Possibilities of Using Methods and Digital Technologies of Data Analysis in Entrepreneurial Marketing Research in the Conditions of Uzbekistan: A Conceptual Framework

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Abstract

It is proposed that the current trends and developments in the data analysis technologies and methods relevant to entrepreneurial marketing research call for a new theoretical concept-based approach to inform and guide both academic and industrial entrepreneurs, especially in the case of Uzbekistan as a fast-developing country. Therefore, on the foundations of resource-advantage theory's notion of using methods and digital technologies of data analysis in entrepreneurial marketing research, we aim to clarify usage possibilities and the country conditions in general and data analysis technologies and methodology in particular for entrepreneurial communities. Specifically, we (i) integrate literature from the marketing, entrepreneurship, and information technologies disciplines to develop conceptualizations of data analysis and marketing research enabled entrepreneurship (ii) develop an integrative framework of marketing research-enabled entrepreneurship possibilities using data analysis technologies and methods in the case of Uzbekistan, based on ATLAS.ti@ tool and empirical insights from 10 interviews with a) 12 senior entrepreneurial marketing managers representing methods and technologies in various industries, ranging from industrial entrepreneurs to academic ones, and b) a survey by 8 experts from entrepreneurial marketing research agencies who advise different technologies and methods on how to apply data analysis in entrepreneurial marketing research in the conditions of Uzbekistan. In turn, we explain how the conceptual framework of this research in general, and certain methods and technologies of using data analysis in entrepreneurial marketing research in particular, can help entrepreneurial firms develop in the conditions of Uzbekistan. Finally, we conclude with a discussion of the present research contributions, managerial implications and offers future research agenda with exemplar research questions.

Keywords: Entrepreneurial Marketing Research; Data Analysis Technologies; Digital Technologies; Resource-Advantage Theory; Conceptual Framework; Marketing Research-Enabled Entrepreneurship; Empirical Insights

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1.Introduction

All marketing researches can be enabled by digital technologies and methods of data analysis. One such data analysis technology –social networking systems – holds significant potential for enabling entrepreneurs enhance their market position and brand image. When Entrepreneurial marketing is gaining popularity as a key component of firms' entrepreneurial strategy [1-5], data analysis technologies and methods are often associated with identifying consumer behaviors & needs, analyzing social media data.

Multiple industrial experts indicate that entrepreneurial marketing research is gaining momentum in the different industries, too [6,7]. The increasing interest in entrepreneurial marketing research is being driven by contemporary buying behavior, where buyers have become more self-directed in their purchasing decisions, and complete a complex set of purchase-related procedures before contacting potential sellers [8,9,10].

In fact, most of business companies and individuals report they do not have the skills or knowledge to implement entrepreneurial marketing research technologies and methods and one of the key reasons is that the current knowledge and best practices in entrepreneurial marketing research come from consumer data informed marketing situations, which are not directly interpretable to entrepreneurial purposes [11,12]. Despite the rapidly growing body of academic literature on entrepreneurial marketing research, there is a relatively small number of scholastic researches to unveil the useful data analysis methods and technologies of entrepreneurial marketing research phenomenon.

In their conceptual literature review, [13] identified the studies on social media marketing strategy, only one of which was conducted for taxonomy building, validation, and presenting future agenda. In addition to the lack of entrepreneurial marketing research -specific insights, the scope of existing methodological & technological review of entrepreneurial marketing research has been relatively narrow. For example, extant conceptual literature reviews [14-16] show that the research on strategic marketing is heavily focused on i) social media rather than common methods & technologies of entrepreneurial marketing, ii) resilience and other entrepreneurial habits rather than broader collaborations with specific partners of local business entities, and iii) the effects on consumer behaviors & needs rather than methodological perspectives of conducting entrepreneurial marketing research.

However, the scope was limited to entrepreneurial habits, the impact of social media based entrepreneurial marketing on customer attitudes and intentions, with no broader conceptualization of entrepreneurial marketing research method and technologies.

In the backdrop of these challenges, this conceptual paper conceptualizes the methodological & technological contributions of entrepreneurial marketing research with special emphasis on possibilities of implementing them in Uzbekistan entrepreneurial companies [17,18,19]. We do this by drawing empirical insights from interviews with 12 senior entrepreneurial marketing managers from Uzbekistan, who represent methods and technologies in various industries, ranging from industrial entrepreneurs to academic ones, and a survey by 8 experts from entrepreneurial marketing research agencies who use marketing and advise methods & technologies on how they should use entrepreneurial marketing research. We have also utilized ATLAS.ti software for carrying out thematic analysis for identifying important information because it is efficient and primarily used in identifying important themes and patterns in our dataset and addressing relevant questions. It is a famous software primarily used for content analysis and analyzing complex textual data in academic communities.

2.Methodology

As guidelines for research, research questions should be posed within a conceptual framework because quality research must be embedded within a holistic structure of research direction within a discipline like entrepreneurial marketing. Thus, the following research questions are structured.

Research Questions

RQ1: How **relevant** is marketing research in the context of entrepreneurship?
RQ2: What are the **data analysis methods and technologies** pertaining to the entrepreneurial marketing research and how can these be applied in Uzbekistan?
RQ3: How is it **possible** to mitigate various challenges of conducting entrepreneurial marketing research in Uzbekistan through those methods and technologies?

2.1 Literature Review

In line with [13-16], the purpose of this literature review is to resolve definitional ambiguities, provide synthesized overview of the methods and technologies used in entrepreneurial marketing research, and develop a conceptual framework to support academic and industrial entrepreneurs/ managers in the field of entrepreneurial marketing research. Accordingly, the literature review consists of two parts. The first part (2.1.1) reviews the extant definitions on entrepreneurial marketing research, and paves the way for conceptualizing it. Due to the conceptual gap of data analysis methods & technologies on entrepreneurial marketing research, the second part (2.1.2) also explores the methodological and technological sources of entrepreneurial marketing research, and builds ties to concepts used in the entrepreneurial literature that are related to data analysis methods & technologies in marketing research.

Meanwhile, we conducted searches on Science direct, web of science, and ResearchGate to identify the most relevant studies. The process was iterative, and we began with the most obvious keywords, such as "entrepreneurship", "marketing research", and "entrepreneurial marketing research".

2.1.1 Defining Entrepreneurial Marketing Research

This section creates a theoretical base to manage entrepreneurial marketing research, which serves as a primary guideline for collecting and analyzing data. We examined emerging evidence, clarified key concepts and definitions, and identified knowledge gaps and key characteristics related to an entrepreneurial marketing concept [1-7].

Entrepreneurial marketing has been defined as marketing for growth small ventures [1,2] through formal systems of communication with customers [3]. Other authors have defined entrepreneurial marketing as well. For [4], entrepreneurial and market development is the sum of overall organizational culture, the personality of the owner/entrepreneur, environment enabling farmers to adapt to a free market economy. [5] asserts that entrepreneurship and marketing research are the success factors for new companies. It has also been studied in the light of Entrepreneurship [6,7]. According to [4,6], an entrepreneurial marketing is linked with extant business marketing research in expert and social opinion leaders. [7] suggests that social media resourcing of an entrepreneurial firm is the distinct type of marketing research who embrace more profitable activities other than that of traditional entrepreneurship. Finally, we applied the authors' own knowledge and judgment to build ties to entrepreneurial marketing related concepts.

2.1.2 Methods & Technologies of Entrepreneurial Marketing Research

Since the research on the concept of entrepreneurial marketing research is limited, we take a deeper view on the sources of data analysis methods & technologies to identify ones relevant to

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entrepreneurial marketing. Firstly, product centric approach in marketing, an emerging trend, is based on creating helpful and relevant content that meets needs of customers [4]. 'Counter-cultural' approaches provide guerrilla marketing that seems attractive to the customers resisting with conventional marketing [5], and self-organizing map approach is based on the study of relationships between firm size and firm success and survival.

Recent studies [8,9] have shown that data analytics has immense potential for growth with respect to entrepreneurial marketing research. Other studies have shown a positive impact of social media-based online entrepreneurship approach in value addition, firm's market, customer and financial performance [10] and improved efficiency and quality of customer services.

With respect to data analytics and social media technologies, [11] have further highlighted artificial intelligence by explaining the role of digital entrepreneurs. Others [12,13] have also shown that big data analytics can aid in in supply market intelligence, increasing income, and diversifying production. The traditional CRM approach to emphasize the active role of customers who contribute to different forms of product value [13]. [13] also claims that the theory of the viral marketing is used to adapt specific characters of products. [14] have highlighted the fact that strategic marketing can be enhanced by marketing analytics.

Action learning approach refers to the perception of enhancing marketing knowledge and skills via social media practicum [20]. An entrepreneurial model for online data analysis is proposed by [21].

2.3 ATLAS.ti Analysis and Stakeholder Survey/ Interviews

In this section, the procedures of ATLAS.ti software analysis and survey/interviews are outlined. During the data collection process, citation-index of the documents and quality of the abstracts were used to ensure compliance and conformance while keyword lists and Boolean operators are used to keep subject inclusiveness wherever possible. While selecting the documents for analysis, we ensured that they are as closely relevant to our research questions as possible. We also look through the full texts of some documents to examine the relevance of the papers. ATLAS.ti software is used for data analysis, literature reviews, and creating conceptual framework by importing documents. For qualitative data analysis (QDA), the software ATLAS.ti is primarily useful and popular in academic research communities since it provides "the ability to express relationships between codes, quotations and documents in a range of different ways".

Query tool and text search functions of this software enable us to assign the important sentences and paragraphs to their relevant thematic category (code). We also classified documents into three categories (see Figure 1).
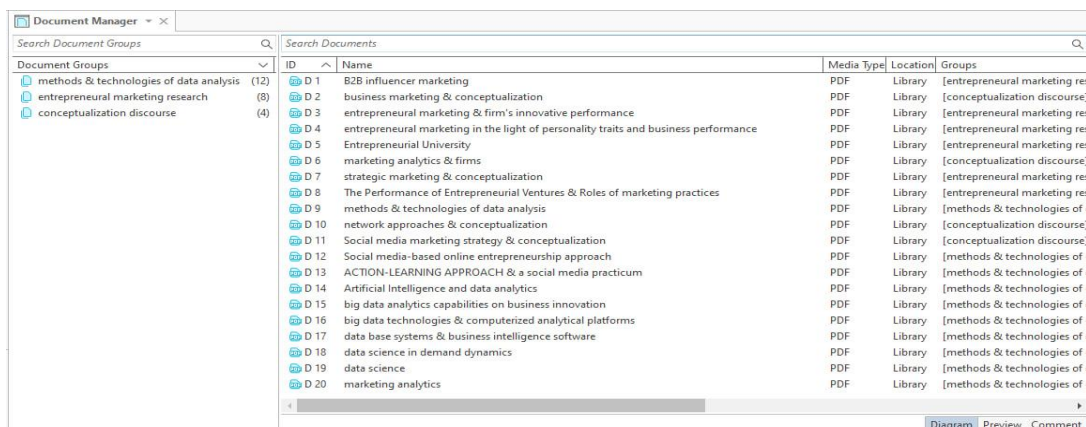

Figure 1. The selected documents and their groups imported into ATLAS.ti analysis tool.

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In the next step, causal relationships are derived from the thematic categories that provides information for mapping a conceptual framework. For example, relevance of marketing research in entrepreneurship is identified from the given dataset by analyzing the coded source texts (see Figure 2).
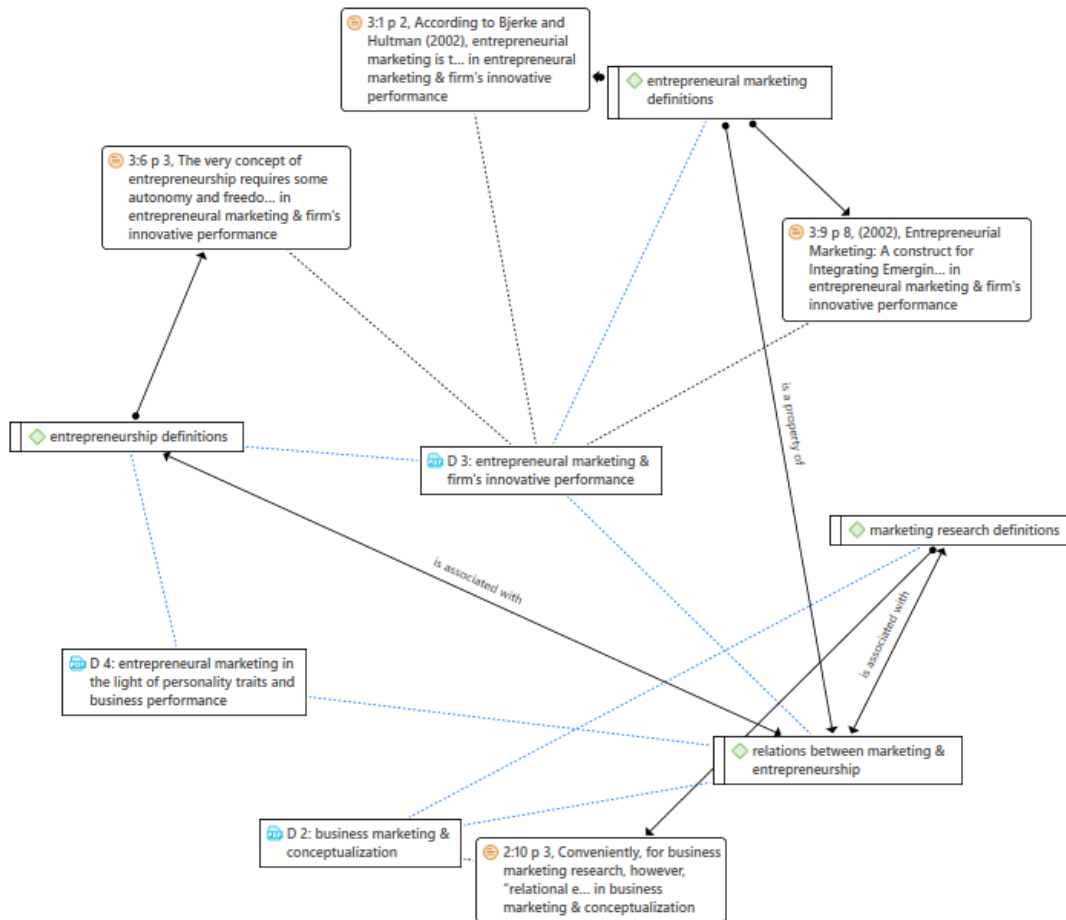

Figure 2. Network diagram of relevancy of marketing research in entrepreneurship

After the stakeholder survey and interviews are conducted exclusively with 12 senior entrepreneurial marketing managers and 8 experts from entrepreneurial marketing research agencies for identification of the entrepreneurial marketing research methods, technologies, and possibilities of using them in Uzbekistan, we summarize the state-of-the-art knowledge of the concept of entrepreneurial marketing research, received abundant suggestions for further reading for a more in-depth view and came to tentative policy conclusions and measures. As will be seen there are many possible answers to questions like what are the best practice of using data analysis technologies in entrepreneurial marketing research? what methods exist for data analysis in entrepreneurial marketing research? and so on. Likert scale (0…5) is used to evaluate the practices of entrepreneurial marketing research by interviewees. During the analysis of information retrieved form the interviews and formulating questions, we used the linguistic and analytical practices of [21-25].

For both survey and interviews, the cohorts were recruited by researchers from their online panel of social networking systems living in Uzbekistan. Participants were also contacted through direct e-mail invitations.

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3.Results

According to the survey results, 83,5 % of participants reported that several technological and methodological entrepreneurial marketing practices (especially, action learning approach, data analytics technologies, the viral marketing approach, 'Counter-cultural' approaches, and self-organizing map approach) are highly effective and suitable to the case of Uzbekistan, with average score "4.3" calculated from Likert scale points. The following methods and technologies regarding how it is possible to use those methods and technologies of data analysis in Uzbekistan are rated as **"highly possible"** during the interview.

- Viral marketing
- Multi-theory approach
- Counter cultural approach
- Big data analytics approach
- Self-organizing map approach
- Data driven approach
- Action learning approach
- Social media & mobile marketing technology
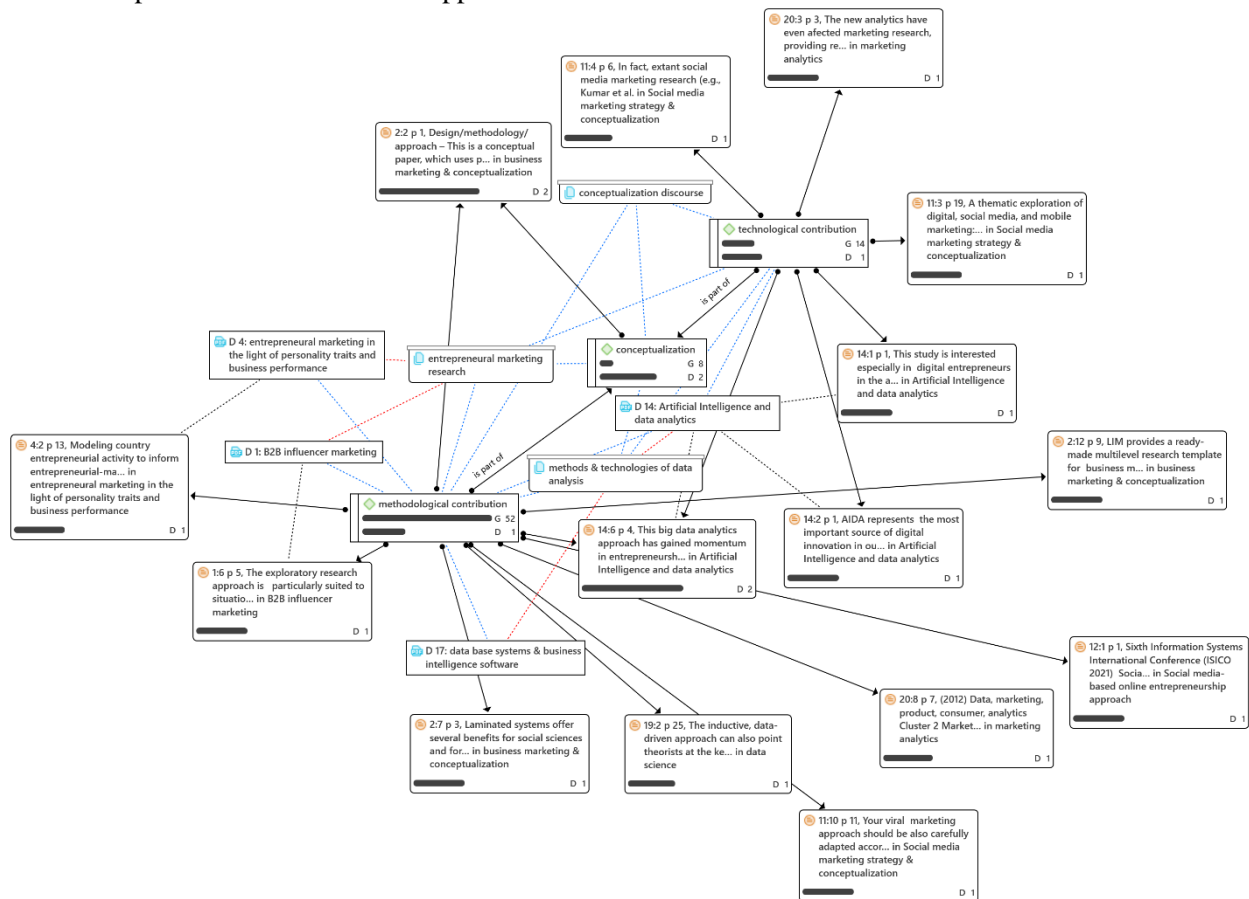- Computational social science approach

Figure 3. Conceptualization of methodological and technological contributions of entrepreneurial marketing research

We have ample evidence to point out the **methodological and technological contributions** as a result of the entrepreneurial marketing research by academic communities. Figure 3 depicts visualization of conceptualizing those methods and technologies with condes, quotations, and relevant documents. the Authors of this paper does acknowledge the fact that some entrepreneurs from Uzbekistan may have already put some technological and methodological findings into practice.

Conclusions

From the above results, it can be concluded that marketing research is relevant in the context of entrepreneurship (see Figure 2). It is further evident from the literature analysis that various methods and practices in entrepreneurial marketing research exist with applications in different industries. For instance, viral marketing, multi-theory approach, counter cultural approach, big data analytics approach, and self-organizing map approach are the efficient marketing methods/technologies that can be used with entrepreneurial strategy.

From the results of conceptualization (see Figure 3), it is also evident that there are some broad concepts to entrepreneurial marketing research such as marketing for growth small ventures, the sum of overall organizational culture, the personality of the owner/entrepreneur, environment and etc.

Our research has some limitations. First of all, ATLAS.ti software is limited because it poses a hindrance for those who want to utilize different types of qualitative analyses based on various analytical methods and approaches. Secondly, our study is based on literature available on only three academic databases (science direct, web of science, and ResearchGate) and does not take other databases such as ACM libraries into account.

Regarding the future research agenda, future research opportunities lies on empirical aspect of entrepreneurial marketing research (not only methods and technologies) in the different aspects of business such as value addition. The research practitioners, governments and institutions can also focus on specialized and innovative pathways of entrepreneurial marketing research.

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