

Dissertation Proposal

Challenges and Opportunities in Online Marketing within the UK SMEs' Applied AI
Sector in the Technology Industry

By

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Course: MBA- Master of Business Administration

Module: Dissertation (LCMB7020_BIRM)

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Contents

Research problem	3
Research aim, objectives, and questions	3
Methodology.....	4
Risks.....	6
Grantt Chart	8
Reference list:	9

Research problem

The technological industry in the UK is expanding and innovating quickly, especially in the field of Applied AI. The UK government has unveiled its first National Artificial Intelligence (AI) Strategy in an effort to bolster its standing as a world leader in research and take advantage of the potential of contemporary technology to enhance people's lives and address pressing issues like public health and climate change. The approach includes preparations for a white paper on AI regulation and seeks to establish the nation as a global leader in the governance of AI technologies. With \$3.3 billion invested in UK AI firms so far in 2021—amounting to more than the \$3 billion invested in 2020—the UK is ranked third in the world for private venture capital investment into AI startups (GOV, 2023). In this context, small and medium-sized enterprises (SMEs) are essential, but they also present special opportunities and challenges when it comes to selling AI products online. With an emphasis on the challenges, they face and the opportunities that can spur their expansion in the technology sector, this study attempts to shed light on the nuances of the online marketing tactics used by SMEs in the Applied AI sector (Lu X., 2022).

Research aim, objectives, and questions

✓ Research Objective

The major objective of this study is to thoroughly examine the obstacles and prospects encountered by small and medium-sized businesses (SMEs) functioning in the Applied AI segment of the UK technology industry, with a particular emphasis on the online marketing domain. The goal is to obtain a comprehensive awareness of the present environment in order to offer insightful advice that can improve marketing strategies, guide strategic decisions, and support the expansion and competitiveness of SMEs in this fast-paced industry (Lloyds Bank, 2023).

✓ Study Goals

To accomplish the research goal, the following goals are listed:

1. To Determine the Main Obstacles in Online Marketing: Examine and determine the main difficulties that SMEs in the applied artificial intelligence (AI) sector encounter when doing online marketing. This covers problems with limited resources, technology hurdles, and market rivalry (Lu X., 2022).
2. To Examine Opportunities in Online Marketing: Investigate and analysis of the current and prospective online marketing opportunities that are available to SMEs in the

Applied AI industry. Investigating new trends, creative approaches, and unexplored markets are all part of this (Lu X., 2022).

3. To Evaluate the Performance of the Present Online Marketing Techniques: Analyse the effectiveness of the internet marketing tactics that SMEs in the Applied AI sector is currently using. This entails evaluating the effect on consumer engagement, lead generation, and brand visibility (Bapat D., 2023).
4. To Gain Understanding of Customer Perceptions: Learn how consumers view and react to online marketing initiatives carried out by SMEs in the Applied AI industry. Examine what influences consumer preferences, trust, and decision-making (Collinge R., 2023).
5. To Investigate Technological Integration: Within the SMEs' Applied AI sector, investigate the degree to which technology is incorporated into online marketing strategies. This entails assessing the use of automation, analytics, and AI-driven marketing technologies (Mileva G., 2023).

✓ Questions

The investigation will be guided by the following key questions in order to address the research objectives:

1. When it comes to internet marketing, what are the main obstacles that small and medium-sized enterprises in the UK's Applied AI industry face?
2. What internet marketing opportunities are available to SMEs in the Applied AI sector, and how may these be effectively leveraged?
3. To what extent do SMEs in the Applied AI sector now utilise online marketing tactics that are effective in terms of customer engagement, lead creation, and brand visibility?
4. What are the main determinants of how consumers view and react to internet marketing initiatives carried out by SMEs in the applied artificial intelligence space?
5. How much technology is included into online marketing strategies in the Applied AI sector of SMEs, and what is the effect of this integration on marketing efficacy?

The data collecting, analysis, and overall examination into the potential and problems faced by SMEs in the Applied AI sector within the UK technology industry will be based on these research questions.

Methodology

⇒ Research Methodology

This study will employ a single method research methodology, integrating qualitative methodologies to comprehensively investigate the obstacles and prospects in online marketing

for small and medium-sized enterprises (SMEs) in the Applied Artificial Intelligence (AI) sector in the United Kingdom (UK).

The companies which the research will delve into are:

1. Phrasee is a startup based in London that specialises in copywriting using artificial intelligence. They employ natural language generating algorithms to provide captivating and tailored marketing content for businesses (IDC,2023).
2. Eigen Technologies is a London-based artificial intelligence (AI) firm. Their primary focus lies in the field of natural language processing (NLP), aiding organisations in extracting important insights from unstructured data, such as contracts and documents (IDC,2023).
3. Cytora, headquartered in Cambridge, utilises artificial intelligence to forecast and handle risk for underwriters in the commercial insurance industry. Their technology utilises many data sources to evaluate risk factors and optimise the underwriting process (IDC,2023).
4. Darktrace: Despite its current status as a larger corporation, Darktrace originated as a small and medium-sized enterprise (SME) in Cambridge. Their area of expertise lies in cybersecurity artificial intelligence, employing machine learning techniques to promptly identify and address cyber hazards as they occur (IDC,2023).
5. Streetbees is a startup located in London that integrates artificial intelligence and human intelligence to do market research. Streetbees gathers up-to-the-minute consumer observations by utilising a worldwide community of individuals who use the Streetbees app to share their personal encounters (IDC,2023).
6. Quantexa, based in London, offers artificial intelligence-powered analytics solutions for the financial services industry. Their solutions aid in the detection of financial crimes and enhance client insights (IDC,2023).

Secondary data sources encompass industry reports, scholarly literature, and publicly accessible firm information.

⇒ Data Analysis Qualitative Analysis:

Utilise thematic analysis to detect repetitive patterns, topics, and insights from content analysis.

Statistical Analysis: Analyse survey data using statistical methods, such as descriptive statistics and inferential tests, to uncover correlations, trends, and patterns. Examine web analytics data to assess the effectiveness of online marketing activities (Bhandari P,2020).

Ethical Considerations: To guarantee adherence to ethical norms, it is essential to get informed consent from participants, maintain confidentiality, and openly disclose the purpose and use of the gathered data (Bhandari P,2020).

Hazards: Determine any hazards, such as lack of participant engagement, accuracy of data, or unanticipated difficulties in reaching subject matter experts. Create risk mitigation strategies, such as increasing the sample size or utilising other means for data collecting (Bhandari P,2020).

Risks

- ✓ **Restricted Scope with Singular Methodology Risk:** Exclusively relying on a solitary research methodology (quantitative) may restrict the extent and profundity of insights, thereby affecting the comprehensiveness of findings (Evrin V., 2021).

Mitigation Strategy: Overcome this limitation by ensuring the selected quantitative methodology is strong and consistent with the study goals. Create a systematic methodology for gathering quantitative data using methods like web analytics. This will enable a thorough comprehension of the obstacles and possibilities in online marketing for small and medium-sized enterprises (SMEs) operating in the Applied Artificial Intelligence (AI) sector in the United Kingdom (UK) (Evrin. V., 2021).

- ✓ **Data Validity Risk:** The precision and dependability of quantitative data obtained through web analytics or other means may be affected by variables such as biases or inaccuracies (National Institute for Health and Care excellence, 2024).
- ✓ **Mitigation Strategy:** To bolster data integrity, establish stringent protocols for data acquisition, guaranteeing that measurements derived from web analytics tools faithfully depict online marketing efficacy. Consistently verify and compare data from many sources to guarantee coherence. Perform rigorous statistical analysis to assure

the dependability of quantitative data (National Institute for Health and Care excellence, 2024).

✓ Limitations Imposed by Technology

There is a risk that technical difficulties with web analytics tools or other online data collection platforms could disrupt the process of collecting data or undermine the accuracy and reliability of the data (Sawtell-Rickson J., 2022).

Mitigation Strategy: Prior to the actual deployment phase, it is imperative to carry out comprehensive testing of the data collection technologies. Ensure the presence of contingency plans, which encompass alternative technologies or manual data collection methods, to effectively handle any potential technological complications (Sawtell-Rickson J., 2022).

✓ Factors in the external environment

Risk: Exogenous variables, such as alterations in industry rules, economic circumstances, or unforeseen occurrences, may influence the research schedule or the accessibility and conduct of subject matter experts (Indeed Editorial Team, 2023).

Mitigation Strategy: Remain knowledgeable about the industry's environment and external variables that could impact the research. Create an adaptable research plan that can be modified to accommodate unexpected situations (Indeed Editorial Team, 2023).

Grantt Chart

The Gantt chart provides a clear overview of the main tasks involved in the research proposal and dissertation, including their specific start and end dates.

Task:	Start Date End Date:	Duration (Weeks):	Responsible:
1. Research Proposal	2024-01-28 2024-02-10	2	Abel Sandu
2. Literature Review	2024-02-11 2024-04-15	10	Abel Sandu
3. Develop Research Framework	2024-02-19 2024-03-03	2	Abel Sandu
4. Design Survey Instrument	2024-02-29 2024-03-15	2	Abel Sandu
5. Obtain Ethical Approval	2024-02-29 2024-03-10	2	Abel Sandu
6. Conduct Surveys	2024-02-29 2024-03-31	4	Abel Sandu
7. Collect Web Analytics Data	2024-02-29 2024-03-20	5	Abel Sandu
8. Analyse Quantitative Data	2024-02-29 2024-04-15	7	Abel Sandu
09. Interpret Findings	2024-03-15 2025-04-15	4	Abel Sandu
10. Write Dissertation	2025-02-29 2025-04-20	8	Abel Sandu
11. Review and finalize	2025-04-16 2025-04-21	4	Abel Sandu
12. Submit Dissertation	2025-04-16 2025-04-21	2	Abel Sandu

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