (SLPs) in Malta and examined its impact on wellbeing, professional identity, collaboration, and service delivery. The findings demonstrate that WI is a multidimensional phenomenon encompassing physical, professional, and social isolation, consistent with established conceptualisations of isolation in decentralised healthcare contexts (Marshall, Michaels & Mulki, 2007; Aira et al., 2010). These dimensions were closely interconnected and collectively shaped participants’ emotional wellbeing, professional confidence, and engagement with their work.

WI as a Multidimensional Experience

The findings support previous research identifying WI as more than physical separation alone, instead reflecting a combination of structural, relational, and organisational factors (Marshall, Michaels & Mulki, 2007). Physical isolation arose from working independently across dispersed

Conclusion

This study explored the experiences of workplace isolation (WI) among speech-language pathologists (SLPs) working in community-based settings in Malta and examined its impact on wellbeing, professional identity, collaboration, and service delivery. The findings indicate that WI is a multifaceted phenomenon encompassing physical, professional, and social dimensions that are closely interconnected and mutually reinforcing. While community-based practice offers professional autonomy, it also exposes practitioners to reduced access to peer interaction, mentorship, and organisational support.

WI was shown to have a significant impact on emotional wellbeing, professional confidence, and job satisfaction, with early-career practitioners particularly affected by limited guidance and feedback. Although participants demonstrated resilience through individual coping strategies,

these approaches were largely insufficient to address the structural and organisational factors contributing to isolation. Interpreted through the Job Demands–Resources (JD-R) model and Social Exchange Theory (SET), the findings suggest that WI functions as a job demand that is intensified when professional and relational resources are limited.

The study highlights the importance of recognising WI as an organisational issue rather than solely an individual concern. Addressing WI requires system-level responses, including structured opportunities for peer interaction, sustained mentorship, and protected time for collaboration and reflective practice. Such measures may support professional wellbeing, strengthen professional identity, and contribute to the sustainability and quality of community-based SLP services.

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Conflict of Interest

The author declares no conflict of interest in relation to this study.

Authorship

Michela Axiaq – 80%
Dr Paul Calleja – 20%

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06 AI INTEGRATION IN PROJECT MANAGEMENT IN IGAMING AND FINANCIAL SERVICES: A QUALITATIVE EXPLORATION OF PERSPECTIVES, PRACTICES AND RESISTANCE

Miraine Lauria

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Miraine Lauria- ORCID: <https://orcid.org/0009-0001-9217-7342> | Email: mir_lauria@hotmail.com

Abstract

Objectives: Project Management (PM) continues to play a significant role in the successful delivery of complex projects. Project managers often rely on intuition and past experience to address challenges, which is not always sufficient. They spend a significant amount of time on manual and repetitive tasks, which takes away from more strategic responsibilities such as decision-making, team communication, and motivation.

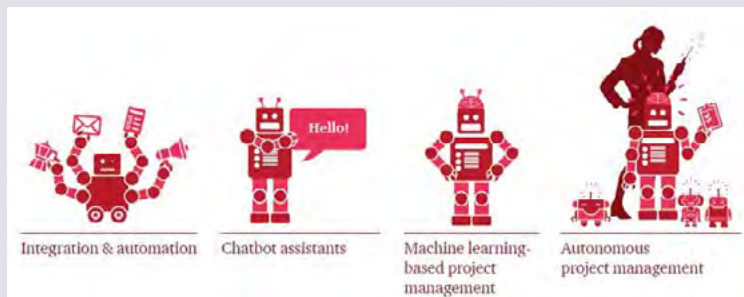
The main objective of this qualitative study is to explore the current application of Artificial Intelligence (AI) in PM processes. This research explores the key benefits and challenges associated with AI adoption, while also examines the limitations and barriers that hinders the adoption of AI from an organisational and individuals' perspectives. The study offers mitigation strategies to overcome these barriers and promote the adoption of AI in PM processes by providing effective guidance for successful implementation.

Methods: A qualitative research approach was employed through semi-structured interviews with project managers in the iGaming and financial services sectors in Malta, as well as a representative from the PMI Malta Potential Chapter.

Results: Findings reveal that AI enhances efficiency, decision-making, and forecasting accuracy while reducing repetitive work. However, concerns remain regarding bias, trust, reliability, and fears of job displacement.

Conclusions: Ultimately, the research clarifies that AI technology cannot replace human skills such as emotional intelligence, creativity, and strategic thinking. Organisations must adopt a balanced approach that includes effective collaboration between humans and AI tools.

Keywords: "Project Management"; "Artificial Intelligence"; "AI in Project Management"; "Human-AI Collaboration".



GRAPHICAL ABSTRACT

Graphical Abstract:

The graphical abstract illustrates the evolution of AI in PM as outlined by Lahmann (2018). Figure 1 represents the transition from the integration and automation of standardised project tasks, through the use of chatbot assistants that handle menial tasks such as organising meetings, planning, and tracking progress, to machine learning-based PM, where predictive analysis and AI-driven recommendations enhance planning and decision-making. The final phase, autonomous PM, envisions a future where AI systems oversee projects with minimal human involvement (Lahmann, 2018). Collectively, this graphical abstract conveys AI's shift. However, effective collaboration between humans and AI technology remains imperative. Project managers must adapt and develop new skills and knowledge to work effectively with AI tools, while retaining the ability to critically interpret the outcomes these tools generate (Ferrera, 2024).

Highlights:

- The study explores the integration of Artificial Intelligence (AI) in Project Management (PM) across iGaming and financial services sectors in Malta.
- A qualitative approach using semi-structured interviews was applied to gather insights from experienced project managers and a representative from the PMI Malta Potential Chapter.
- The study reveals the ability of AI tools to enhance efficiency, decision-making, forecasting timelines and budget, and reduce time spent on repetitive administrative tasks.
- Identifies major barriers to AI adoption, including trust, resistance to change, and organisational constraints related to time and budget.
- Provides practical recommendations for organisations to develop clear AI strategies, invest in continuous training, and foster human-AI collaboration to support smarter decision-making.

Introduction

The construction of the Great Pyramid of Giza and the Great Wall of China are evidence that Project Management (PM) has always been fundamental to the success of human accomplishments. While the need for planning and resource management has remained unchanged, PM tools and techniques have evolved over the years.

The rise of Artificial Intelligence (AI) provides the opportunity to partially address these challenges and deliver projects more effectively. Through Machine Learning (ML), historical data can be analysed to identify patterns and trends for better decision making (Abayomi Odejide et al., 2024). This research is aimed to understand how project managers are utilising AI technology and their perspective on its benefits and challenges such as data bias and the need for human oversight (Abayomi Odejide et al., 2024).

Statement of the Problem

While PM methodologies are effective and successful in some projects, projects are still failing at an alarming rate. In fact, the Project Management Institute (PMI) confirmed that 70% of projects fail (Project Management Institute [PMI], 2018).

Project managers frequently carry out manual and repetitive tasks such as recording meeting minutes, status report generation and progress tracking. While these are critical tasks for successful delivery of projects, it also reduces the allocation of time and focus to more strategic responsibilities.

The role also demands constant strategic decision-making, team leadership, client interaction, problem-solving, and long-term planning. These tasks are often overlooked due to the burden of repetitive activities, which may appear more immediately pressing to the project team at a given time. This research seeks to analyse how artificial intelligence (AI) can facilitate manual tasks and enhance communication between project teams and external stakeholders.

Purpose of this study

The rise of AI presents an opportunity to revolutionise project management (PM) through advances in machine learning (ML), deep learning (DL), and natural language processing (NLP). While existing theory explains how the adoption of AI tools enhances efficiency and accuracy, this study seeks to examine project managers' experiences and perspectives on the integration of AI

into PM processes.

The purpose of this study is to explore the current application of AI in PM through experiences and perspectives of project managers within the iGaming and financial services sectors, two highly significant and fast-driven environments. The study investigated the benefits, challenges, and barriers hindering the adoption of AI from project managers' experiences. Participants also provided mitigation strategies to overcome these barriers and offered advice for effective implementation strategies.

Research Questions

Guided by these observations, the following research questions have been developed to frame this study:

1. How do project managers perceive, adopt, and utilise AI in project management?
2. What are the benefits, key challenges, and concerns perceived by project managers in adopting and using AI in project management processes?
3. What factors contribute to the reluctance of adopting AI tools among project managers and what mitigation strategies can help overcome these barriers?

Significance of the Study

This research has both academic and professional significance. From an academic perspective, it contributes to the limited literature on how AI is applied in project management (PM) processes, particularly within the iGaming and financial services sectors. From a professional perspective, it provides practical insights for project managers and organisations seeking to integrate AI into PM processes.

Methodology

The study is grounded in research defined as “a systematic process of collecting, analysing, and interpreting information” (Williams, 2007). To ensure a well-structured and justified research design, this study is guided by Saunders’ Research Onion Framework, which provides a layered approach to selecting the appropriate research philosophy, approach, methodological choice, strategy, time horizon, and data collection techniques and procedures (Saunders et al., 2023).

Given the nature of this research, an Interpretivism philosophy was deemed the most appropriate, as it emphasises understanding human behaviour in its natural setting and acknowledges the complexity of social realities (Saunders et al., 2023). This aligns with the aims of exploring the lived experiences and perspectives of project managers towards to use of AI in PM.

An inductive approach was adopted, as this study originated from the researcher’s observation that project managers allocate significant time to manual tasks, and that the application of

AI in project management (PM) within the iGaming and financial services sectors remains under-researched.

A qualitative approach was adopted throughout this research because it allows for an in-depth exploration through interviews. Through semi-structured interviews, participants were able to reflect on and elaborate freely on their experiences. Due to time constraints, this study adopted a cross-sectional time horizon.

Thematic Analysis

Primary data was collected through semi-structured interviews. Subsequently, the collected data was analysed to make sense of the participants’ responses (Austin and Sutton, 2014b). To analyse the qualitative data, thematic analysis was conducted. According to Braun and Clarke (2006), thematic analysis is a “method for identifying, analysing and reporting patterns (themes) within data”.

tion which provides networking and professional development opportunities to the PM community (LinkedIn, 2025).

Data collection methods & Data analysis

Data collection and data analysis were carried out simultaneously. Once it was noticed that no new sub-themes and themes were emerging, the researcher confirmed data saturation had been reached, meaning further data will not reveal new insights (Denzin and Lincoln, 2005; DiCicco-Bloom and Crabtree, 2006).

All interviews were transcribed and approved by the participants through the member checking technique. Thematic coding was carried out in Microsoft Word using the comments’ function. Each transcript was read carefully, and relevant sentences were highlighted and annotated with codes in the form of comments. All comments were extracted using DocTools add-on and compiled in a separate Word document. The extracted comments were systematically reviewed and entered into an Excel workbook. This approach provided a clear overview of data which facilitated comparison across transcripts and updating of codes throughout the whole process.

Codes were then grouped into broader themes by identifying patterns and connections across codes (Braun and Clarke, 2006). Sub-themes and themes were reviewed and refined iteratively along the process to ensure their validity and how they may connect to each other. Fol-

Results

The interview questions were designed in line with the research questions and split into five (5) sections to obtain:

- Participant’s background and overall understanding of the application AI in PM.
- Understanding the current challenges experienced by project managers in PM practices.
- Experience or Perspective of AI integration in PM.
- Feedback on future of AI in PM.

lowing this process, the findings were interpreted through the main themes identified and analysed in relation to the research questions under investigation.

• Closing reflections.
The full list of interview questions can be found in Appendix A.

Table 1 below shows the four emerged themes:

Challenges/Concerns	Description	Percent
Bias and Fairness	Concerns about biased output	58%
Trust, Transparency and Reliability	Concerns about reliability of AI tools, potential wrong information	42%
Over Reliance on AI	Concerns on over reliance without analysis of output	33%
Data Privacy and Security	Concerns on handling of sensitive data	33%
Job Security	Concerns on job redundancies	25%
Technical/Integration Issues	Concerns related to integrating AI tools with existing systems	16%
Ethical Use	Concerns on lack of awareness leading to misuse	16%

Table 1: Emerged Themes
Source: Own source

Perspective and Experience with AI in Project Management

The first theme seeks to answer Research Question 1: “How do project managers perceive, adopt and utilise AI in project management?”

All twelve (12) participants were categorised into four levels according to their level of experience and engagement with AI tools, as presented in Table 2.

- Extensive use: Project managers using AI tools extensively with a deep understanding of AI tools and their application
- Moderate use: Project managers using AI tools

in certain areas of PM, however, not to its full potential.

- Indirect exposure: No direct use, but exposure through observing colleagues, participating in pilot trials, or independently researching the field thoroughly.
- No experience: One (1) participant reported no experience or interaction with any AI tools.

Research Design

Study population

The target population for this study was composed from project managers in Malta, specifically in the iGaming and Financial Services sectors. This study specifically targeted project managers, as they are directly involved in the planning, execution, and management of projects, making them well placed to provide insights into the challenges and benefits that AI introduces to PM processes.

A minimum of five (5) years’ experience was required to ensure participants have sufficient experience in PM methodologies and an increased likelihood of exposure to AI tools.

A sample size of twelve (12) interviews was conducted, including two (2) pilot interviews, with three participants from the iGaming sector and seven from the financial services sector. This aligns with Creswell’s (1998) suggestion to conduct between five and twenty-five interviews.

To strengthen the credibility and validity of the findings, data triangulation was employed. Beyond interviewing project managers, another interview was conducted with a representative from the Project Management Institute (PMI) Malta Potential Chapter, a non-profit organisa-

Level of AI integration	Percentage	Participant
Extensive use	25%	2, 9, 10
Moderate use	42%	3, 6, 7, 11, 12
Indirect exposure	25%	1, 4, 5
No experience	8%	8

Table 2: Level of experience
Source: Own source

Additionally, all participants have been asked on whether they feel there are sufficient training and certifications for project managers regarding the integration of AI in PM. While 50% of the participants expressed awareness of existing certifications, they also believe that PM community is recognising the need to adapt to AI. Three (3) participants expressed that in their opinion there are not sufficient PM certifications. Overall, the PMI member echoed the views of participants. Malta is still in its infancy to reach the full poten-

tial of AI integration in PM. However, PMI are already doing significant investment in training courses which people are attending numerously. While the training provided on AI is currently broad, there are plans to hold events specific to industries.

Benefits and Opportunities of AI integration in Project Management

Participants mentioned several benefits, which were categorised as shown in Figure 2:



Figure 2: Benefits of AI integration in Project Management
Source: Own source

Reduce Repetitive Tasks

All twelve (12) participants acknowledged that manual, repetitive, and time-consuming tasks can be reduced through the adoption of AI Tools. Advanced users confirmed a notable reduction through transcription tools, emails summarisation, reporting standardisation, and the creation of PowerPoint presentations through videos, images, and audio content. Others recognised that AI can help reduce time spent on status reporting, resource allocation, document summarisation, and retrieving data from multiple sources more quickly.

Enhance Efficiency

Ten (10) participants highlighted enhanced efficiency as a key benefit from the adoption of AI tools in PM. Specifically, they highlighted the efficiency of AI tools in handling administrative tasks and facilitating communication through standardised documentation and reporting.

Enhance Decision-Making

Eight (8) participants highlighted the impact of AI in decision-making with participant 2 stating: "When it comes to decision making, 100%, because now we have the data and we can come up with forecasts. We are in a better position to challenge ourselves and our teams. This is one of the top things that have influenced me".

Time Reallocation and Shift to Strategic Focus

Eleven (11) participants reported that AI enables project managers to save time and shift attention to more strategic responsibilities requiring human judgement.

Project Planning, Forecasting and Risk Management

Three (3) participants highlighted the predictive analysis as a benefit particularly for resource allocation, timeline forecast, risk management, and lessons learned.

When asked for their experience or perception of where AI tools could be most beneficial across the PM life cycles, respondents provided diverse

opinions, as Table 3 shows. Participants generally agreed that AI tools offer value across the entire project lifecycle.

Project Management Phase	Project Tasks	Participant
Initiation Phase	Market Research	1, 2, 3, 4, 6, 8, 9
	Discovery and requirements gathering	
	Business case with clear success criteria	
Planning Phase	Project Planning	1, 3, 4, 5, 6, 7, 9, 11
	Resource Planning	
Execution Phase	Meeting Minutes	1, 2, 6, 7, 8, 10, 12
	Extracting project updates from different sources	
	Project Monitoring & Reporting	
Closure Phase	Lessons Learned	1, 2, 3, 4, 6, 8, 12

Table 3: AI across Project Phases
Source: Own source

Challenges, Concerns, and Strategic responses to AI Integration

This theme answers the second part of Research Question 2 and Research Question 3:

• "What are the benefits, key challenges and concerns perceived by project managers in adopting and using AI in project management processes?"

• "What factors contribute to the reluctance of adopting AI tools among project managers and what mitigation strategies can help overcome these barriers?"

Table 4 shows the key challenges, concerns and limitations identified by the participants on the integration of AI in PM.

Challenges/Concerns	Description	Percent
Bias and Fairness	Concerns about biased output	58%
Trust, Transparency and Reliability	Concerns about reliability of AI tools, potential wrong information	42%
Over Reliance on AI	Concerns on over reliance without analysis of output	33%
Data Privacy and Security	Concerns on handling of sensitive data	33%
Job Security	Concerns on job redundancies	25%
Technical/Integration Issues	Concerns related to integrating AI tools with existing systems	16%
Ethical Use	Concerns on lack of awareness leading to misuse	16%

Table 4: Challenges, Concerns and Limitations of AI
Source: Own source

Participants highlighted four main barriers to AI adoption:

- Resource constrains
- Organisations resistance
- Knowledge and skill gaps
- Technological and integration challenges

They also described mitigation strategies such as training and upskilling, which demonstrate clear organisational value, and implementing strong change management with dedicated champions as key approaches to overcoming barriers and

encouraging AI adoption.

Future of AI in Project Management

The general opinion is that AI is evolving rapidly; however, its introduction into project management (PM) processes is progressing slowly. Nonetheless, once adoption accelerates, the role of the project manager is expected to evolve towards a more strategic focus, while AI tools handle repetitive and time-consuming tasks.

Discussion

Perspective and Experience with AI in Project Management

Lahmann (2018) outlines four main phases in the evolution of AI in PM. The first phase relates to integration and automation of standard tasks. Sixty-six percent (66%) of the participants use AI for automation of standard tasks, such as transcribing meeting minutes, drafting requirements, creating presentations, and reporting. The second phase refers to chatbot assistants used to handle routine tasks. Research showed limited use of chatbots for automated reminders; however, tools such as ChatGPT and Copilot were referenced for brainstorming and research.

According to Lahmann (2018), the third phase in the evolution of AI involves predictive analysis and AI-driven recommendations to enhance decision-making. Findings show participants have more experience in this phase than in the second. Even participants not extensively using AI indicated its predictive models, based on ML and deep learning, would be highly beneficial. In fact, 50% of the participants either use AI tools for predictive analysis in risk identification and mitigation strategies or perceive the predictive capabilities of AI as highly beneficial for developing timelines, forecasting project budgets, and allocating appropriate resources based on capacity and skills.

The fourth and final phase describes the ultimate evolution AI could bring to PM processes and it forecasts the future that AI tools will oversee projects with minimal human involvement. The findings forecast that within the next five to ten years, AI tools would become more popular and increase the automation of administrative and repetitive tasks. While giving the opportunity to project managers to focus on more strategic responsibilities.

Benefits and Opportunities of AI integration in Project Management

The main benefits identified in this study are consistent with the existing literature, showing the recognition of the value AI brings to PM processes.

- Reduce Repetitive Tasks

This aligns with Lahmann's (2018) first phase of AI evolution and by Todorović (2022) who argues that repetitive tasks can be replaced by AI, allowing project managers to focus on strategic aspects.

- Enhance Efficiency

Efficiency is supported by various literature. Diaó (2024) explains how AI helps boost efficiency through automation and optimisation of PM functions. Foster (1988) explains how large amount of data can be easily analysed by AI tools, speeding the process to find patterns and trends. Participants acknowledged that tools such as ChatGPT and Copilot enhance efficiency in re-search and in the summarisation of emails and documents.

- Enhance Decision-Making

As Ruiz, Torres and Crespo (2021) pointed out, project managers rely on their intuition to make decisions. However, it is humanly impossible for project managers to have experienced all possible scenarios. Through historical data, AI tools provide predictive insights enabling more informed decisions and can help with the ever-evolving circumstances (Ruiz, Torres and Crespo, 2021; Shamim, 2024).

- Project Planning, Forecasting & Risk Management

In line with the findings, Abayomi Odejide and Esther Edunjobi (2024) explained that AI plays a crucial part of analysing historical data using ML models to recommend optimal resource allocation.

- Time Reallocation & Shift to Strategic Focus

Ruiz, Torres and Crespo (2021) confirm that the automation of basic tasks such as meeting minutes transcriptions saves a considerable amount of time for project managers. This is resonated by the participants as they acknowledged that the time saved can be used for other important tasks such as training, and stakeholder management.

Challenges, Concerns, and Strategic responses to AI Integration

Fifty-eight percent (58%) of the participants commented on how AI tools rely on data which can be incorrect or biased. In their paper, Jahan Karamthulla et al. (2024) explains how data bias and discrimination can be noticed when historical data is incorrect. As a mitigation strategy, this study proposes for organisations to ensure the historical data is correct, clean and relevant, which is in line with the recommendation provided by Jahan Karamthulla et al. (2024) for organisations to ensure the model is trained with high-level data.

Lack of trust and reliability in AI outputs was conveyed by 42% of the participants. Similarly, a recent study carried out by Hasmukh (2024) concluded that 41% of the participants also reported that trust and reliability on AI tools is their major concern. This clearly shows the scepticism on the accuracy of the outcomes and results provided by AI tools.

Additionally, 16% of the participants in this study expressed their concern regarding potential misuse, particularly in the over reliance on AI tools. As a mitigation strategy and ethical practice, the human oversight remains essential. This was supported by Abayomi Odejide and Esther Edunjobi (2024), who pointed out that project managers need to carefully assess the output and critically analyse for relevance, as AI tools lack the human capacity to engage in critical thinking.

Other challenges, such as data privacy, security, and job security, were identified by participants and are supported by the literature. As reported in a study conducted by Hasmukh (2024), 35% of respondents raised this concern. Thus, without generalising, this stigma appears to be diminishing, and as explained by Abayomi Odejide and

Esther Edunjobi (2024) and Muthusubramanian et al. (2024), employees should be reskilled and upskilled to foster a culture in which AI tools assist rather than replace humans.

Future of AI in Project Management

Participants had the opportunity to assume how AI would evolve in the next five (5) to ten (10) years in PM. Six (6) participants believe that AI tools will replace administrative and manual tasks such as reporting, meeting minutes, and tracking, enabling project managers to focus on strategic elements.

Ferrera's study (2024) predicts that project managers will shift from decision-makers to "overseers", with a greater emphasis on strategic alignment within the organisation. AI tools will enhance forecasts, budgeting, resource planning, decision-making, and risk management, but project managers must diversify and focus on soft skills, including creativity and emotional intelligence (Dr Michael Chui, Projectified with PMI). Effective human-AI collaboration and critical interpretation of AI outputs remain imperative in a rapidly evolving landscape.

Conclusions

In conclusion, this study aimed to explore the perspectives and experiences on the integration of AI in PM from project managers. The involvement of a key member from PMI Malta Potential Chapter provided valuable triangulation and validation to the findings. The research successfully achieved the aims and objectives by exploring how AI is perceived and utilised in PM, identifying the benefits, challenges and barriers to adoption. Based on these findings, recommendations were made to project managers and organisations.

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Authorship

Miraine Lauria – 100%

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Appendix A: Interview Questions for Project Managers

Introduction and Background

What types of projects do you typically manage, and what tools or technologies do you currently use in your work?
As a Project Manager, have you come across AI tools or automation technologies?
If yes:
Can you share examples of tools you've used and the type of tasks or project stages they supported?
Do you feel you have sufficient knowledge or training to effectively use these tools?
If no:
Have you seen AI being used in project management by others?
Do you have any expectations about how it might be useful?
Do you feel you have sufficient knowledge or training to effectively use these tools?

Challenges in Project Management

Which daily tasks take up the most time or feel the most repetitive? Can you walk me through an example?
Based on the challenges you mentioned, do you think AI could help improve any of these tasks?

Experience with AI in Project Management (For those who use AI)

What specific AI tools have you used, and how were they integrated into your projects?
What benefits have you observed from using AI in project management?
Were there any challenges or limitations you faced when using AI tools?
How has AI influenced your decision-making, time management, or team dynamics? Has AI changed the way you prioritise tasks or interact with stakeholders?
From your experience and in your opinion how should companies go about effective implementation of AI tools?

Perspective on AI Integration (For those not using AI)

What potential benefits do you see AI bringing to project management?
Are there specific tasks or processes where you think AI could add value?
How do you think AI could enhance your role as a project manager?
In your opinion, what are the main reasons you haven't integrated AI tools into your project management processes?
What are your concerns or reservations about using AI in project management?
How would you address these concerns if you were to adopt AI?
Beyond your personal concerns, what broader risks or challenges do you think AI poses to project management?
What factors would make you more willing/open to adopt AI tools?
If your organisation provided full support, would you be open to experimenting with AI tools?

Future of AI in Project Management

How do you envision the role of AI evolving in project management over the next 5–10 years?
Are there specific areas where you see AI having the most impact?
What skills or knowledge do you think project managers will need to work effectively with AI tools in the future?
Do you think current PM training and certifications are adapting to this shift?
Do you believe AI will always remain a supportive tool, or could it replace certain aspects of project management?
Which aspects of project management, if any, do you think are irreplaceable by AI?

Closing Reflections

What advice would you give to organisations or project managers considering the adoption of AI tools?
OR for AI user: What would have made your own AI adoption journey easier?
Are there any potential pitfalls they should be aware of?
From your perspective, what is the most significant opportunity that AI presents for project managers?
Are there any additional insights or experiences regarding AI in project management that you'd like to share?
Are there any emerging technologies you believe will work alongside AI in project management?

Appendix B: Interview Questions for PMI Malta Potential Chapter

Introduction and Background

Can you briefly describe your role in PMI Malta Potential Chapter?

What are the main goals and priorities of PMI Malta in the current landscape of project management?

What is your perspective on the current state of AI integration in project management, globally and in comparison, to Malta?

Are there specific industries or sectors where you believe AI could have the most impact?

What challenges do you think project managers are facing when it comes to integrating AI into their workflows?

Are there any barriers specific to Malta?

How do you think these challenges can be overcome?

Do you believe there are misconceptions about AI's role in project management?

If so, how would you address these misconceptions and educate the project management community?

PMI Malta's Role in Promoting AI Integration and Strategy for AI adoption

Has PMI Malta undertaken any initiatives to promote the introduction and adoption of AI in project management yet?

Could you provide examples of any recent or upcoming events, workshops, or training sessions related to AI?

How have these initiatives been received by PMI Malta's members?

Are there collaborations or partnerships with organisations or experts in AI that PMI Malta is currently involved in?

What specific initiatives do you think PMI Malta should prioritise to help project managers embrace AI?

How does PMI Malta ensure that it stays up to date with technological advancements like AI and their impact on project management?

AI's Impact on the Future of Project Management

What do you think the role of AI in project management will look like in the next 5–10 years, in Malta?

In your view, what are the biggest ways AI could transform or enhance project management practices?

What new skill sets will be required for project managers to work effectively alongside AI tools?

How can PMI Malta help project managers prepare for the changes AI will bring to the field?

Will PMI Malta offer any certifications, resources, or support programs focused on AI integration?

Closing Reflections

What advice would you give to organisations or project managers considering the adoption of AI tools?

What ethical considerations do you think PMs/ organisations should be aware of?

What do you believe is the most significant opportunity AI presents for the project management community?

How can project managers capitalise on AI to improve their work and better serve their clients?

Is there anything else you'd like to share about PMI Malta's plans for AI and its role in shaping the future of project management?

07 Circular Economy Adoption in Maltese SMEs: Barriers, Opportunities, and Context Specific Insights

Nathan Aquilina & Dr. Joseph Mallia

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Mr. Nathan Aquilina- ORCID: <https://orcid.org/0009-0004-2804-7473> | Science Malta, Malta | Email: nathan.aquilina13@gmail.com
Dr. Joseph Mallia - ORCID: <https://orcid.org/0009-0008-7455-933X>

Abstract

Objectives: This study investigates the implementation of Circular Economy (CE) practices across multiple sectors in Malta, with a specific focus on small and medium-sized enterprises (SMEs), public organisations, private entities, and non-governmental organisations. The objective is to assess the current level of CE adoption and to identify the key barriers and opportunities influencing the transition from linear to circular economic systems within a small island context. This study offers one of the first multi stakeholder, empirically grounded examinations of CE adoption in Malta, providing context specific insights from a small island economy that is largely under represented in CE research.

Methods: A qualitative research approach was adopted, employing semi-structured interviews to collect in-depth insights from relevant stakeholders across sectors. The data were analysed using reflexive thematic analysis to identify recurring patterns and critical factors shaping CE implementation at the local level.

Results: The findings reveal four dominant themes influencing CE adoption: stakeholder engagement, institutional readiness, economic viability, and regulatory support. Effective collaboration among public bodies, private enterprises, NGOs, and academia emerged as essential for coordinated action and knowledge exchange. Institutional capacity and leadership commitment were found to significantly influence the ability to plan, implement, and scale CE initiatives. Financial constraints, particularly limited access to funding and uncertainty regarding return on investment, remain key challenges for SMEs.

Conclusion: The study concludes that strengthened regulatory frameworks, enhanced institutional readiness, and the promotion of context-specific CE business models are critical to advancing circular transitions in Malta. Addressing these factors can support long-term environmental sustainability, economic resilience, and sustainable growth within small island economies.

Keywords: "Circular Economy"; "Small Island Economies"; "SMEs"; "Sustainability Transitions"; "Malta"



Figure 1 Graphical Abstract: showing an illustration of the study overall (Author, 2026)

Highlights:

Relevance and Contribution of the Study

• Relevance of the study:

Provides an in-depth, context-specific analysis of Circular Economy implementation in Malta, addressing critical gaps in empirical evidence for small island economies and informing sustainability transitions at the local level.

• Methodological contribution:

Applies qualitative semi-structured interviews combined with reflexive thematic analysis to capture nuanced stakeholder perspectives across multiple sectors, offering a robust and flexible approach to examining CE adoption dynamics.

• Main results:

Identifies stakeholder engagement, institutional readiness, economic viability, and regulatory support as the principal factors influencing Circular Economy implementation, with particular emphasis on financial constraints and organisational capacity among SMEs.

• Scientific innovation:

Advances Circular Economy research by integrating multi-stakeholder insights within a small island context, contributing original empirical findings to the limited body of literature on CE adoption in Small Island Developing States.

• Practical applicability and decision-making support:

Generates actionable insights for policymakers, public authorities, and businesses by highlighting context-adapted CE business models and policy priorities that can support evidence-based decision-making and sustainable economic planning.

Introduction

The Circular Economy (CE) has gained increasing recognition as a vital framework for addressing global challenges such as environmental degradation, resource scarcity, and unsustainable consumption patterns. Rooted in principles of resource efficiency, waste minimisation, and the continual circulation of materials, CE offers a systemic alternative to the traditional linear (LE) economic model characterised by "take-make-dispose" practices (Kirchherr et al., 2017). By extending product and material lifecycles through reuse, repair, remanufacturing, recycling, and sustainable design, CE seeks to reconcile environmental sustainability with long-term economic viability (Kirchherr, Reike, and Hekkert, 2017). As the urgency to transition towards sustainable economic systems intensifies, CE has become increasingly embedded in policy agendas across the European Union.

Within this broader European context, Malta represents a particularly pertinent case for examining CE implementation. As a small island economy with limited natural resources and a high reliance on imports, Malta faces structural constraints that heighten the importance of efficient resource use. In response, the Maltese government has introduced strategic initiatives such as the Single-Use Plastics Strategy (2021–2030) and the Long-Term Waste Management Plan (2021–2030), aimed at reducing landfill dependency and promoting recycling and reuse (ERA, 2021). Complementing these policy measures, investments in infrastructure such as the Multi-Material Recovery Facility in Hal Far, which is supported by EU Cohesion Policy funding, demonstrate practical steps towards integrating CE principles within national waste management systems (European Commission, 2023).

Despite these advancements, the practical adoption of CE principles among small and medium-sized enterprises (SMEs), public bodies, and non-governmental organisations (NGOs) in Malta remains limited (Circular Economy Malta, 2020). SMEs, which constitute a substantial segment of the Maltese economy, face persistent barriers to the circular transition, including financial constraints, regulatory complexity, limited technical capacity, and insufficient awareness of CE benefits (The Malta Business Weekly, 2023). The absence of a cohesive support framework further compounds these challenges, resulting in missed opportunities to harness the environmental and economic advantages associated with circular practices. However, existing research on CE in Malta remains fragmented, with most studies focusing on waste management systems or policy frameworks rather than organisational behaviour and business model transformation. There is a notable lack of empirical, multi stakeholder research examining how CE principles are interpreted, implemented, or resisted within Maltese organisations. This gap limits understanding of the practical realities shaping CE adoption in small island economies.

Against this backdrop, the primary aim of this study is to examine the significance of integrating CE principles into organisational and business practices within the Maltese context. The research seeks to identify the key barriers hindering the transition towards circular operations and to explore CE business models (CEBMs) that are most suitable for adaptation at the local level.

By critically reviewing internationally implemented CEBMs and assessing their applicability to Malta, the study aims to identify strategies that enable SMEs to integrate CE principles in ways that are both environmentally sound and economically viable.

The study is guided by three research questions addressing: (i) how Maltese companies, particularly SMEs, are implementing CE principles to reduce environmental impacts; (ii) the barriers SMEs encounter when attempting to adopt CE practices; and (iii) how CE principles can be incorporated into business models without adversely affecting economic performance. Methodologically, the research adopts a qualitative approach, combining a critical review of existing literature with empirical data collected through semi-structured interviews. A purposive sampling strategy is employed to engage participants from SMEs, public bodies, NGOs, and academia who possess relevant expertise in sustainability and resource management.

Literature Review

2.1 Circular Economy Adoption in the Global Scenario

The adoption of Circular Economy Business Models (CEBMs) has gained significant momentum in the twenty-first century, driven by increasing recognition of the need for sustainable development. The Brundtland Report defines sustainable development as meeting present needs without compromising the ability of future generations to meet their own needs, a principle that underpins contemporary CE discourse (United Nations, 2011). From a global perspective, sustainability requires states and economic actors to align with international protocols and European Union (EU) regulations that promote responsible production and consumption patterns.

Alongside regulatory pressures, awareness of environmental challenges has increased substantially, shifting responsibility towards businesses and their management structures to integrate CE principles into their operational frameworks (European Environment Agency, 2021). CE models are fundamentally grounded in rethinking production and consumption systems by prioritising the extended use of existing materials and products through practices such as reuse, repair, refurbishment, leasing, and recycling. This approach aims to maximise product lifecycles and minimise waste generation by retaining materials within the economic system at the end of their useful life (European Parliament, 2023).

The significance of this research lies in its contribution to both academic literature and policy-relevant practice. By identifying context-specific barriers and opportunities, the study provides evidence-based recommendations for policy-makers, business leaders, and civil society actors seeking to advance CE adoption in Malta (Heinrich-Böll-Stiftung, 2023). Ultimately, the research contributes to the broader discourse on sustainable development by offering insights into how circular frameworks can support environmental stewardship, economic resilience, and long-term competitiveness within small island economies. This study contributes original empirical evidence on CE adoption in Malta by integrating perspectives from SMEs, public bodies, NGOs, and academia, offering one of the first multi stakeholder analyses of circular transition challenges within a small island economy.

In contrast to LE models, which rely heavily on abundant and low-cost resources and generate significant waste and environmental damage, CE models promote regenerative systems that decouple economic growth from resource consumption. By enabling materials to be reintroduced into production cycles multiple times, CE frameworks contribute to value regeneration while reducing environmental impacts (European Parliament, 2023). These principles have increasingly informed global and EU-level sustainability strategies, reinforcing CE as a cornerstone of long-term economic and environmental resilience.

2.2 Implementation of Circular Economy into Business Models

CEBMs have been applied across a wide range of industries through diverse models tailored to sector-specific requirements. Empirical studies have demonstrated that such models influence business performance across economic, social, and environmental dimensions (Chen, 2020). Chen (2020) identifies three critical considerations for management teams when designing CE-oriented policies: the use of biodegradable materials, the establishment of closed-loop systems to extend material lifecycles, and the reintegration of used materials into new production processes.

Several CEBMs have been documented in the literature as effective mechanisms for promoting circularity. These include pay-per-use models (Learning Loop, 2024), green and sustainable sourcing strategies (Majeed et al., 2022), and enhanced collaboration with suppliers and stakeholders involved in product end-of-life processes, such as waste management companies (Ünal, Urbinati, and Chiaroni, 2019). From an EU perspective, Radjenovic and Zivkovic (2023) recommend the introduction of harmonised policies that establish achievable targets related to waste reduction, resource efficiency, and carbon footprint performance. Their study highlights the importance of incentives and funding mechanisms to support knowledge sharing, innovation, and research in CE-related fields.

In developing economies, Toker and Görener (2022) argue that the Reduce and Reuse (RR) model represents a pragmatic entry point to circularity due to its lower resource and skill requirements. This model prioritises the utilisation of second-hand materials, thereby reducing waste generation and minimising the need for new investments. Svensson and Funck (2019) support this view, emphasising the role of organisational leadership in cultivating a circular culture while recognising the RR model as particularly suitable for resource-constrained contexts.

Economic viability remains a central consideration in CE adoption. Empirical evidence suggests that circular strategies can yield cost savings and competitive advantages. For example, Alcatel's waste monitoring and component reuse practices significantly reduced operational costs during its expansion into the Chinese market, while safeguarding its environmental reputation (Park et al., 2010). Similarly, Bocken et al. (2020) highlight cost-related benefits derived from circular strategies employed by companies such as IKEA and Waitrose, including consumer self-assembly and flexible purchasing models that reduce waste.

CE adoption has also been linked to innovation and enhanced market positioning. Geissdoerfer et al. (2017) argue that circular models stimulate innovation in product and service design, enabling firms to respond to growing consumer demand for sustainable offerings. However, Smol (2024) stress the importance of gradual implementation, particularly through initiatives that generate immediate cost savings, such as energy efficiency and waste reduction, before transitioning to more complex CE models.

Service-based models, including repair and

maintenance offerings, represent another viable CEBM. Bocken et al. (2016) demonstrate that such models can generate additional revenue streams while reducing resource consumption. This approach has been successfully adopted in sectors such as textiles, electronics, and furniture, where refurbishment and resale practices extend product lifecycles and reduce waste generation (Moraga et al., 2019).

The sharing economy has also been identified as a pathway towards circularity, particularly in mobility-related sectors. Car-sharing and bike-sharing models optimise asset utilisation and reduce the need for new production, thereby lowering environmental footprints (Guyader and Piscicelli, 2019). Additionally, digital technologies such as the Internet of Things (IoT), blockchain, and artificial intelligence have emerged as key enablers of CE innovation. These technologies facilitate material tracking, predictive maintenance, and supply chain optimisation, contributing to efficiency gains and waste reduction (Nguyen et al., 2023; Reike et al., 2018).

Pay-per-use models further illustrate the potential alignment between economic performance and sustainability. Moorthy and Rappancini (2023) introduce the Servit360 "Wheel of Service" framework, which outlines critical dimensions for successful implementation, including value proposition, sustainability alignment, financial viability, technological infrastructure, customer experience, organisational capability, partnerships, and risk management. Case studies involving firms such as BMW, Rolls-Royce, and Philips demonstrate the applicability of this model across industries.

2.3 Barriers to Circular Economy Models

Despite the growing availability of CEBMs, several barriers continue to hinder widespread adoption. Graftström and Aasma (2020) argue that organisations must carefully evaluate these obstacles and implement mitigation strategies prior to transitioning. Pfeifer (2017) identifies limited data availability, organisational culture, financial constraints, and lack of awareness as major impediments.

Araujo Galvão et al. (2018) categorise CE barriers into technological, regulatory, financial, managerial, performance-related, and social dimensions; while Govindan and Hasanagic (2018) identify eight thematic categories, including governmental, economic, technological, and cultural barriers.

Agyemang (2018) highlights lack of expertise, resistance to change, financial investment requirements, and insufficient technical skills as critical challenges, particularly for technology-driven CEBMs.

Sector-specific studies reinforce these findings. Hugo et al. (2021), focusing on the fashion industry, identified cultural barriers such as consumer preference for fast fashion and resistance to second-hand clothing. Kirchherr et al. (2018) similarly emphasise cultural and consumer-related barriers, although they consider technological constraints to be less significant. Jaeger (2019) identifies additional challenges, including supply chain complexity, limited policy incentives, disassembly costs, and quality concerns.

2.4 Circular Economy Adoption in the Local Maltese Context

In Malta, public bodies play a pivotal role in promoting CE adoption by implementing EU directives and sustainability targets. Malta's commitment to the EU Green Deal and carbon neutrality by 2050 has acted as a key driver for CE policy development (Ministry for the Environment, 2024). The Long-Term Waste Management Plan (2021–2030) outlines strategic measures aimed at resource efficiency, waste prevention, infrastructure development, and the polluter pays principle (Environment and Resources Authority, 2021).

Private entities, particularly SMEs, represent a substantial share of Malta's economic activity and employment (Malta Central Bank, 2019; MCAA, 2018). However, SMEs face significant challenges related to limited resources, expertise, and market conditions (Ferrasso and Kirchherr, 2024).

Methodology

This study adopts a qualitative methodological framework to explore the barriers, opportunities, and practical implications associated with the adoption of CE principles by SMEs in Malta. Methodology is understood not merely as a set of techniques, but as a philosophical framework that underpins the assumptions guiding data collection and analysis, ensuring methodological coherence and rigor (Denzin & Lincoln, 2005; Creswell et al., 2003). The chapter outlines the study's philosophical positioning, research design, data collection tools, sampling strategy, analytical approach, and ethical considerations, all of which are aligned with the study's overarching aims and research questions.

Despite these constraints, initiatives such as the Bring Your Own Container (BYOC) scheme have demonstrated the potential for circular practices in the food and beverage sector (Horeca, 2024). Research and innovation projects, including EXCEL4MED, further illustrate collaborative efforts to valorise by-products and reduce waste (Malta Chamber, 2023).

In the fashion sector, emerging SMEs and start-ups are exploring reuse, recycling, and eco-friendly materials, exemplified by initiatives such as Thrift Malta and sustainable fashion events (Malta Daily, 2023; Vella, 2022). Nevertheless, owner-manager attitudes, limited awareness, and short-term profit orientation continue to constrain CE adoption (Frendo, 2023).

NGOs play a complementary role by advocating sustainable practices, engaging communities, and facilitating collaboration among stakeholders. Initiatives such as Zero Waste Malta highlight the contribution of NGOs in promoting reusable packaging and reducing single-use plastics (Briguglio, 2015; Malta Today, 2023).

2.5 Conclusion

The literature indicates that while CE adoption in Malta is progressing, it remains slower than in other EU member states (Gzira Local Council, 2024). Persistent barriers, including financial limitations, regulatory complexity, cultural resistance, and knowledge gaps particularly affect SMEs. However, enhanced collaboration among public bodies, private entities, and NGOs, coupled with EU funding mechanisms and gradual integration strategies, presents a viable pathway towards a more circular Maltese economy (Stanislaus, 2018).

3.1 Research Focus, Aim, and Objectives

Although the CE has been widely examined in international contexts including EU member states and developing economies (Radjenovic & Zivkovic, 2023; Toker & Görener, 2022), there remains a notable gap in research addressing small-island states such as Malta. This study addresses this gap by focusing on the perspectives of key stakeholders within the environmental sustainability sector, with particular emphasis on SMEs operating in the local context.

The primary aim of the study is to highlight the significance of CE adoption among local businesses, identify barriers hindering the transition from linear to circular models, and explore contextually appropriate circular economy business models (CEBMs). The study seeks to (1) examine how Maltese SMEs are implementing CE principles, (2) identify the barriers they encounter, and (3) explore strategies for integrating CE principles without adversely affecting economic performance. Given the exploratory nature of these objectives, a qualitative and inductive approach was deemed most appropriate.

3.2 Philosophical Underpinnings

The study is grounded in a constructivist research paradigm, which assumes that reality is socially constructed and that knowledge emerges through interactions between researchers and participants (Vinney, 2019). This paradigm is particularly suited to investigating complex and context-dependent phenomena such as CE adoption, where meanings and practices vary across organisational and institutional settings.

Aligned with constructivism, the study follows an interpretivist approach, emphasising the understanding and interpretation of participants' lived experiences, perceptions, and meanings (Dudovskiy, 2024). Rather than testing predefined hypotheses, the research employs inductive reasoning, allowing patterns, themes, and insights to emerge directly from the data (Hecker & Kalpokas, 2024). This philosophical positioning supports the use of reflexive thematic analysis, ensuring that findings remain grounded in participants' narratives while accommodating the contextual specificity of Malta's economic and environmental landscape (McLeod, 2024).

3.3 Research Design and Strategy

A qualitative research design was adopted to capture in-depth insights into stakeholder experiences within the Green Economy and sustainability sectors. Qualitative research is particularly effective in exploring subjective meanings, social processes, and complex organisational practices (Aspers & Corte, 2019; Heath, 2023). Data were collected using semi-structured interviews, selected for their flexibility and capacity to elicit rich, detailed accounts while allowing researchers to probe emerging issues (De Jonckheere & Vaughn, 2019).

The study follows a cross-sectional time horizon, with data collected at a single point in time to provide a snapshot of current perceptions re-

garding CE adoption in Malta (Moreno et al., 2021). This approach facilitates the identification of existing barriers and opportunities while remaining appropriate for exploratory research.

The choice of an inductive approach is justified by the evolving and context-specific nature of CE practices, which vary significantly across sectors and regions. Inductive reasoning enables the identification of emergent patterns and locally relevant insights rather than imposing externally derived theoretical frameworks (Sirisilla, 2022).

3.4 Data Collection Tools and Pilot Study

Semi-structured interviews constituted the primary data collection tool. Interviews were conducted with stakeholders representing four perspectives which are NGOs, academia, public entities (PBEs), and private enterprises (PEs), to enable triangulation of viewpoints. Interviews lasted between 35 and 60 minutes and were conducted online. Participants were approached through a gatekeeper, and all ethical protocols, including informed consent and confidentiality, were strictly followed.

To enhance methodological rigor, a pilot study was conducted prior to full-scale data collection. The pilot study tested the clarity of interview questions, the feasibility of the observation log, and the effectiveness of non-verbal rapport-building techniques (Bhalla et al., 2023). Feedback from pilot participants led to refinements in question wording and observation structures, thereby improving reliability and validity (Leone et al., 2011; Jin et al., 2023).

3.4.1 Recruitment Process

Participants were approached through a gatekeeper who facilitated initial contact. Interested individuals received an information sheet outlining the study's purpose, procedures, and ethical safeguards. Participation was voluntary, and informed consent was obtained prior to each interview.

3.4.2 Interview Protocol

The interview protocol consisted of an introductory briefing and reminder of ethical rights, followed by core thematic questions aligned with the study's research objectives. These included prompts such as "Are companies in Malta currently implementing circular economy principles, and how?", "What barriers do SMEs face when attempting to adopt CE practices?", and "What types of support would be most effective in overcoming these barriers?"

Additional questions explored organisational motivations, readiness for CE transitions, effective local strategies, and future opportunities within Malta's small island context. Probing questions were used to deepen or clarify responses, and an observation log was maintained to capture non-verbal cues, contextual details, and researcher reflections.

3.5 Sampling Strategy

The study employed non-probability purposive sampling to ensure the inclusion of participants with direct experience and expertise in sustainability and CE-related practices. Purposive sampling is appropriate when the objective is to obtain information-rich cases rather than statistical representativeness (Palinkas et al., 2016). A total of eight participants were selected, reflecting diverse organisational roles while allowing sufficient depth to reach data saturation (Vasileiou, 2018). This approach supports the generation of nuanced insights relevant to both theory and practice (Walker et al., 2022).

3.6 Data Analysis

Data were analysed using reflexive thematic analysis, following the six-phase framework proposed by Braun and Clarke (2006). This method allows for systematic yet flexible analysis of qualitative data and is well suited to examining multifaceted sustainability issues. The analytical process involved data familiarisation, initial coding, theme development, theme review, definition and naming of themes, and report writing (Maguire & Delahunt, 2017; Naeem et al., 2023).

Coding was conducted manually using Microsoft Word, supported by the DocTools add-on to extract and organise codes (Schembri, 2023). Reflexivity was maintained throughout the analysis to ensure that interpretations remained grounded in participant perspectives while acknowledging the researcher's positionality (Scribbr, 2023). Coding followed an iterative process in which initial codes were compared, refined, and regrouped, with transcripts revisited multiple times to ensure consistency and analytical depth. Codes were then developed inductively from the data.

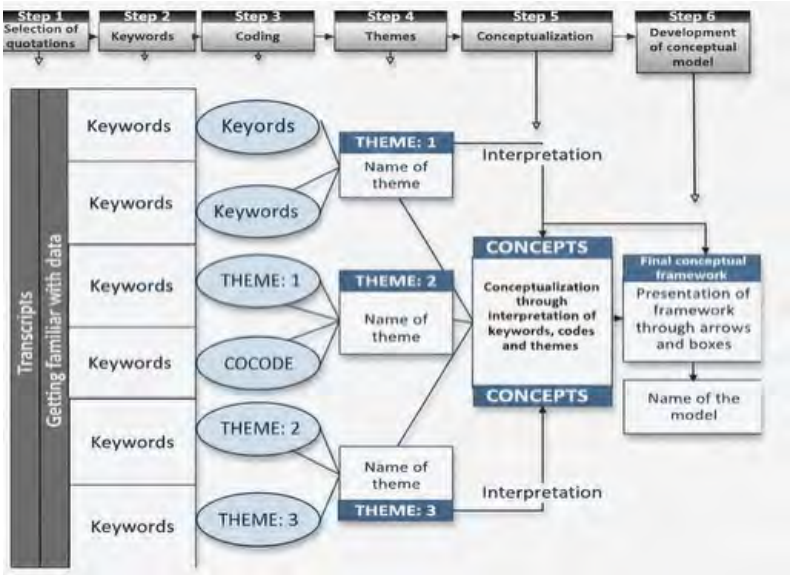


Figure 2: A systematic visualisation of the qualitative research pipeline, illustrating the iterative transition from raw transcript data through coding and thematic synthesis to the final establishment of a conceptual model (Naem et al., 2023).

3.7 Validity, Reliability, and Ethics

Validity was enhanced through purposive sampling, triangulation of perspectives, alignment between research questions and data collection tools, and rigorous documentation of analytical decisions (Tracy, 2010; Robson, 2020). Reliability was supported through standardised interview protocols and systematic analytical procedures, enhancing transparency and replicability (Cohen et al., 2018).

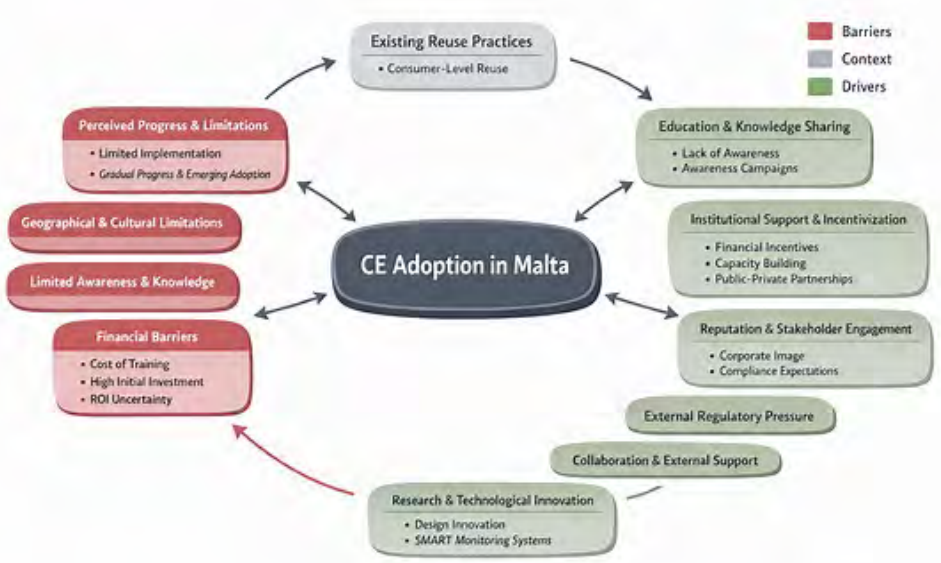
Ethical approval was obtained from the relevant academic institution and participating entities. All procedures complied with GDPR requirements (GDPR, 2018), ensuring confidentiality, anonymity, and participants' right to withdraw at any stage.

Findings and Results

4.1 Sample Overview

The study draws on eight (n = 8) semi-structured interviews conducted with stakeholders directly engaged in environmental sustainability and CE initiatives in Malta. Participants represented four stakeholder categories: public bodies (3 participants), private-sector SMEs (2 participants), non-governmental organisations (2 participants), and academia (1 participant). This composition enabled triangulation across regulatory, operational, advocacy, and research perspectives.

All interviews were audio-recorded, transcribed verbatim, and analysed using reflexive thematic analysis, following a process of familiarisation, coding, and theme development. The results presented below reflect themes explicitly identified in the dataset, with participant frequencies reported only where directly stated in the original study. The themes and sub-themes generated from the study can be summarised in flow diagram 3 below.



Flow diagram 3 showing the identified themes and subthemes, categorised into Barriers (Red), Motivations (Green) and Context (Grey), (Source: Author, 2026).

4.2 Perceived Progress and Limitations in CE Implementation

Four out of eight participants (4/8) expressed concern regarding the limited implementation of circular economy business models (CEBMs) within the Maltese context. These participants, primarily representing NGOs and public-sector bodies, perceived that most organisations have yet to integrate CE principles in a structured or systematic manner. The view that CE practices remain marginal rather than mainstream was consistently articulated.

In contrast, four out of eight participants (4/8) acknowledged that progress has been made, describing CE adoption as gradual and emerging. These participants recognised incremental improvements and the presence of early adopters,

while simultaneously noting that implementation remains uneven. Together, these findings indicate a divided but complementary perspective: CE implementation in Malta is viewed as neither absent nor fully embedded, but rather at a transitional stage.

4.3 Existing Practices Supporting Reuse

All participants (8/8) demonstrated awareness of existing circular practices at the local level, particularly those related to reuse. Examples included refill systems, pallet reuse, repair services, food redistribution initiatives, and the repurposing of materials within industrial processes. Participants from both the public and private sectors identified reuse as the most visible and accessible CE practice currently implemented.

While awareness of reuse-oriented initiatives was universal, participants did not describe these practices as constituting fully developed CEBMs. Instead, they were framed as isolated or sector-specific initiatives, indicating partial engagement with CE principles rather than systemic transformation.

4.4 Geographical and Cultural Constraints

Geographical and cultural limitations associated with Malta's status as a small island state were highlighted by three out of eight participants (3/8). These participants emphasised spatial constraints, limited economies of scale, and reliance on imported materials as barriers to closing material loops locally. Cultural factors, including resistance to behavioural change and entrenched practices, were also identified as challenges to broader CE adoption.

Although this theme was not raised by all participants, those who addressed it framed these constraints as structural rather than temporary, suggesting the need for context-specific CE strategies rather than direct replication of models from larger economies.

4.5 Limited Awareness and Knowledge

Limited awareness and understanding of CE principles emerged as a significant barrier, identified by four out of eight participants (4/8). Participants highlighted knowledge gaps among organisational leaders, employees, and consumers, noting that unfamiliarity with CE concepts restricts both strategic decision-making and practical implementation.

Public-sector and NGO participants in particular emphasised that insufficient awareness reduces demand for circular products and services, thereby weakening market-based incentives for firms to adopt CEBMs.

4.6 Financial Barriers

Financial constraints were the most consistently identified barrier, raised by all participants (8/8). Within this theme, several sub-dimensions were explicitly noted:

- Cost of training and capacity building was identified by four out of eight participants (4/8) as a barrier, particularly for SMEs lacking internal expertise.
- High initial investment costs associated with technology, infrastructure, and process re-design were highlighted by four out of eight participants (4/8).

- Uncertainty regarding return on investment (ROI) was raised by two out of eight participants (2/8), reflecting hesitation linked to the perceived financial risk of CE transitions.

These findings indicate that financial barriers operate at multiple levels, from skills development to capital investment, with particular implications for smaller firms.

4.7 Education, Knowledge Sharing, and Awareness Campaigns

The importance of education and knowledge sharing was emphasised by seven out of eight participants (7/8). Participants argued that both organisational training and public awareness initiatives are essential for enabling behavioural change and fostering acceptance of CE practices.

In addition, five out of eight participants (5/8) explicitly highlighted the role of awareness campaigns and public engagement in supporting CE transitions. Transparency, communication of best practices, and stakeholder engagement were viewed as mechanisms for normalising circular practices and encouraging wider participation.

4.8 Institutional Support and Incentivisation

All participants (8/8) acknowledged the importance of governmental and EU-based financial support mechanisms in facilitating CE adoption. Incentives and subsidies were viewed as critical tools for offsetting high upfront costs and encouraging experimentation with new business models.

One participant further suggested that support mechanisms should be linked to demonstrable outcomes, such as successful pilot projects, indicating interest in performance-based or conditional incentivisation.

4.9 Reputation, Stakeholder Expectations, and Regulation

Reputation management and corporate image were identified as motivating factors by four out of eight participants (4/8). These participants noted that adopting CE practices can enhance brand value, public perception, and stakeholder trust. Similarly, four out of eight participants (4/8) identified regulatory pressure, particularly from EU directives, as a driver of CE adoption. Regulatory compliance was frequently framed as an external obligation rather than an internally motivated commitment to sustainability.

4.10 Collaboration, Research, and Technological Innovation

Collaboration and external support were highlighted by three out of eight participants (3/8) as important enablers of CE transitions. These participants emphasised the value of cooperation between firms, public bodies, and NGOs.

Research-driven innovation and technological advancement were emphasised by four out of eight participants (4/8), particularly in relation to waste minimisation, process optimisation, and digital monitoring systems. Examples included the use of smart technologies and data-driven tools to improve resource efficiency.

Overall Findings

The findings indicate that while all participants reported some level of engagement with circular practices, CE implementation in Malta remains partial and uneven. Financial barriers and limited awareness emerge as the most prominent constraints, while institutional support, regulatory frameworks, and reputational considerations function as key drivers. The results suggest that CE adoption is shaped by a combination of structural constraints, economic considerations, and external pressures, underscoring the need for

Discussion

5.1 Introduction

This discussion interprets the empirical findings in relation to existing CE literature, highlighting how Malta's small island characteristics shape the manifestation of commonly reported barriers and opportunities. The aim is to situate the results within broader CE scholarship while identifying the context specific dynamics that distinguish Malta from larger EU economies.

5.2 Perceived Progress and Limitations in Local CE Implementation

The literature consistently identifies reuse, repair, and recycling as accessible entry level CEBMs, particularly in contexts with limited resources and capabilities (Toker & Görener, 2022; Svensson & Funk, 2019). Local practices such as pallet based furniture production, "Bring Your Own Container" schemes, and electronic repair services reflect this pattern and align with circular strategies described by Bocken et al. (2016) and Moraga et al. (2019). These examples indicate partial alignment between theoretical models and emerging practice.

targeted, context-sensitive policy and support mechanisms. The themes on perceived progress, existing reuse practices, and emerging collaboration and innovation (4.2, 4.3, 4.10) directly address RQ1, which asks how SMEs in Malta are implementing CE principles. The findings show that implementation is occurring mainly through reuse initiatives and incremental innovations, yet these remain fragmented, small scale, and shaped by Malta's geographical and economic constraints. Themes relating to geographical and cultural limitations, limited awareness, financial barriers, and regulatory pressures (4.4, 4.5, 4.6, 4.9) align with RQ2, which examines the barriers SMEs face when adopting CE principles. These results highlight the multi-layered structural, cultural, informational, and financial challenges that restrict meaningful CE uptake. Finally, themes on education, knowledge sharing, institutional support, collaboration, innovation, and reputational drivers (4.7, 4.8, 4.10, 4.9) correspond to RQ3, which explores how SMEs can integrate CE principles without harming economic performance. The findings indicate that capacity-building, financial incentives, and cooperative networks can reduce economic risk and create favourable conditions for CE integration.

Despite these developments, Malta's transition remains fragmented. While innovation is widely recognised as central to circularity (Geissdoerfer et al., 2017), the perception of limited CE implementation mirrors global findings that SMEs often lack structured circular strategies (Kirchherr et al., 2018). In Malta, this challenge is intensified by small island constraints, limited economies of scale, spatial restrictions, and reliance on imported materials, which reduce opportunities for localised circular loops (Spiteri et al., 2019; Frenco et al., 2019). These structural limitations help explain why CE adoption remains incremental rather than systemic.

5.3 Existing Practices Supporting Reuse

The prominence of reuse practices suggests that Malta's CE transition is occurring primarily through low complexity, low investment initiatives. This mirrors patterns observed in resource constrained or developing contexts, where reuse typically precedes more advanced CE models (Toker & Görener, 2022). Such practices demonstrate early engagement with circularity but also highlight the need for more comprehensive, system level approaches.

5.4 Geographical and Cultural Constraints of Small Island States

Cultural resistance emerged as a significant barrier, consistent with Govindan and Hasanagic (2018) and Kirchherr et al. (2018), who identify weak organisational culture and low consumer interest as impediments to CE adoption. In Malta, these cultural factors intersect with geographical limitations, restricted land availability, limited waste processing capacity, and small market size, thus creating structural barriers unique to small island states. This extends existing CE literature by illustrating how spatial constraints directly influence the feasibility of circular loops. As Briguglio et al. (2021) argue, long established firms operating under linear models often exhibit heightened resistance to change, suggesting that cultural inertia amplifies existing structural constraints.

5.5 Limited Awareness and Knowledge

Limited awareness and understanding of CE principles remains one of the most persistent barriers. While awareness gaps are widely documented in CE research, in Malta they are compounded by the absence of sector specific guidance and limited public engagement. This reinforces findings by Pheifer (2017), Agyemang (2018), and Hugo et al. (2021), and reflects sentiments that some organisations “do not even know what CE is,” indicating a fundamental institutional gap. The recurrence of this barrier across both empirical and theoretical domains underscores the need for targeted education, capacity building initiatives, and clearer communication of CE benefits.

5.6 Financial Barriers to CE Implementation

Financial constraints emerged as the most significant barrier, consistent with global CE studies. Malta's small market size amplifies investment risks, making SMEs particularly hesitant to adopt CE models requiring substantial upfront capital. This highlights the need for targeted financial incentives and risk sharing mechanisms, supporting Moorthy and Rappacini's (2023) argument that financial and organisational capability are central to CE readiness.

High upfront investment requirements, such as those associated with new technologies, supply chain redesign, and regulatory compliance mirror the structural challenges identified by Araujo Galvão et al. (2018) and Govindan and Hasanagic (2018). These costs are further intensified by limited economies of scale, making capital intensive CE initiatives riskier for SMEs in small island

economies. Uncertainty surrounding return on investment reinforces this hesitation, echoing concerns raised in studies of novel CEBMs (Moorthy & Rappacini, 2023).

Together, these insights suggest that without targeted financial incentives, risk sharing mechanisms, or accessible funding schemes, SMEs are unlikely to undertake the substantial investments required for meaningful CE transitions.

5.7 Education and Knowledge Sharing as Enablers

Education emerged not only as a barrier but also as a critical enabler of CE adoption. Participants emphasised the need for structured training programmes, workshops, and transparency among early adopters to facilitate peer learning. These insights align with Frendo (2023), Pheifer (2017), and Govindan and Hasanagic (2018), who highlight education as a foundational mechanism for reducing resistance and enabling behavioural change. Strengthening knowledge sharing platforms could therefore accelerate CE uptake by improving organisational readiness and public understanding.

5.8 Institutional Support and Incentivisation

The strong emphasis on institutional support underscores the central role of government in enabling CE transitions in small island economies. Unlike larger states where market forces can drive innovation, Malta requires coordinated policy frameworks to overcome structural limitations. This finding supports Radjenovic and Zivkovic (2023), Hugo et al. (2021), and Jaeger (2019), who argue that the absence of targeted incentives significantly constrains CE transitions.

Participants consistently favoured grants and subsidies over punitive regulatory measures and highlighted the role of intermediary institutions such as Malta Enterprise. The suggestion of performance based incentives reflects a move toward outcome driven policy design aligned with emerging EU funding approaches that prioritise measurable impact.

5.9 Reputation, Stakeholders, and Regulatory Pressure

Reputation management and stakeholder expectations were identified as key motivators, supporting Park et al. (2010) and Geissdoerfer et al. (2017), who argue that sustainability initiatives increasingly function as strategic tools for legitimacy and market differentiation.

Regulatory and stakeholder pressure particularly EU level legislation such as the Single Use Plastics Directive also emerged as drivers of CE adoption. However, several participants noted that compliance was often driven by obligation rather than intrinsic commitment, reinforcing Jaeger's (2019) assertion that regulation ensures minimum compliance but rarely fosters innovation without complementary incentives.

5.10 Collaboration, Research, and Technology

Collaboration was identified as a catalyst for CE transitions, supporting Moorthy and Rappacini (2023). The EXCEL4MED project illustrates how cross sector collaboration and R&D can transform waste streams into economic value (Malta Chamber, 2023). Technological innovation, such as IoT, AI, and AR was viewed as both an enabler and a barrier. While these technologies align with global CE trends (Nguyen et al., 2023; Reike et al., 2018), infrastructure and capability constraints, as

Conclusions

This study set out to explore how Circular Economy (CE) principles are understood and applied within local businesses, adopting an inductive qualitative approach suited to generating context specific insights. As an exploratory study, it did not test predefined hypotheses; however, it was guided by initial expectations that CE awareness would be limited, that organisational and structural barriers would constrain implementation, and that stakeholders would express a need for clearer guidance and institutional support. The findings broadly align with these expectations. Participants recognised the value of CE practices but described limited awareness, knowledge gaps, and practical challenges that hinder systematic adoption. By grounding the analysis in participants' lived experiences, the study illuminates how CE concepts are interpreted and operationalised within a small island business context. In doing so, it links its objectives to its empirical findings and demonstrates their implications: the unique constraints and opportunities of Malta's economic and geographical setting shape CE adoption in distinctive ways, offering original evidence to inform tailored policy measures and business strategies in similar small island contexts.

6.1 Strengths of the Study

One of the key strengths of this study lies in its inductive methodological design, which enabled themes and insights to emerge organically from

identified by Agyemang (2018) and Araujo Galvão et al. (2018), remain significant challenges for Malta.

5.11 Conclusion

Overall, the findings strongly align with existing literature while offering context-specific insights relevant to Malta as a small island state. Cost, incentives, and education emerged as the most recurrent themes, reflecting structural vulnerabilities associated with SME-dominated economies. While regulatory pressure ensures baseline compliance, meaningful CE transitions require coordinated educational initiatives, financial incentives, and collaborative frameworks. Without such systemic support, the transformative potential of CEBMs is unlikely to be fully realised within the Maltese context.

the data rather than being constrained by predefined theoretical assumptions. This approach was particularly appropriate given the evolving and context dependent nature of CE practices. The use of semi structured interviews allowed for in depth exploration of participants' perspectives, while the pilot study enhanced methodological rigor by refining interview questions and data collection instruments prior to full scale deployment. Furthermore, the integration of thematic analysis ensured a systematic yet flexible analytical process, strengthening the credibility and trustworthiness of the findings. The study also benefits from triangulation across stakeholder groups, which enriched the analysis and supported the validation of emergent themes. Moreover, this study responds directly to a notable gap in existing CE research, which has largely overlooked the lived experiences and operational realities of organisations within small island economies. Prior studies on Malta have tended to focus on policy frameworks or waste management systems, leaving limited empirical insight into how CE principles are interpreted, adopted, or constrained at the organisational level. By capturing perspectives from SMEs, public bodies, NGOs, and academia, this research provides one of the first multi stakeholder examinations of CE implementation challenges in Malta, offering evidence that complements and extends the predominantly macro level focus of previous work.

6.2 Limitations of the Study

Despite these strengths, several limitations should be acknowledged. The small sample size limits the generalisability of the findings beyond the specific context examined. Additionally, the study relied primarily on self-reported data, which may be subject to respondent bias or social desirability effects. Time constraints also restricted the ability to conduct longitudinal observations, meaning that changes in CE adoption over time could not be assessed. Finally, while the qualitative approach provided depth, it did not allow for quantitative measurement of the extent or impact of CE practices across a wider population of firms. These limitations reinforce the importance of interpreting the findings as exploratory rather than definitive.

6.3 Recommendations for Future Research and Practice

Based on the findings, several recommendations can be proposed. Future research could adopt a mixed methods approach, combining qualitative insights with quantitative analysis to enhance generalisability and comparative analysis across sectors or regions. Longitudinal studies would also be valuable in examining how awareness, capabilities, and CE practices evolve over time. From a practical perspective, policymakers and support organisations should prioritise targeted awareness raising initiatives and capacity building programmes to address identified knowledge gaps. Developing sector specific guidelines and providing practical implementation tools may further support local businesses in transitioning towards circular economy models. Strengthening institutional support mechanisms, an assumption confirmed by the study's findings which remains essential for enabling meaningful and sustained CE adoption.

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Conflict of Interest

The authors declare no conflict of interest.

Authorship

Nathan Aquilina – 50%
Dr. Joseph Mallia – 50%

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08 AN ANALYSIS OF THE PROGRESSION OBSTACLES WOMEN ENCOUNTER IN MALTA'S FINANCE INDUSTRY

Rebecca Gaffarena & Ayrton Zarb

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Rebecca Gaffarena | ORCID: <https://orcid.org/0009-0003-9648-4299> | IDEA College, Malta | Email: rebeccagaffarena@gmail.com
Ayrton Zarb - ORCID: 0000-0002-2602-951X | IDEA College, Malta | Email: ayrton@ideamalta.com

Abstract

Objectives Despite their strong educational attainment, increasing labour-market participation, and supportive national policies, women are underrepresented in senior positions. This study aimed to investigate the underrepresentation of women in senior and executive positions within Malta's finance sector. It sought to identify the key barriers to progression and understand how these challenges affect women's career advancement.

Methods The research adopted an interpretivist, inductive approach using a qualitative mono-method design. Data were collected through one-on-one semi-structured interviews with senior women in Malta's finance industry. Interviews were conducted face-to-face or virtually. They were transcribed, verified against audio recordings, and analysed through multi-round coding using MAXQDA 24 to develop categories and themes.

Results Seven interviews were carried out with managerial individuals within the public, private, and parastatal sectors, with 14 to 30 years of work experience. Findings showed that career progression depended on performance evaluation systems, access to sponsorship, organisational culture, and the distribution of caregiving responsibilities. Flexible, results-based environments and strong support systems enabled advancement, while presence-based evaluation and limited sponsorship contributed to stagnation.

Conclusions The study concludes that structural and cultural reforms are necessary. A sectoral Right-to-Disconnect code is recommended, alongside cross-company sponsorship programmes and boardroom apprenticeship schemes to promote measurable, transparent progress in advancing women's leadership.

Keywords: "Malta"; "Finance sector"; "Women underrepresentation"; "Career Progression".



Graphical Abstract

Highlight:

- Supports evidence-based policymaking: The findings provide practical, sector-specific recommendations to support prospective females interested in managerial roles that regulators and organisations can implement.
- Improves organisational performance: By identifying how evaluation systems, visibility, and caregiving dynamics affect progression, the research helps firms build fairer and more effective promotion systems.
- Enhances gender equality in high-impact sectors: Since finance is one of Malta's highest-paying and most influential industries, improving women's advancement has broader economic and social implications.
- Moves beyond tokenism: The study shifts the focus from symbolic representation to measurable, performance-based and structural solutions that can produce sustainable leadership change.

Introduction

The rise in the number of women being considered for management and leadership positions in Malta, along with the persistent gender disparity in compensation and decision-making authority, are two parallels to the admission of women into such roles. This gender disparity in seniority may reflect the fact that women now constitute the majority of university graduates. Yet, educational gains do not consistently translate into senior roles across sectors, including finance (National Statistics Office [NSO], 2024).

1.1 Background to the Subject

Over the years, female labour market participation has increased, driven by higher educational attainment, the expansion of the service sector, and improvements in parental leave, flexible hours, and childcare support. However, the same gap became more pronounced at later, more critical ages, from their 40s onwards (Borg Caruana, 2023). Notwithstanding these advances, pay and leadership metrics revealed persistent gaps. The Labour Force Survey (LFS), conducted at the end of 2023, reported that a man's average monthly salary was €22,096, whereas that of women was €19,605. This was especially prevalent in professional occupations and financial and insurance activities, where the most significant monthly wage gap was observed, with men's earnings reported to be approximately €600 higher than women's (Cummings, 2024).

Leadership representation remained predominantly male, with 9,033 CEOs and senior officials in Malta, according to 2021 census data, accounting for 76% of the total workforce in these positions. This represented a 5% decrease since 2011, from 81% to 76%, yet an imbalance of power persisted at the top level (Debono, 2024). Corporate records pointed in the same direction. According to the Malta Business Registry's Annual Report for 2024, women accounted for 18.6% of company directors and, as shareholders, less than one-fourth (Zammit, 2025). The European Institute for Gender Equality (2024) provided an

aggregate indicator, in which Malta received a score of 70.1 out of 100 points on the Gender Equality Index, placing the country 13th within the European Union (EU). This was a relatively strong score, but it still highlighted areas for improvement and those where the country was lagging. Despite progress, with an 8.3% increase since 2014, in 2023, Malta had one of the highest percentage increases in the number of women in managerial positions, at 35.6% (Eurostat, 2025).

1.2 Rationale for the study

Given this context, the primary objective of this research was to investigate and identify the barriers that prevented women from achieving senior and executive positions within Malta's finance industry, as well as the impact of these barriers on women's careers. This study aimed to answer the question,

"What are the key barriers that women encounter in progressing to top-tier positions within Malta's finance industry, and how do these challenges impact their career advancement?"

This question directed the focus of the investigation towards sector norms, career-stage dynamics, and organisational-level practices in a national context where education and work-family supports are relatively strong, yet leadership outcomes remained unequal. Guided by this research question, the study pursued three interrelated objectives that proceed sequentially:

Objective 1: To identify the specific challenges and barriers that hinder the career advancement of women in Malta's finance industry.

Objective 2: To explore the underlying factors that contributed to the underrepresentation of women in top-tier positions within the finance sector.

Objective 3: To investigate the experiences and strategies of women in top-tier positions who successfully overcame these challenges and barriers.

1.3 Review of Prior Works

Despite decades of policy reforms, growing awareness, and an increased number of educated and qualified women, female professionals remain underrepresented in senior decision-making roles across sectors (Babic and Hansez, 2021). Babic and Hansez (2021) observed how, as of 2018, in Belgium, only 16% of executive committee positions in large companies were held by women. Although it remained disproportionately low, this is a 9-10% improvement from 2008. Nonetheless, these figures indicate that progress remains slow and the issue is deeply entrenched.

The primary issue for working women emerges from role conflict. Women's roles in business have changed over time. The financial strain on families has led women to put in more effort than ever. After a hectic day at the office, working women rush home to care for their children and household duties while meeting their social obligations (Mittal, Sharma, and Srivastava, 2015). Although ready-to-eat meals have become more economical and a more viable option for working women, most working women still believe they are less healthy and nutritious for their families and children (Wang et al., 2014a). Tyagi et al. (2021) observed how inadequate meal preparation time can irritate, leading to conflicts and psychological strain on the husband-wife relationship. While families often reserve mealtime for connecting and passing down values and traditions to their children, many women struggle to attend due to work commitments, frequently missing these moments (Poddar and Divakaran, 2020). Working under such conditions inevitably places women under greater stress than men, reducing their motivation to advance in their careers (Mittal, Sharma, and Srivastava, 2015).

Insufficient maternity and paternity leave for working mothers negatively affects their personal life and job performance (Mittal, Sharma, and Srivastava, 2015). According to Still (1997), women returning to work, particularly those in part-time employment, face challenges upon returning from maternity leave. Rigid schedules and a lack of remote working options make it more challenging for women to attain work-life balance (Mittal, Sharma, and Srivastava, 2015). Balancing professional responsibilities with childcare, arriving at work punctually, staying focused and meeting deadlines, handling morning routines such as preparing and dressing their children for school, caring for children's illnesses, and other responsibilities are common causes of maternal absence from work (Poduval and Poduval, 2009).

Due to the above factors, the term "glass ceiling" emerged, referring to the discriminatory practices, both conscious and unconscious, that hinder qualified individuals, especially women, from advancing to top management positions within organisations (Li and Wang Leung, 2001; Jackson and O'Callaghan, 2009; Bendl and Schmidt, 2010; Zeng, 2011). Despite equivalent or higher qualifications, abilities, and experience, women frequently encounter structural and attitudinal barriers that impede their career advancement (Cotter et al., 2001). One characteristic of the glass ceiling is that it becomes more noticeable as women move up the organisational hierarchy, with barriers becoming more prevalent at the senior management and executive levels (Albrecht, Bjorklund and Vroman, 2003; Baxter and Wright, 2000; Dambrin and Lambert, 2012; Elliott and Smith, 2004; Lupu, 2012; Prokos and Padavic, 2005; Zeng, 2011). Moreover, notwithstanding the several legal regulations that forbid overt discrimination, women are nevertheless disadvantaged by unconscious prejudices, long-standing cultural standards, and informal practices.

According to Cohen et al. (2020), female accountants who felt that women were not treated equally in the workplace were likelier to believe that their companies had a glass ceiling. Women in leadership roles are often expected to exceed performance norms relative to their male counterparts and face greater scrutiny from both male and female colleagues (Mittal, Sharma, and Srivastava, 2015). According to Broadbridge and Hearn (2008), Koenig et al. (2011), and Van Vianen and Fischer (2002), these cultures uphold standards and behaviours that align with leadership with traditionally masculine characteristics such as independence, aggressiveness, and authority. Eagly's (1978) social role theory posits that management positions are often associated with agentic traits, portraying women, who are associated with community traits such as empathy and collaboration, as less competent leaders (Weyer, 2007).

A significant interpersonal obstacle to advancement is the presence of informal social networks dominated by senior men within the organisation. Such networks offer career-relevant contacts, information, opportunities, and recommendations (Burke, 1984). However, women are frequently overlooked, partly due to limited visibility and lower-profile assignments (Elacqua et al., 2009; Ragins, Townsend, and Mattis, 1998).

Restricted access to these networks limits women's opportunities for advancement and perpetuates the glass ceiling (Brass, 1985). Still, there is no assurance that female managers or executives will be allies. The "queen bee syndrome" illustrates how certain women, having overcome obstacles themselves, may expect others to do the same without additional assistance, thereby perpetuating structural inequities (Cech and Blair-Loy, 2010; Keeton, 1996). Furthermore, Hoobler, Wayne, and Lemmon (2009) found that managers are more likely to believe that women experience more work-life conflict than men, which has a detrimental effect on their perceived adequacy of their workplace. Rudman and Phelan (2008) observed how such biases harm women's chances of advancement.

Akpinar-Sposito (2013) observed that women's progression into senior leadership positions remains significantly hampered by work-life balance challenges, which frequently reinforce the glass ceiling. Women are still typically the primary caregivers for children and older family members, and their promotion prospects are sometimes constrained by organisational assumptions about their availability (Vashisht, Pandey and Sharma, 2024). Senior-level positions are typically created with the expectation of ongoing availability.

Methodology

A qualitative approach based on Yin's (2018) case study strategy was selected because it enabled in-depth exploration of women's career decisions and obstacles in Malta's financial sector. This entailed designing a context-specific phenomenon which focused on real-life contemporary framework and individuals represent units of analysis within the broader case. Thereby addressing the limited local evidence on barriers to advancement that women encounter in Malta's finance industry. Semi-structured interviews, supported by anonymity, enabled participants to openly reflect on their personal experiences, offering insights that required an adaptive, open-ended research approach. This aligned with the study objective, to analyse professional experiences, identify common challenges and coping strategies, consistent with qualitative research methodologies in career progression and gender barriers (Dambrin and Lambert, 2012; Lupu, 2012; Valk and Srinivasan, 2011) and with the idea that qualitative methods capture how they make sense of their actions and experiences (Silverman, 2013).

Few organisations provide the proper assistance or work-life programs to accommodate external commitments (Allen et al., 2000; Dhas, 2015). This supports the perception that women are less suited to high-level positions, particularly when they choose flexible scheduling to accommodate caregiving responsibilities (Babic and Hansez, 2021). Moreover, women are at a disadvantage in hierarchical systems in which traditional indicators of success predominate, as they are often evaluated differently from men, with a focus on relationships and community service rather than status and financial gain (Acker, 1990; Akpinar-Sposito, 2013).

Following a review of the literature on the subject, a gap was identified: the absence of studies that focus specifically on the barriers faced by women in senior positions in the finance industry. The available studies are more centred around workplace discrimination, gender inequalities in professional advancement, and the long-term effects of the glass ceiling (Broadbridge and Hearn, 2008; Oakley, 2000). Moreover, smaller EU member states have limited awareness of how structural policies and cultural norms operate because most research is centred on large, international economies (Sidani, Konrad and Karam, 2015).

One-to-one, semi-structured interviews were the sole data-collection instrument used, consistent with an interpretivist philosophy and inductive logic. Within a mono-method qualitative case study strategy and a cross-sectional time horizon, interviews best captured experiential accounts, career trajectories, organisational practices, and coping mechanisms employed in Malta's finance sector, prioritising depth and interpretive complexity rather than broad or statistical generalisation. An interview guide was shared in advance to support participants' preparation and reflection, ensuring consistency while allowing flexibility through follow-up questions. All interviews were conducted in English and audio- and video-recorded for the online sessions. Two interviews were conducted online via Microsoft Teams, whereas the remaining five were conducted in person at the participants' offices. After each interview, to aid recall of non-verbal cues, brief notes concerning notable shifts in tone were taken.

Ethics measures included a signed written consent form outlining voluntary participation, confidentiality, data handling, and the right to withdraw participation at any time. The study received ethical clearance from IDEA College's Ethics Board. Participant identities were anonymised using codes, and organisational identifiers were omitted to minimise deductive disclosure risk within Malta's small professional community.

The study targeted women in managerial and senior positions within Malta's financial industry, employing purposive non-random sampling and snowball sampling. The composition of the participants resulted in mothers, with their ages ranged from the early thirties to the early fifties, and their professional experience ranged from 14 to 30 years. Variation in role and organisational setting (private, public, regulatory, and parastatal sectors) minimised the risk of sample bias. Inclusion criteria required participants to have substantial professional tenure (minimum 10 years) and current or recent experience in decision-making roles, ensuring relevance to the study's focus on progression to leadership.

Transcripts were generated using Turboscribe for in-person interviews and Microsoft Teams' live transcription for online interviews. All transcripts were anonymised as needed and verified against the audio recordings to ensure accuracy and preserve the integrity and meaning of the data (Halcomb and Davidson, 2006; Poland, 1995). Transcripts were then imported into MAXQDA 24, which supported hierarchical coding and transparent audit trails (Kuckartz and Rädiker, 2019; VERBI GmbH, n.d.). Reflexive thematic analysis was employed following Braun and Clarke's (2006; 2022, pp. 13–376) framework, progressing through familiarisation with the data and initial coding, to theme development, review, and refinement, culminating in the final report.

Results

This section presents the study's results, organised into five themes aligned with research objectives, and extends the analytic categories defined in Section 2. Table 3.1 presents participants' characteristics, with descriptors limited to protect confidentiality, given the small, close-knit professional field and the seniority of the roles involved. Then, Table 3.2 maps the themes to the categories and research objectives.

First-cycle coding employed open, process, and in vivo coding to preserve descriptive meaning, actions, and participants' own words. MAXQDA coding was performed interview by interview, with preexisting codes reused as appropriate between interviews and new codes added as required. Whereas second-cycle coding consolidated overlapping codes and articulated meaningful relationships (Kuckartz and Rädiker, 2019; Saldaña, 2021) into nine categories that served as the analytical foundation for the five themes presented and analysed in the next section. To ensure coding consistency, a structured multi-cycle coding process was followed using MAXQDA 24, with an evolving codebook developed iteratively across interviews. Codes were continuously reviewed, refined, and reapplied to subsequent transcripts to maintain consistency, while previously coded transcripts were revisited where necessary.

Themes were purposefully constructed, reported in Section 3 and presented in Table 3.1, from categories to address the three research objectives which guided this study:

Objective 1: To identify the specific challenges that hinder women's advancement in Malta's finance industry;

Objective 2: To investigate the causes contributing to the underrepresentation of women in leadership positions, and

Objective 3: To examine the experiences and coping mechanisms through which women overcame these barriers.

This relationship is reported in Section 3 and presented in Table 3.1.

Participant Code	Role type	Sector	Organisation Type
P1	Managing Partner	Private	Professional Services Firm
P2	Senior Manager	Private	International Audit & Advisory Firm
P3	Head of Supervision Unit	Public	Financial Services Regulator
P4	Director	Private	International Audit & Advisory Firm
P5	Financial Controller	Parastatal	Parastatal Enterprise
P6	Partner	Private	International Audit & Advisory Firm
P7	Assurance Manager	Private	International Audit & Advisory Firm

Table 3.1: Study Participants Composition

Theme Title	Related Categories	Related Objective/s
T1: Employment Conditions and Care Responsibilities in Career Timing and Advancement	C2: Caregiving and Domestic Responsibilities C5: Structural Barriers: Reduced Hours and Bias C6: Career Pathways, Timing, Mobility, and Choices	RO1 & RO2
T2: Organisational Culture and Promotion Practices Support Sponsorship and Visibility for Leadership Representation	C3: Organisational Culture and Promotion Practices C7: Mentoring, Sponsorship, and Professional Networks C9: Visibility, Recognition, and Senior Leadership Representation	RO1 & RO2
T3: Navigating Advancement through Personal Agency, Ambition, Resilience, and Boundary Management in Finance	C1: Personal Agency, Ambition, Resilience, and Boundaries	RO3
T4: Implementing Flexible Work to Support Progression Development and Long-Term Retention	C4: Flexible Work Arrangements Enabling Progression and Retention	RO1, RO2 and RO3
T5: Skills Development and Role Evolution for Leadership Readiness and Advancement	C8: Skills Development, Training, and Role Evolution	RO1 & RO3

Table 3.2: Mapping of themes to analytic categories and research objectives.

The analysis that follows compares and integrates cross-case patterns, highlighting both commonalities and divergences across industries.

3.1 Theme 1: Employment Conditions and Care Responsibilities in Career Timing and Advancement

Across interviews, participants agreed that promotion depended on presence, availability, visibility, and uninterrupted contributions, with presence influenced by responsibilities and employment conditions, and advancement structurally anchored in sustained visibility, rather than solely on performance outputs.

For several participants, the path to advancement was easier when one remained continuously engaged and present. P3 stated that reduced presence slows progression, observing that colleagues who remained visible during pauses or periods of reduced hours were promoted first. P7 described the same process in a Big Four setting, noting that reduced-hour portfolios made like-for-like comparisons to full-time portfolios difficult and slowed promotion despite evening work to maintain visibility. P1 and P6, by contrast, emphasised gender-neutral flexibility, supported by managerial trust, which enabled continuity, though P6 noted social scrutiny of mothers' schedules and compensation through evening work after children's bedtime.

Therefore, P3 and P7 pointed to availability as a primary determinant of promotion decisions, whereas P1 and P6 indicated that, with managerial trust, outcomes-based flexibility could keep advancement momentum.

Adverse effects were uneven. P3 and P5 linked pauses and reduced hours, with delayed progression, and P5 was labelled overqualified and channelled toward lower-grade positions. Reinforcing the stigma that reduced-hours work is less professional or valuable, regardless of exceptional output. P7 recalled that her promotion was stalled during pregnancy due to her short tenure in the role, but with managerial support, she restructured her portfolio and established a strict forty-hour working week. Conversely, P1 reported no long-term consequences praising childcare support and planning, while P4 noted that leadership positions and motherhood were compatible and challenged deterministic narratives, stating that “you cannot say how motherhood is going to change you. You might want to be just a mother, and it is ok just to be a mother.” Therefore, this comparison showed an apparent disagreement. P3 and P5 described systematic and foreseeable setbacks, whereas P7 experienced a temporary lag that was mitigated through managerial support, and P1 and P4 focused on settings in which reintegration and flexibility sustained progression.

All participants stressed that childcare and family support were essential for maintaining continuity, though the level of support varied across households. P1 relied on nursery and grandparent support, while P2 shifted to lecturing to secure flexibility. P5 described pressure from older relatives to resign during demanding periods, reflecting broader societal expectations about caregiving. P7 likewise strongly articulated that childcare, and a supportive husband were crucial in stabilising her return from maternity leave. This four-way comparison pointed to consensus that care infrastructure and family support were needed but highlighted the uneven buffers across organisations and households.

Participants adopted distinct timing and boundaries strategies. Not so commonly, P3 reversed roles with her spouse, becoming the breadwinner, cautioning against the idea that “sometimes you will find these slogans that you can be all. It does not work that way.” P7’s provided an interesting contrast. Although she had worked at full intensity throughout her pregnancy to demonstrate capability, she shifted after maternity, resetting after returning home late to a sleeping

baby. P2 re-engineered her role after years of imbalance, returned to the corporate world with hybrid flexibility. P1 prioritised high-value work during school hours and lower-priority tasks in the evening when her children were occupied or asleep. Therefore, these four participants all agreed on intentional sequencing and clear boundaries, while revealing different levels of accepted lag and other uses of flexibility to protect family time. These comparisons suggested a partial cultural shift, with acceptance varying across communities and organisations.

There were mixed perceptions of cultural change. While participants broadly agreed that progression depended on maintaining visibility during promotable periods and that childcare and family support were critical to sustaining advancement, they diverged on whether reduced hours and career pauses were structurally penalised. P6 highlighted community-level discrimination around mothers’ schedules. Similarly, P3 observed that men rarely took career breaks to allow their partners’ progression, reinforcing caregiving as a predominantly female responsibility in Malta, as P1 also observed. By contrast, P2 reported seeing more men leaving early for school pickups, suggesting a gradual change. Cross-case analysis indicated that barriers emerged where availability norms intersected with care responsibility, whereas momentum was sustained when outcomes-based flexibility was normalised, role scope was protected on return, and caregiving was shared predictably within households.

3.2 Theme 2: Organisational Culture and Promotion Practices Support Sponsorship and Visibility for Leadership Representation

This theme examined how organisational processes, sponsorship, and visibility influence access to senior roles, revealing a disagreement over the fairness and effectiveness of current systems. These differences indicate that pathways to leadership varied by organisational context, with sponsorship and mentoring dominant in private firms, and senior-forum exposure more salient in the public sector.

Participants differed in their perceptions of whether promotions were fair. P2 expressed clear frustration that “four people [were] promoted to directors this year. One only woman. One.” Contrasting rhetoric with outcomes. P3, however, perceived advancement as merit-based and gender-neutral, stating that senior management “did not look at gender”, a view echoed by P5, who reiterated uniform performance expectations.

In contrast, P1 presented internal statistics showing progress but persistent male dominance in senior forums. Together, P2 and P1 highlighted a gap between policy rhetoric and outcomes, while P3 and P5 framed fairness as merit-based and shaped by organisational setting and experience.

Sponsorship structures also varied, with P4 describing formal coaching programmes, P1 recounting a decade-long mentoring relationship, P5 highlighting informal endorsement from a Chief Financial Officer, and P6 noting senior support through internal talent mobility. Conversely, P2 experienced strong external but weak internal recognition. All participants agreed sponsorship mattered, though its consistency and legitimacy differed. Support ranged from structured sponsorship (P1, P4) to leader-driven advocacy (P5, P6), whereas P2 emphasised that weak internal sponsorship limited advancement despite merit.

Visibility emerged as both a mechanism and an obstacle to progression. P1 was often the lone female participant in high-level meetings. P3 exhibited a contrasting trajectory, gaining early access to executive discussions. P2 concurred and underscored the limited representation of women in local boardrooms. P7 advocated for more women in top management to normalise the compatibility of leadership and caregiving. Therefore, visibility was widely valued, but its implementation varied across contexts, ranging from gaps in large firms (P1, P2) to stronger regulatory practices (P3) and calls for a stronger role-model presence to strengthen the succession pool (P7).

Participants expressed scepticism toward women-only initiatives and formal quotas. P1 preferred to be judged by her leadership abilities rather than gendered labels. Similarly, P3 argued that “the fact that you are putting a woman on that board because she’s a woman, I think it is a wrong perspective”. P2 also voiced opposition to mandated representation, while acknowledging promotion imbalances, whereas P7 emphasised cultural change over numerical targets. Participants agreed that clearer pathways, sustained sponsorship, and early access to senior forums increased prospects for advancement. Moreover, while there was consensus on the need for mentoring and exposure, participant views diverged on whether current practices translated into equal opportunities. These narratives revealed divergent pathways, from normalisation through sustained presence to stalled advancement in large firms, and progression enabled by coaching, senior support and visible role models.

3.3 Theme 3: Navigating Advancement through Personal Agency, Ambition, Resilience, and Boundary Management in Finance

Internally driven ambition, conscious decisions, and boundary-setting emerged as shared drivers of progression, though participants differed in how ambition was formed, sacrifice was managed, and boundaries were asserted over time.

P6 recalled how sustained ambition and willingness to undertake demanding projects enabled steady advancement. Similarly, P2 portrayed herself as hardworking but acknowledged that such drive came at a cost. P5 tied ambition to curiosity and willingness to learn. By contrast, P1 described her initial trajectory as need-based, with purpose strengthening over time, and P3 similarly reported that her focus developed as opportunities arose. P7 aligned with P6 on pride in effort but adopted a more reflective stance, seeking to complete a development cycle before moving on. While P4 converged with P6 on proactive aspiration, viewing hesitancy as a self-imposed limitation.

Participants largely concurred that advancement required resilience. P1 strengthened her resilience through coaching and physical training, and P2 recognised the toll of years of long hours. Similarly, P6 reassessed expectations after becoming a mother, while P3 considered heavy time investment as an investment in the future. However, P7 provided the clearest example of sacrifice, linking heavy workload around childbirth and the busy season to what she felt was a pregnancy-related delayed progression. P5 balanced reduced hours before returning full-time with flexibility when conditions allowed. Whilst P4’s emphasised confidence-building and encouraged calculated leaps when opportunities arose, noting that “with the right support, with the right guidance, you can handle it.”

Boundary setting diverged markedly across participants. P7 reset expectations after maternity leave, stating, “my job is a 40-hour week...do not expect me to work more than that, I cannot,” while P6 reached a similar equilibrium through structured routines. P1 had imposed morning-only meetings with a fixed cutoff when her children were younger, and P5 negotiated early flexibility because of familial commitments. Conversely, P2 later regretted having set fewer boundaries, and P3 relied on efficiency practices, including prioritisation and time blocking, rather than rigid boundaries.

Views also differed on self-advocacy. P2 resisted requesting promotions, and with intense frustration visible through the irritation and exhaustion in her voice, argued that “people who are at the top, they should realise the work of the people underneath them. If not, they should not be in that position.” P1 argued that women often undersell themselves and suggested that success is, in part, a matter of mindset. By contrast, P5 acknowledged doubts yet grew into leadership. Delivered calmly and confidently, P4 provided the most precise articulation of agency, stating, “the only thing holding you back is yourself”. P3 concurred, urging women to “own your future.” P6 bridged these views, noting that ambition adjusts across life stages, while P7 emphasised boundary enforcement and targeted performance.

The association between advancement, continuous effort, learning, and conscious self-direction was repeated across participants, but how they contextualised costs and claim recognition varied. While P1, P4, and P6 were all driven by future-oriented aspiration and goal-setting, P2 resisted self-promotion and expected leaders to recognise performance without prompting. Boundary practices ranged from rigid protection of family time (P7) and morning availability (P1) to flexible sequencing (P6), efficiency-oriented structures (P3), and, in P2’s case, an absence of boundaries followed by regret. Moreover, P5’s narrative further illustrated growing confidence following leadership uptake. Collectively, this theme revealed that ambition translated into progression when resilience was paired with sustainable limits and some degree of self-advocacy, and that the absence of either could act as a barrier or entail high personal costs.

3.4 Theme 4: Implementing Flexible Work to Support Progression Development and Long-Term Retention

Across participants, flexibility was framed as both a practical, systematic process and as a system grounded in trust. While all highlighted the importance of work-life balance, they differed in how it was structured and the purpose it served.

P7 identified manager trust and responsive flexibility as the primary reasons for staying at her workplace, stating, “flexibility is 100% what keeps me there”. P1’s early career experience echoed this trust-based model and later extended similar discretion to her team, whereas P4 converged on a performance-centred ethos, urging leaders to “just make sure they are delivering.” P2 illustrated organisational flexibility policies, including

a four-day summer week, regular remote working, and early departures to pick up children and resuming later. Overall, while flexibility served a common purpose, its enactment differed by organisational logic, reflecting trust-based, performance-driven, and policy-led models.

Flexibility not only acted as a coping mechanism but also enabled progression and retention. P1 and P5 characterised it as crucial during the caregiving years; P4 advanced to a director role only six months postpartum; and P7 attributed remaining in post to mentor trust and flexible hours. Participants implemented flexibility differently. P6 and P7 left the office in the early afternoon and resumed work once their children were asleep, while P1 recalled working in the car while waiting for her children finish their extracurricular activities. P5 relied on a combination of structured core hours and flexible time, and P3 used time-planning, buffer time, and prioritisation, noting that she “eats the frog” early in the day. While P1, P2 and P4 stressed that flexibility should be a gender-neutral standard entitlement linked to performance, P6 noted sectoral constraints.

Accordingly, findings indicated that flexibility supported capacity, progression and retention when grounded in trust, performance, or policy. Yet, compromises are unavoidable, and ongoing work to maintain boundaries, ensure sustainability and avoid overextension is required. Across participants, flexibility functioned as both a practical model and a trust-based compact that enabled continued careers alongside family life. Its implementation varied from manager-enabled trust (P1, P7), outcome-focused delivery (P4), and firm-level policy (P2) to core-hour models (P5), disciplined time management (P3), and effort distributed across family stages (P6). While flexibility facilitated progression and retention when anchored to measurable delivery and reciprocal trust, it did not eliminate constraints. Participants highlighted risks of overextension (P2), the need for planning for inevitable deadlines and family logistics (P6), the value of presence for team cohesion (P5), and the need for clear boundaries (P1, P3, and P7). Ultimately, the best prospects were in situations where options were normalised, expectations were clear, and boundaries were actively maintained.

3.5 Theme 5: Skills Development and Role Evolution for Leadership Readiness and Advancement

Participants described leadership readiness as developing through continuous learning, role stretch, and increasing responsibility. Across participants, there was consensus on the value of sustained, context-based learning, though they differed in the balance between formal qualifications and experience-based knowledge, and in the timing of assuming responsibility for people and systems.

P1, P2, and P3 observed that their careers were shaped through formal study, continuous learning and practical experiences, whereas P5’s advanced through voluntary role stretch, drawing on her progression “from an accounts clerk... think[ing]...if I were in this position, what would I want my manager to do?” when leading others. P6 focused less on technicalities and more on working through people, explaining, “...I cannot work on my own ... I need their [colleagues’] support ... we are a team”, while P7 stressed how limited access to challenging engagements delayed recognition of her managerial abilities. Therefore, leadership readiness ranged from credential-based foundations (P1, P2 and P3), to role stretch and team-centred practice (P5, P6), with P7 emphasising the need for suitable platforms to demonstrate managerial competence.

Each participant narrated a shift from technical depth toward managing people and systems. P1 relied on routines, particularly mentoring and exercise, to maintain composure under pressure. P6 defined leadership as shared success, and P5 connected workplace leadership to parenting, noting that empathy and self-control learned while leading others shaped how she manages at home. P4 expressed confidence in leading a large group and showed comfort with the broader span of control that senior roles demanded. P3 emphasised system resilience and learning from error, where “you do it, you learn from it, and you move on”. While P7, now managing others, seeks to replicate the mentoring she received earlier in her career. Essentially, P1 and P3 converged on building leadership through systems and delegation, P6 aligned with P5 on people-centred practice, and P4’s position demonstrated the expanded span and coordination required at senior levels. Collectively, these narratives showed convergence on people leadership as the heart of senior performance, even as the pace and emphasis of the pivot differed across participants.

Advancement depended not only on capability but also on opportunities to exercise judgment, with promotion bringing time and scope constraints. P4 warned that “it is okay for you to say no to something... you are overburdening yourself, and you are only setting yourself up to fail, because there is only so much you can do in 24 hours.” Whereas P3 employed system design to distribute responsibilities and alleviate pressure, P1 resorted to physical training to maintain composure. Meanwhile, P6 drew confidence from her team, P5 grew through expanded duties, and P2 reflected on past mistakes. These narratives indicate that progression was enabled when participants could demonstrate managerial judgment in visible, appropriately scoped contexts, rather than solely by capability.

Taken holistically, leadership readiness was context-specific, strengthened by formal skills, practical experience, system design, and exposure. Readiness was recognised when managerial judgement became evident in appropriately scoped assignments and was sustained through self-regulation, boundary setting, team-based practice, and delegation of responsibilities. Across participants, pathways differed, ranging from credential-based progression combined with expanding scope (P1, P2), to learning-by-doing (P3) and people-centred leadership (P5, P6), disciplined scope management (P4) and portfolio composition and timing in the recognition of competence (P7). As roles expanded, promotion introduced time and scope limitations, with system design, training, mentoring, and delegated responsibilities buffering continuity risks and enabling sustainable performance. Though the pace of progression varied with access to opportunities and with the balance each participant struck between study and experience.

Discussion

From the adopted case study framework five key barriers to female progression into managerial positions emerged, including caregiving responsibilities, aligning with the organisational culture, building resilience to address challenges, adjusting to flexible work arrangements, and being ready for leadership roles. This discussion integrates the five themes and sheds light on the interplay between personal experience, organisational practices, and broader structural conditions that enable or hinder progression in Malta's finance sector. The focus is on integration rather than description, emphasising the tensions and convergences across the themes to explain what the study revealed overall, why these patterns are significant, and how they elucidate mechanisms of advancement, boundary conditions, and practical implications for organisations and policy.

4.1 Discussion of Results

This section synthesises the five themes into a narrative that illustrates how personal choices, organisational practices, and household support interact with one another, influencing pathways to advancement.

The analysis indicates that progression was most sustainable when three domains were aligned. At the individual level, participants advanced when they exercised judgement, were resilient and set intentional boundaries that preserved performance. Organisationally, advancement relied upon visible assignments, credible sponsorship, and promotion practices that evaluated outcomes rather than physical presence. Domestically, shared caregiving responsibilities and adequate childcare arrangements supported continuity. When these domains reinforced one another, momentum was maintained. Availability and visibility served as practical prerequisites for progression, but their impact varied across organisational contexts. The critical differentiator was the design and implementation of flexibility. In environments where flexibility was outcomes-based and routine, women maintained visibility and protected scope during life-stage transitions. Conversely, where flexibility was treated as a form of accommodation, scope narrowed, and recognition slowed. This suggests that progression depends less on whether flexibility exists and more on how it is understood, enacted and evaluated.

Motherhood was a clear inflexion point, although its effects varied considerably among participants. Some chose to reduce their hours,

decline work-related travel, or slow down for a specific period. Others integrated early caregiving with senior responsibilities through reliable childcare, supportive partners, and managers who evaluated performance on outcomes. These divergent trajectories highlight that the effect of motherhood is shaped by the options jointly available to the household and organisation. The findings indicate that both demand-side (evaluation practices and visibility expectations) and supply-side (life-stage presences and available roles) forces are at play. Motherhood could be integrated without long-term consequences in environments where flexibility was normalised and scope was protected. However, when flexibility was interpreted as a sign of low commitment, advancement also slowed despite strong capability. At the outset, before the study began, the researcher presumed that the underrepresentation of women at senior levels was symptomatic of organisations' favouring men. Participants acknowledged norms that privilege consistent presence, yet many reported that pivotal career choices, particularly after motherhood, were experienced as self-directed, reflecting the co-constitutive nature of structures and choices. Flexibility operated both as an everyday practice and a trust-based understanding. Core hours models, gender-neutral access to remote work, and clear expectations were all described as facilitators of effective management. Participants repeatedly noted that office presence remained important, particularly for relationship-building with the team. Flexibility grounded in mutual trust and trackable appeared most conducive to progression and retention, though planning burdens and overextension remained.

Sponsorship and access to senior-level forums bridged capability and appointment. Participants valued development and identified channels through which decision-makers could recognise and reward performance. Those with legitimate sponsors and early exposure to senior conversations found that recognition occurred earlier. Conversely, where sponsorship and visibility were weak, frustration and stagnation arose. Ambition changes over time. Some participants continuously sought stretch assignments, whereas others described ambition crystallising after competence was recognised or when scope broadened. Nearly all emphasised the costs of extended intensity and the necessity of establishing boundaries.

Sustainable performance depends on a well-structured team, effective delegation, and explicit continuity planning rather than individual overwork. Leadership readiness was also developmental and context-dependent. For some, readiness was anchored in experiential stretch and team-centred practice, while for others relied on formal qualifications. Advancement depended not only on capability but on opportunities to exercise judgment in visible situations. As the scope widens with promotions, boundary setting and system design become essential to maintaining performance. Regarding quotas and women-only initiatives, the findings indicated mixed views. Many expressed a preference for performance-based recognition, though some valued increased representation to normalise leadership and to model the integration of work and care. Given that the participants were successful women, scepticism may reflect the vantage point of those who advanced within existing arrangements.

The overall picture showed that advancement was a negotiated process. In contexts where the organisational, personal, or household domains were weak or misaligned, even confident high performers might slow down or pause. This is likely not due to diminished aspiration, but rather because compromises outweighed what can reasonably be endured. The interpretivist approach highlighted that alternative interpretations remain possible because different participants or sectors, or the same participants at different times, would foreground different factors. However, the study's contribution lies in identifying practical organisational levers. This includes early exposure through sponsorship, outcome-based flexibility, protection of role scope during transitions, and explicit boundary negotiation that is recognised rather than penalised.

4.2 Comparison to the Literature

Findings were consistent with Acker's (1990) gendered organisational processes and Kanter's (1977) opportunity structures, which emphasised that advancement was influenced by visibility, sponsorship, clear promotion criteria, and consistent family support. Similarly, mentoring and access mirrored studies showing that women's careers suffered when they were excluded from networks (Allen et al., 2004; Cohen et al., 2020; Ragins, Townsend, and Mattis, 1998).

Social role theory explains why availability and presence remained a practical requirement for promotion (Eagly, 1978, 1983, 1987; Eagly and Johnson, 1990; Koenig et al., 2011). Further-

more, the findings refined flexible-work literature by showing that outcome-based paired with a protected environment enabled sustained progression (Cappelli and Rogovsky, 1998; Kuopala et al., 2008; Oakley, 2000; Riley, 2012; Skakon et al., 2010; Still, 1997). Reduced hours and career pauses slowed recognition, echoing glass walls and sticky floors in finance (Baxter and Wright, 2000; Broadbridge and Hearn, 2008; Still, 1997). Yet some women progressed through outcomes-based flexibility, extending work-life literature that linked clear expectations and performance (Dhas, 2015; Rashid and Shaikh, 2023; Riley, 2012).

Motherhood emerged as an inflexion point with heterogeneous effects. Existing literature linked mobility constraints to caregiving assumptions and perceived commitment (Acker, 1990; Hoobler, Wayne, and Lemmon, 2009; Oakley, 2000; Poduval and Poduval, 2009; Still, 1997). Malta-specific literature reports low representation of women in senior management despite structural childcare support (Jobsplus, n.d.; European Institute for Gender Equality, 2025; Sidani, Konrad, and Karam, 2015).

The importance of visible tasks, senior-level exposure, and sponsorship supported advancement, while their absence led to stagnation (Dreher and Ash, 1990; Elacqua et al., 2009). Findings were consistent with those of Beehr et al. (2004) and Lyness and Heilman (2006), who found that objective criteria reduced gender-based arbitrariness only when women had access to visible platforms on which evaluators could observe performance. Patterns relating to personal control, boundaries, and sustained intensity aligned with self-efficacy, job demands, and occupational stress research, which links high demands, low power and limited support to burnout and withdrawal (Ajala, 2017; Bakker and Demerouti, 2008; Schaufeli and Bakker, 2003; Van der Doef and Maes, 1999).

Contrasts emerged regarding quotas and women-only forums. First, participants were sceptical of women-only forums and quotas, preferring performance-based evaluation. They acknowledged underrepresentation but noted that outcomes depended on implementation and culture (Acker, 1990; Bell, McLaughlin, and Sequeira, 2002; Broadbridge and Fielden, 2018; Oakley, 2000; Kottke and Agars, 2005). Moreover, though sexual and psychological harassment were documented as common barriers in the literature (Gutek, 1992; Salin, 2003; Poddar and Divakaran, 2020), they did not emerge from these interviews.

Second, double-bind literature emphasised consequences for women who exhibited communal behaviours or agentic behaviours (Eagly and Karau, 2002; Heilman, 2001; Weyer, 2007), however, style conflict was not central. Glass-cliff dynamics, as explored in the literature, were not examined in this study and may reflect sample composition, timing, or organisational heterogeneity (Bendl and Schmidt, 2010; Dambrin and Lambert, 2012; Jackson and O'Callaghan, 2009).

Compared to the literature, the themes demonstrated that sustainable advancement occurred when individual, organisational, and household support were congruent. Furthermore, it identified areas where the findings complemented and extended existing literature by highlighting the centrality of visibility, protected scope, adaptation, sponsorship, and outcome-based flexibility in Malta's finance sector. The next section presents the essential findings and offers conclusions on policy and organisational recommendations, as well as suggestions for future research.

Findings emerging from this study cannot be statistically generalisable due to a non-probability sample of seven interviews. However, purposeful variation across sectors (public and private), role types, and age groups enables analytical generalisation (Lupu, 2012; Valk and Srinivasan, 2011). Given the self-reported and retrospective interview data, recall bias or social desirability risks were present. Moreover, the researcher's positionality facilitated rapport-building yet risked assumptions about shared meanings. Concerns regarding reflexivity and positionality have been widely noted in qualitative research on elites and professionals (Dambrin and Lambert, 2012). Potential loss of non-verbal cues may have occurred despite limited virtual interviews, the absence of non-verbal cue notation after each interview, and repeated audio-text transcript accuracy reviews during coding. Nevertheless, these steps did not eliminate the limitations but rather ensured that the interpretation of the findings remained grounded in the data.

Still, consistent with recommended qualitative practices, trustworthiness was established through audio verification, anonymisation, and an explicit audit trail (Nowell et al., 2017; Silverman, 2013). Reflexive thematic analysis enabled transparent and flexible progression from codes to themes, in line with established qualitative benchmarks (Nowell et al., 2017; Silverman, 2013), and was well suited to interview-driven studies examining common stressors and work characteristics

(Ahmad, Gul and Kashif, 2022). Social desirability bias was mitigated through private, one-on-one interviews with guarantees of anonymity and confidentiality (Ahmad, Gul, and Kashif, 2022; Valk and Srinivasan, 2011). Anchored interpretations of verbatim quotations, privileging participants' phrasing via in vivo codes, and by seeking cross-case evidence for all analytical claims.

4.3 Policy Recommendations

To advance innovative public policy recommendations and guide regulators and industry forward, this research can be translated into concrete measures for policymakers, regulators, and industry.

A recommendation in favour of an outcome-based flexibility is a sectoral Right to Disconnect code. Interview findings suggested that normalised, outcome-based flexibility, paired with preserved scope and visibility, supported advancement, whereas flexibility framed as accommodation signalled a penalty. In terms of steps towards state-level recognition, the Workplace Relations Commission Code of Practice on the Right to Disconnect in Ireland was published in 2021 (Workplace Relations Commission, 2021). Nine EU Member States, specifically Belgium, Croatia, France, Greece, Italy, Luxembourg, Portugal, Slovakia, and Spain, had implemented variants of the right to disconnect code by mid-2023, according to the Eurofound (2023) report. Additionally, the Fair Work Act in Australia established a federal right-to-disconnect law, which took effect in August 2024 for non-small employers and in August 2025 for small businesses (Fair Work Commission, 2023; Fair Work Ombudsman, 2024, 2025).

The research further indicated that the bridge between capability and appointment lies in reliable sponsorship and individualised visibility. Therefore, a national finance sector cross-company sponsorship and senior-exposure programme should be considered. This recommendation is directed to the Government of Malta and the Malta Financial Services Authority (MFSA), the regulator of financial services, in cooperation with industry associations and major financial employers. It suggests a government programme designed collaboratively to pair high-potential women with senior sponsors outside their organisations who would also commit to regular exposure to decision-making, such as on-board subcommittees and executive committees. As sponsors are external to the mentee's organisation, this approach helps reduce in-house bottlenecks.

It expands the pool of senior advocates who can attest to readiness through direct visibility, a benefit also noted in independent commentary (Financial Times, 2024).

A third recommendation is to create a pathway for regulated financial entities to host boardroom apprentices and observers, drawing on the Boardroom Apprenticeship model and the National Health Service (NHS) NExT Director scheme as proven templates for early, legitimate exposure to senior forums. This is directed to the financial sector regulator, the MFSA, and to regulated financial entities, both private and public, including banks, insurers, investment corporations, and state financial bodies, who can participate. Malta might replicate the Boardroom Apprentice model, piloted in Northern Ireland and subsequently expanded across the United Kingdom,

Conclusions

In Malta's finance sector, women's advancement is influenced by personal drive, organisational culture, and steady household support. When these domains align, ambition and capability translate into observable performance and timely advancement. However, when alignment weakens, even high performance may stagnate or be diverted into roles with limited scope. Promotion decisions remained closely tied to visibility and availability, with evaluation practices often privileging presence and long hours over leadership impact and outcomes. Progression improved where evaluation was outcome-based and where role complexity and visibility were deliberately preserved during career transitions. In such contexts, flexibility functioned as an enabler of retention and sustained progression rather than serving as a signal of diminished commitment. Clear promotion criteria and the deliberate allocation of visible, effective sponsorship reduced reliance on informal networks and supported fairer advancement. Household composition and care arrangements further shaped the timing and feasibility of undertaking stretch work, positioning motherhood as a pivotal inflexion point with heterogeneous outcomes depending on how flexibility, visibility and evaluation were enacted. Leadership readiness developed cumulatively as participants transitioned from technical expertise to people and systems leadership and was recognised when managerial judgement was demonstrated in appropriately scoped assignments.

The analysis also refines this assumption by demonstrating that these barriers are not uni-

which, through a year-long programme and a boardroom shadow placement, created opportunities and networks for underrepresented groups (Boardroom Apprentice, n.d.; Mullan, n.d.). The NExT Director scheme in the health sector is another successful model that provided aspiring non-executives with a shadowing opportunity to sit on NHS boards, with a focus on learning, and was recommended by the NHS Confederation as a practical route to diversify pipelines (NHS England and NHS Improvement, 2020). A finance-industry version could be introduced, coordinated at the state level with representation from banks, insurers, investment companies, and public financial entities, and with transparent tracking of subsequent appointments to committees and boards.

formly experienced across all organisational contexts. In environments where results-based evaluation, managerial trust, and flexible work arrangements were embedded, women were able to sustain career momentum and overcome structural constraints. This indicates that while systemic and cultural barriers remain central, their impact is contingent on organisational design and support mechanisms. Therefore, rather than challenging the initial premise, the findings deepen it by showing that progression barriers are both structurally rooted and context-dependent, highlighting the importance of targeted organisational reforms rather than solely broad policy interventions.

Following this study, three proposals for further research on the subject are presented to extend its scope. The first proposed study examines how personal agency, organisational practices, and household support interact to sustain advancement in demanding roles. The second proposes an in-depth exploration of motherhood as a critical turning point, examining how ambition and career trajectories are sustained, delayed, or redirected over time. The third suggests investigating how sponsorship and exposure to senior decision-making accelerate progression. Together, these suggested studies would provide richer empirical and theoretical insights to guide future research and practice.

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Conflict of Interest

The authors declare that there was no conflict of interest in the preparation of this research article.

Authorship

Rebecca Gaffarena – 65%
Ayrton Zarb – 35%

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09 The influence of eCommerce on Brand Loyalty in the Beauty Industry: A consumer perspective in Malta.

Ruth Sant & Felicia Scicluna

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Ruth Sant - ORCID: <https://orcid.org/0009-0006-2422-7594> | Email: ruthsant@gmail.com
Felicia Scicluna - ORCID: <https://orcid.org/0009-0006-4320-2202> | Email: felicia_scicluna@hotmail.com

Abstract

Objectives This study examines how eCommerce influences brand loyalty in Malta's beauty sector, focusing on generational differences in digital purchasing behaviour.

Methods An online questionnaire collected 384 randomly sampled respondents with purchasing power. Quantitative analysis using ANOVA, Pearson correlation, and Cronbach's Alpha examined links between brand loyalty, trust, awareness, and brand success.

Results All four interlinked hypotheses, substantiated in reviewed literature, were supported with statistically significant results. Results indicate Millennials as the most digitally engaged in purchasing beauty products online, while Generation X commands the highest spending power while retaining a partial preference for traditional shopping. Boomers prefer traditional shopping, while the youngest Generation Z, resulted in lower engagement than expected, potentially due to their purchasing power. Brand trust, awareness, and positive online purchasing experiences emerged as significant drivers of loyalty and perceived brand success.

Conclusions This study enriches limited literature on eCommerce loyalty in small island economies like Malta, reinforcing theoretical links between consumer behaviour, digital engagement, and brand equity.

Keywords: "eCommerce"; "brand loyalty"; "consumer perspective"; "cross-generational"; "consumer behaviour".

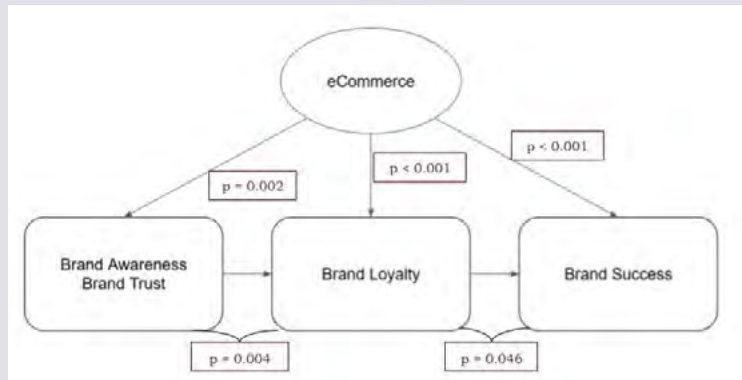


Figure 1: The four interlinked hypotheses developed at the early stages of this research are based on the study's conceptual framework. The graphical abstract illustrates the key results that support the hypotheses. They were supported because the ANOVA results yielded $p < 0.05$, and hence, results were statistically significant.

Highlight:

The relevance of the study:

- As highlighted by Ludmir (2025) in a Forbes article, eCommerce accounts for nearly half of global beauty sales nowadays, establishing itself as the primary sales channel for numerous product categories within the sector.
- In this technologically driven world, it is imperative to understand what consumers want, and whether their purchasing behaviours are changing.
- This research examined existing studies on consumer behaviour with an emphasis on eCommerce and brand loyalty, with particular focus on strategies driving consumer retention.
- It also identified gaps in the literature, particularly in the Maltese beauty industry, which remains significantly overlooked in academic literature.
- Given Malta's unique economic structure, geographical position, and infrastructural limitations, understanding consumer loyalty in this context is vital for businesses seeking to optimise their online presence in these islands.

Introduction

"Beauty rituals were defined by geography and inherited culture. French skin care was a Parisian luxury, Ayurvedic beauty remained an Indian wisdom and Korean skin care was only accessible in Seoul" (Yasmeen, 2025). The realities of the contemporary world have shifted, and the marketplace has become globally accessible through technological advances. eCommerce has changed the way consumers interact with brands and how they purchase. Gupta et al. (2023) and Abbas (2023) claim that digital platforms not only provide convenience and accessibility, but they also provide personalisation. Moreover, Asadi and Hemadi (2018), Barnes and Vidgen (2002), and Gupta et al (2023) report that the use of big data and artificial intelligence allows eCommerce websites to collect data on consumer preferences and behaviour, enabling personalised marketing strategies that can offer tailored recommendations. All these factors contribute significantly to increased customer satisfaction and brand loyalty. To meet shifting consumer expectations, businesses must rethink how they engage with their potential customers online.

According to Forbes (2024) and Ludmir (2025), the Beauty and Personal Care market has become one of the fastest-growing consumer sectors, driven by younger demographics and influenced by globalisation, social media, and the rise of eCommerce. Key segments such as Cosmetics and Skin Care are shaping daily self-care routines globally. According to Statista (n.d.), the Beauty and Personal Care market in Malta was projected to generate €28.8 million in revenue by 2025, with an annual growth rate of 8.36% expected to increase to €39.7 million by 2029. Furthermore, the United States led the global market, generating revenues of €58.1 billion in 2024. As reported by Ludmir (2025), eCommerce now accounts for nearly half of global beauty sales, establishing itself as the primary sales channel for numerous product categories within the sector. A recent report by NielsenIQ (2025a) highlights the growing influence of both eCommerce and social commerce in driving Beauty and Personal Care sales. This trend is evident across global markets, with the strongest growth observed in Latin America and the Africa–Middle East regions. The NielsenIQ report (2025a) suggests that inflation is a major driver of this global expansion, however the growth may also be supported by increasing incomes and the influx of new consumers.

Malta presents a distinct business environment shaped by its geographical position, economic structure, and infrastructural constraints. While the global beauty industry is thriving in eCommerce, Malta's market remains underexplored in academic research. Malta's eCommerce sector faces several challenges that impact its growth and consumer adoption. The country's limited local online retail infrastructure restricts the availability of local eCommerce options (Cachia, 2024), often leading consumers to rely on international brands. Higher shipping costs and longer delivery periods associated with cross-border purchases can deter shoppers, making affordability a concern. Additionally, consumer hesitancy due to trust issues towards online shopping might still be prevalent, with many possibly preferring traditional in-store experiences over digital transactions. Overcoming these barriers is essential for businesses aiming to strengthen Malta's eCommerce landscape and enhance consumer confidence in online retail. Opportunities exist for brands that can successfully adapt to the ever-evolving consumer expectations and leverage digital platforms effectively in the local scene. Utilising digital strategies constructively will help domestic businesses build on loyalty and win more market share. Forbes (2024) reports that 52% of online shoppers report shopping internationally with ease. Given Malta's geographical location and structure, it raises questions whether similar behavioural patterns will result in the study.

Malta's beauty and personal care sector is projecting a growth pattern, with market revenues expected to increase considerably over the coming years (Statista, n.d.). This growth trend reflects broader global developments, where large-scale countries like the United States, maintain a stronghold in the market with high revenue performance. It is therefore crucial to use these insights to capitalise on the potential of Malta's beauty sector, by focusing on the evolving digital landscape, and, hence, highlight the importance of targeted strategies to seize opportunities in the local eCommerce area. Given that e-shoppers in Europe have increased by 10% in the last decade (eCommerce Europe & EuroCommerce, 2023), and the Maltese population is also on the rise, it is relevant to explore how Maltese businesses may enhance brand loyalty by investing in eCommerce strategies.

This research aims to bridge this gap by offering Maltese beauty businesses actionable insights into customer retention, digital engagement, and personalised shopping experiences. Moreover, the beauty industry is a lucrative and ever-evolving sector, driven by changing consumer preferences, technological advancements, and increasing competition. As a result, understanding consumer behaviour and preferences is not only beneficial but essential for businesses looking to develop targeted strategies that foster long term brand loyalty and sustainable growth in Malta's digital beauty market.

The research explored key themes related to consumer behaviour and brand loyalty within the beauty industry, with a focus on Malta's emerging eCommerce landscape. It examined how customer experience and service quality contribute to fostering loyalty in an increasingly competitive digital environment. Trust in online shopping often depends on consistent service, fast response times, and tailored experiences. Generational differences emerged as a significant factor in

Methodology

Given Malta's unique economic structure, geographical position, and infrastructural limitations, understanding consumer loyalty in this context is vital for businesses seeking to optimise their online presence. A deductive, quantitative, and explanatory approach was selected over alternative methods typically adopted in other fields, to investigate the influence of eCommerce and brand loyalty on brand success within Malta's beauty sector. A pre-tested and standardised structured online survey was used to investigate the key constructs of the study. The questionnaire comprised of six sections organised into three primary parts; utilising a geographic screening question to ensure responses were restricted to the target population of the Maltese archipelago. Detailed demographic data was collected to facilitate subgroup analysis, ensure ethical compliance, and enhance the validity and interpretability of the findings. A strategic branching mechanism was implemented, routing respondents to specific sections based on their online shopping preferences for beauty products. For active consumers, the study utilised standardised Likert scales and closed-ended questions, consistent with the framework by Lau & Lee (1999), to allow for quantitative and statistical analysis. Conversely, non-purchasers were directed to a dedicated section designed to evaluate the inhibitory factors affecting their digital consumer behaviour,

consumption and buying habits, revealing how the younger generations are setting innovative expectations, whilst the older consumers adjust at a slower pace. The influence of social media and content creators was also reviewed, showing how platforms like Instagram and TikTok are reshaping brand perceptions and trust in the purchasing process. Consumers are becoming more influenced by peer recommendations and user-generated content. By evaluating Malta's retail environment closely, it is noted that there are infrastructural challenges and limited brand varieties in the local beauty sector. These limitations present unique opportunities for businesses to invest in innovative digital strategies. By integrating all these themes, the literature review set the stage for deeper investigation into how generational consumer behaviour, digital engagement, and personalisation may help beauty brands in Malta strengthen customer relations, build trust, compete effectively, and foster long-term loyalty in a rapidly evolving market.

ensuring a comprehensive overview of the market. Approaching the research into eCommerce and brand loyalty relationship, it was necessary to break down the concept of a brand into the constructs making up the concept for the research design. These constructs include:

- eCommerce;
- Brand Awareness;
- Trust;
- Brand Loyalty;
- Brand Success;
- the Beauty Industry;
- Consumer Perspective;
- Generational Differences; and,
- Consumer Behaviour.

Careful methodological planning was undertaken to ensure credibility and accuracy of the sampling method, survey design and data collection process, and whilst ensuring ethical integrity and transparency throughout. The study was carried out in conformance with the General Data Protection Regulation (GDPR) and the Malta Data Protection Act (2018). It is imperative to keep at the forefront that using simple random sampling methods may limit the depth of generational analysis in the Discussion chapter.

The results of the descriptive and inferential statistical analyses conducted to address the research question and evaluate the proposed hypotheses will be presented in the next chapter, Findings. The main construct variables were used to create the hypothesis framework depicted in Figure 1. Moreover, the research questions outlined in the conceptual framework are as follows:

1. Does eCommerce have an effect on Brand Success?
2. What is the impact, if any, of brand loyalty on sales through eCommerce platforms?
3. What is the importance of having an online presence in the Beauty Industry?

This research question explores the relationships between eCommerce presence, brand loyalty, and brand success, particularly within the context of the Beauty Industry in Malta. The framework proposes that brand success is not an isolated outcome but is influenced by other interconnected constructs. As Gupta et al. (2023) highlight, brand success is a result of various factors namely brand awareness, brand trust, and loyalty among other factors.

Results

A total of 384 respondents residing in Malta and Gozo completed the survey, with 84% being female and the remaining 16% male. This gender split was deemed acceptable given the nature of the beauty industry, which traditionally has a predominantly female audience. Notably, the required sample size to have a confidence level of 95%, a 5% margin of error, and a 50% population proportion, was achieved. Table 1 summarises the demographic attributes of all the survey respondents. This provides a clear profile sample of the population to support the analysis of the research findings and to find relevant nuances when comparing generations and with available

To investigate the influence of eCommerce on Brand Loyalty in the Beauty Industry in Malta across generations, four interlinked hypotheses have been formulated as follows:

- H1: Brand success is significantly dependent on a brand's eCommerce presence.
- H1.1: A brand's online presence is a primary driver in the development of Brand Loyalty.
- H1.2: High levels of Brand Loyalty positively impact overall Brand Success.
- H1.3: Brand Loyalty, Brand Trust, and Brand Awareness are essential prerequisites for a successful eCommerce operation.

Reliability testing for the study was conducted in SPSS, where the relevant survey items were assessed and Cronbach's Alpha was computed. The 'Yes' section yielded a Cronbach's Alpha value of 0.735, in contrast, the 'No' section yielded a rather low Cronbach's Alpha value, 0.135, indicating a low internal consistency among the items.

Pearson correlation analysis was used to assess the validity of the study's questionnaire (Appendix A) by testing the questions used to determine whether the hypotheses were supported. All variables demonstrated a positive correlation, with the strongest relationship observed between purchase intent and how one would feel if a favourite brand or product were discontinued, reflecting brand loyalty. The correlation between online purchasing intent and overall satisfaction with the brand experience, representing brand success, could not be computed because at least one of the variables remained constant. Lastly, the correlation between brand loyalty and brand success yielded results that should be interpreted with caution due to potential data limitations.

studies. These demographics are crucial as they provide guidance to researchers and businesses to adapt their marketing strategies according to the preferences of their target market.

<i>Demographic Profile</i>	<i>Number of Respondents</i>	<i>Percentage</i>
Gender		
Female	323	84.0%
Male	61	16.0%
Place of Residence		
Malta	362	94.3%
Gozo	22	5.7%
Generation		
Born before 1964	44	11.4%
Born between 1965 - 1971	28	7.3%
Born between 1972 - 1980	86	22.4%
Born between 1981 - 1987	131	34.1%
Born between 1988 - 1996	61	15.9%
Born between 1997 - 2007	34	8.9%
Education Level		
Left school early	9	2.3%
MQF Level 4	67	17.4%
MQF Level 5	85	22.1%
MQF Level 6	101	26.3%
MQF Level 7	104	27.1%
MQF Level 8	18	4.7%
Marital Status		
Single, no dependants	57	14.8%
Single, with dependants	42	10.9%
Married	252	65.5%
Separated/Divorced	30	7.8%
Widowed	4	1.0%
Employment Status		
Employed full-time	287	74.7%
Employed part-time	37	9.6%
Not employed, looking for work	5	1.3%
Not employed, not looking for work	29	7.6%
Retired	26	6.8%
Shop Online		
Yes	176	45.8%
No	208	54.2%

Table 1: Demographic Profile Summary

A few generations were split in two age ranges to identify potential nuances between the older and younger segments within the same cohorts.

This is how they were split:

- Baby Boomers: born between 1946 and 1964;
- Generation X: born between 1965 and 1971, and born between 1972 and 1980;
- Millennials: born between 1981 and 1987 and born between 1988 and 1996; and,
- Generation Z: born between 1997 and 2007, with later birth years excluded as those individuals were under 18.

Considering that 54.2% of respondents (n = 208) do not shop for their beauty products online, it was imperative to understand what deterred them from utilising it, and what factors could change their mind in the future. Fewer questions were asked in this section, primarily since the study investigated the role of eCommerce in brand success and loyalty. While offline purchasing behaviours are undoubtedly significant for businesses, they were beyond the scope of this research and would have required additional resources that were not available at the time.

The top five reasons as to why respondents had

not purchased their beauty products online were, firstly that they preferred to try the products in person, secondly that they found it hard to choose a product online, and thirdly, that they preferred to shop in a traditional manner, in a physical shop. Moreover, they mentioned that they considered shipping costs to be too high and they were concerned about product authenticity. Furthermore, only 18% were likely and highly likely to switch to online shopping, with 33% not yet sure what they would do. Millennials and Generation X respondents are likely to switch to online shopping. Respondents indicated they would consider switching when they could trust the online store, particularly if it offered free shipping, better discounts, detailed descriptions and product images, customer reviews and ratings, and by offering better exchange and return policies.

The primary purpose of the ANOVA analyses was to examine the survey responses to determine whether the results supported the hypotheses formulated for this study. It should be noted that all the results yielded from the ANOVA tests that make up the variables from the hypotheses, were statistically significant. Table 2 summarises the results that supported the hypotheses in question.

<i>Hypothesis</i>	<i>Independent Variable</i>	<i>Dependent Variable</i>	<i>p-value</i>	<i>Significance</i>	<i>Outcome</i>
H1	Online Presence	Brand Success (Q12)	< .001	Highly Significant	Supported
H1.1	Online Presence	Brand Loyalty (Q17)	< .001	Highly Significant	Supported
H1.2	Brand Success (Q12)	Brand Loyalty (Q16)	0.046	Significant	Supported
H1.3	Brand Awareness (Q23)	Brand Trust (Q18)	0.002	Significant	Supported
H1.3	Brand Awareness (Q23)	Brand Loyalty (Q19)	0.004	Significant	Supported

Table 2: ANOVA Results Summary for Hypothesis Testing

While these hypotheses were statistically supported and reinforced by existing literature and observational insights, their practical implications are equally crucial. The findings shed light on theoretical validation and practical significance. Particularly, the strong correlation between online presence and brand loyalty highlights the importance of digital accessibility and customer satisfaction for eCommerce.

In contrast, these links need to be investigated within Malta's unique cultural and socio-economic context, which may differ from other markets. Although the conceptual framework was effective in measuring the key constructs of trust, loyalty, awareness and success, further investigation may benefit from cross-country comparisons and re-

al-time market insights.

Furthermore, as consumer behaviour evolves digitally, in-depth research exploring the influence of hedonic motivation and/or fear of missing out (FOMO) on impulsive purchasing is needed. Such supplementary research would enrich the understanding of emotionally driven behaviours and purchasing, especially among younger generations, who will acquire greater purchasing power over time.

In general, these hypotheses form solid intellectual grounds for further research, and could influence strategic guidelines in Malta's beauty segment online.

Discussion

In an ever-evolving digitised world, it is imperative to understand how consumers are adapting their purchasing behaviours. The Beauty and Personal Care segment has seen eCommerce emerge as a primary sales channel, with global projections suggesting online sales will account for 39.2% of total revenue by 2025 (Statista, 2024b). This study, centered on the Maltese market, achieved the targeted representative sample of 384 respondents, characterised a significant female majority (84%) and a strong Millennial presence (50%). Data indicates that while 54.2% of the sample maintains a preference for traditional brick-and-mortar retail, the 45.8% who engage in eCommerce mirrors broader European consumption trends.

Significant discrepancies resulted across generational cohorts regarding digital engagement. Millennials exhibit the highest affinity for shopping online, predominantly utilising smartphones (56%) for purchases. Moreover, Generation X currently represents the highest spending cohort, a trend projected to continue until 2034 (NielsenIQ, 2024). A noteworthy finding was the popularity of international ultra-fast fashion platforms like TEMU and Shein (15.8%), despite EU safety warnings (BEUC, 2024). This preference is likely driven by dupe culture and the lower average hourly labour rate in Malta compared to the EU mean, suggesting that affordability remains a primary driver for platform choice, despite health concerns.

The research underscores that digital brand loyalty is based on emotional connection and trust. Survey data indicates that 79.6% of consumers experience significant disappointment when a preferred brand is discontinued, reflecting deep emotional attachment (Saeedi, 2025). Furthermore, influencer marketing remains a potent tool

for reaching Millennials and Generation Z; credibility and expertise in content creation are positively correlated with purchase intentions (An et al., 2024). For older cohorts like Baby Boomers, who remain loyal to heritage brands and spend primarily on fragrances, offline and in-store strategies remain more effective (NielsenIQ, 2024).

Analysis of the conceptual framework through ANOVA yielded statistically significant results ($p < 0.05$) across the key areas:

H1 (eCommerce & Success): Brand success is intrinsically linked to online service satisfaction ($p = 0.001$).

H1.1 & H1.2 (Loyalty & Success): Online presence intensifies emotional attachment, and customer satisfaction serves as a fundamental predecessor to brand loyalty ($p = 0.046$), ensuring business survival in digital marketplaces (Husain et al., 2018).

H1.3 (Trust & Awareness): Repeated positive digital interactions foster brand trust ($p = 0.002$) and awareness ($p = 0.004$), which are critical in environments lacking face-to-face interaction (Gefen, 2002).

To sustain competitiveness, local retailers must adopt robust omnichannel strategies. The success of local entities like Lucy Makeup Store, which targets the mass market through accessibility, mirrors global trends where 63% of consumers perceive no performance gap between mass and premium products (Briggs, 2025). Fostering credibility and trust, especially when shopping online, may be achieved by encouraging customers to review the item and the whole experience. "Online customer reviews include quantity, credibility, review quality, review recency, and review valence, positively affecting buying interest in beauty products" (Syatau and Hermawan, 2023).

Conclusions

Brand awareness, trust, and positive online experiences when purchasing beauty products significantly influence loyalty and the perceived success of a business. The statistically supported hypotheses not only align with existing literature but also carry important practical relevance. The close association between online presence and brand loyalty emphasises the importance of digital accessibility and customer satisfaction in eCommerce, even in Malta.

Digital beauty platforms offering a variety of brands and products, price transparency, and responsive customer care, including aftersales, were found to foster stronger customer relationships. This also leads to the understanding that tying a strong emotional connection with a brand is imperative to driving loyalty, even in an eCommerce environment.

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Conflict of Interest

The authors declare that they have no known competing financial interests or personal relation-

This research should facilitate businesses, marketers, and brand managers to exploit technology and their data analytics in understanding consumer behaviour, ensuring that their strategies are both inclusive and responsive to the continuously evolving dynamics of the marketplace. A strong foundation of trust is essential for cultivating lasting brand loyalty, which contributes to sustainable growth. This study adds to the academic debate on consumer behaviour and brand loyalty, while providing applicable practical frameworks that can lead academic interpreters to manage the complexities of the eCommerce environment. The educational path of recognising and appreciating brand loyalty through eCommerce is perpetual, and this study establishes the foundations for future investigation to continue shaping the engagement between consumers and brands in a progressively digital universe.

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Authorship

First author name – Ruth Sant 90%
Second author name – Felicia Scicluna 10%

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Appendix A:

1. Do you currently live in the Maltese Islands? *

Mark only one oval.

- ☐ Yes, in Malta.
- ☐ Yes, in Gozo.
- ☐ No

Individual Characteristics

This section will determine the age the participant has, as well as their gender, level of education, and other related topics.

2. In which year were you born? *

Mark only one oval.

- ☐ Born in 1963 or before
- ☐ Born between 1955 - 1964
- ☐ Born between 1965 - 1971
- ☐ Born between 1972 - 1980
- ☐ Born between 1981 - 1987
- ☐ Born between 1988 - 1996
- ☐ Born between 1997 - 2007

3. What is the highest level of school you have completed or the highest degree you have received? *

Mark only one oval.

- ☐ School was not compulsory, so left at a younger age than 16.
- ☐ Until 16/O' Level standard/MQF Level 4
- ☐ Until 18/A' Level standard/MQF Level 5
- ☐ Bachelor's Degree/MQF Level 6
- ☐ Master's Degree/MQF Level 7
- ☐ Doctorate Ph.D./MQF Level 8

4. What is your gender? *

Mark only one oval.

- ☐ Female
- ☐ Male
- ☐ Non-Binary
- ☐ Other: _____

5. Which of the following describes your current living situation? *

Mark only one oval.

- ☐ Living with parents
- ☐ Own my home
- ☐ Rent my home
- ☐ Other: _____

6. Which of the following categories best describes your marital status? *

Mark only one oval.

- ☐ Single (no dependants)
- ☐ Single but cohabitating/with dependants
- ☐ Married
- ☐ Widowed
- ☐ Divorced/Separated
- ☐ Other: _____

7. Which of the following categories best describes your employment status? *

Mark only one oval.

- ☐ Employed full time
- ☐ Employed part time
- ☐ Not employed, looking for work
- ☐ Not employed, not looking for work
- ☐ Retired

Shopping Habits Part 1

Beauty products refer to a broad range of items designed for personal care, enhancement, and grooming. These products include skincare (moisturizers, cleansers, serums), cosmetics (foundation, lipstick, eyeshadow), haircare (shampoo, conditioner, styling products), fragrances (perfumes, body sprays), and personal hygiene products (deodorants, body lotions). Their primary purpose is to improve appearance, maintain hygiene, and promote overall self-care and well-being.

8. Do you purchase Beauty products online? *

Mark only one oval.

- ☐ Yes
- ☐ No Skip to question 30

Shopping Habits Part 2

This section will determine the preferred shopping habits when purchasing Beauty products online.

9. What type of device do you use when shopping online? *

Select all that apply.

Check all that apply.

- ☐ Smartphone
- ☐ Tablet
- ☐ Laptop/PC
- ☐ Other: _____

10. Which is/are your favourite Beauty products providers online? *

Select all that apply.

Check all that apply.

- ☐ Frank's Perfumery (Malta)
- ☐ L'Occitane (Malta)
- ☐ Lucy Makeup Store (Malta)
- ☐ Peaches & Creme (Malta)
- ☐ Provita (Malta)
- ☐ Supermarkets (Malta)
- ☐ The Body Shop (Malta)
- ☐ Asos (International)
- ☐ Cult Beauty (International)
- ☐ iHerb (International)
- ☐ Lookfantastic (International)
- ☐ Shein (International)
- ☐ Temu (International)
- ☐ Other: _____

11. How often do you purchase Beauty products online? *

Mark only one oval.

- ☐ Monthly
- ☐ Once every 3 months
- ☐ Once every 6 months
- ☐ Once every 9 months
- ☐ Once a year
- ☐ Once every 18 months
- ☐ Once every 2 years
- ☐ Never

12. How satisfied are you with the following aspects of the online service provided by the online portals of your choice? *

Answer scale: 1 to 5

- 1: Highly Dissatisfied
- 2: Dissatisfied
- 3: Neither Dissatisfied nor Satisfied
- 4: Satisfied
- 5: Highly Satisfied

Mark only one oval per row.

	1	2	3	4	5
Product Quality	☐	☐	☐	☐	☐
Product images & Descriptions	☐	☐	☐	☐	☐
Product Variety	☐	☐	☐	☐	☐
Price Value	☐	☐	☐	☐	☐
Prior Transparency	☐	☐	☐	☐	☐
Checkout Process	☐	☐	☐	☐	☐
Payment Process	☐	☐	☐	☐	☐
Shipping Speed	☐	☐	☐	☐	☐
Customer Service/After-sales Service	☐	☐	☐	☐	☐
Overall Experience	☐	☐	☐	☐	☐

13. What factors influence your decision to shop Beauty products online? *

Select all that apply.

Check all that apply.

- ☐ Convenience
- ☐ Pricing
- ☐ Variety
- ☐ Ease of Return/Exchange
- ☐ Shipping Speed
- ☐ Other: _____

14. Which of the following Beauty products do you purchase online? *

Select all that apply.

Check all that apply.

- ☐ Base Makeup (primer, foundation, concealer, powder, blush, bronzer, highlighter, setting spray)
- ☐ Colour Makeup (eyeshadow, eyeliner, mascara, eyebrow products, lipsticks, lipgloss, lipliner)
- ☐ Makeup tools (brushes, sponges, applicators)
- ☐ Hair care (shampoos, conditioners, treatments, styling products, hair colourants)
- ☐ Skincare (cleansers, exfoliators, toners, serums, moisturisers, masks & treatments, sunscreen)
- ☐ Body Care (washes, soaps, scrubs, lotions, creams, deodorants, antiperspirants, hand & foot treatments)
- ☐ Nail Care (nail polishes, nail treatments & strengtheners, cuticle care, manicure & pedicure tools)
- ☐ Perfumes/Fragrances
- ☐ Other: _____

15. How much do you spend on Beauty products online per year? *

Mark only one oval.

- ☐ less than €50
- ☐ between €50 - €100
- ☐ between €100 - €150
- ☐ between €150 - €200
- ☐ between €200 - €250
- ☐ between €250 - €300
- ☐ between €300 - €350
- ☐ between €350 - €400
- ☐ between €450 - €500
- ☐ more than €500

200 to question 16

Beauty Brands

This section will determine how loyal the respondent is to the products they purchase.

16. How emotionally connected do you feel to the Beauty brand/s you purchase online, and its/their products? *

Mark only one oval.

- 1 2 3 4 5
- (not) ☐ ☐ ☐ ☐ ☐ Very connected

17. Would you feel disappointed if your preferred Beauty brand and/or products were no longer available?

Mark only one oval.

- ☐ Yes
☐ No
☐ Maybe
☐ Other: _____

18. Do you believe your favourite Beauty product brand is honest and transparent in its advertising, marketing and business practices?

Mark only one oval.

- ☐ Yes
☐ No
☐ Unsure

19. Would you purchase any new Beauty product your favourite brand launches online?

Mark only one oval.

- ☐ Yes
☐ No

20. How consistent is your favourite Beauty brand in delivering the same quality and experience?

Mark only one oval.

- 1 2 3 4 5
Not _____ Very consistent

21. How confident are you that your favourite Beauty brand will keep its promises (e.g., product quality, customer service)?

Mark only one oval.

- 1 2 3 4 5
Not _____ Very confident

22. Do you believe that the Beauty brands and/or products you purchase online are growing and improving over time?

Mark only one oval.

- ☐ Yes
☐ No
☐ Unsure
☐ Other: _____

23. Would you recommend purchasing your favourite Beauty brand and/or products online to others?

Mark only one oval.

- 1 2 3 4 5
Def ☐ ☐ ☐ ☐ ☐ Definitely Yes

24. How likely are you to switch to other brands if they offered similar products online?

Mark only one oval.

- 1 2 3 4 5
Def ☐ ☐ ☐ ☐ ☐ Definitely Yes

25. How likely are you to purchase Beauty products if they are **not** available online?

Mark only one oval.

- 1 2 3 4 5
Hig ☐ ☐ ☐ ☐ ☐ Highly likely

26. Have you ever purchased/would you purchase, Beauty brands or products online based on a friend's recommendation?

Mark only one oval.

- ☐ Yes
☐ No
☐ Other: _____

27. Have you ever purchased/would you purchase specific Beauty brands or products online based on recommendations from an online influencer or content creator?

Definitions:

An **influencer** is a person with the ability to influence potential buyers of a product or service by promoting or recommending the items on social media.

A **content creator** is someone who ideates, creates, and distributes content (like videos, images, written pieces, etc.) for various platforms, aiming to engage audiences and achieve specific goals, whether it's entertainment, education, or brand promotion.

Mark only one oval.

- ☐ Yes
☐ No
☐ Other: _____

28. Do you/would you consider buying Beauty brands or products that are popular (**are trending**) on social media platforms like TikTok, Instagram, or Facebook, or on other platforms you use?

Mark only one oval.

- ☐ Yes
☐ No
☐ Other: _____

29. Which is your favourite Beauty brand and why?

In this section, we would like to understand why you do not purchase Beauty products online.

30. Where do you usually purchase your Beauty products?

Mark only one oval.

- ☐ Supermarkets
☐ Pharmacy
☐ Specialized Beauty shops
☐ Other: _____

31. What is the main reason you do not purchase beauty products online?

Select all that apply.

Check all that apply.

- ☐ I prefer to see and test products in person.
☐ I am concerned about product authenticity.
☐ I am concerned about quality of expired products.
☐ I do not trust online reviews.
☐ I do not trust online payment gateways.
☐ Shipping costs are too high.
☐ Delivery takes too long.
☐ I find it difficult to choose the right shade or product online.
☐ I prefer to purchase beauty products in a brick-and-mortar shop.
☐ Other: _____

32. What factors would make you more likely to shop for Beauty products online?

Select all that apply.

Check all that apply.

- ☐ A trusted online store or brand.
☐ Better product descriptions and images.
☐ More customer reviews and ratings.
☐ Easier return/exchange policies.
☐ Discounts or free shipping.
☐ Virtual try-on tools.
☐ Other: _____

33. Which Beauty products are you **least** comfortable buying online?

Select all that apply.

Check all that apply.

- ☐ Hair care (shampoos, conditioners, treatments, styling products, hair colourants)
☐ Base Makeup (primer, foundation, concealer, powder, blush, bronzer, highlighter, setting spray)
☐ Colour Makeup (eyeshadow, eyeliner, mascara, eyebrow products, lipsticks, lipgloss, lipliner)
☐ Makeup tools (brushes, sponges, applicators)
☐ Skincare (cleansers, exfoliators, toners, serums, moisturisers, masks & treatments, sunscreen)
☐ Body Care (washes, soaps, scrubs, lotions, creams, deodorants, antiperspirants, hand & foot treatments)
☐ Nail Care (nail polishes, nail treatments & strengtheners, cuticle care, manicure & pedicure tools)
☐ Men's Grooming (beard care products, shaving products and tools)
☐ Female Grooming (hair removal products and tools)
☐ Perfumes / Fragrances
☐ Other: _____

34. How likely are you to start purchasing Beauty products online in the future?

Mark only one oval.

- 1 2 3 4 5
Hig ☐ ☐ ☐ ☐ ☐ Highly likely

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