COSMETICS ENTREPRENEURSHIP: AN EXPLORATORY ANALYSIS USING LATENT DIRICHLET ALLOCATION

Yanti Mustapha
ameira574@uitm.edu.my
Department of Business Management
Universiti Teknologi MARA Cawangan Kedah

Sazilah Mohd Saad
sazilah@uitm.edu.my
Department of Business Management
Universiti Teknologi MARA Cawangan Kedah

Mohd Faiz Hilmi
faiz@usm.my
School of Distance Education
Universiti Sains Malaysia, Pulau Pinang

Abstract

This study presents the key features of text mining based on Latent Dirichlet Allocation (LDA) and demonstrates its application by analyzing cosmetics entrepreneurship related articles. A framework is presented on how to use topic modeling on a collection of articles for an exploratory topic-based literature review. Through Latent Dirichlet Allocation technique, this study is able to extract coherent research topics that are the focus of the 66 academic articles (years 1984 -2019) analyzed. This study aims to demonstrate how topic models can enrich researcher's methodological toolboxes.

Keywords: text mining; Latent Dirichlet Allocation (LDA); cosmetics; entrepreneurship

Introduction

Cosmetics industry is a huge market with estimated value of USD$ 532 billion (Biron, 2019). The increasing importance of the cosmetics industry is also reflected through the increase of research output related to cosmetics entrepreneurship. Figure 1.0(figure 1.0?) showed the number of published articles in SCOPUS. There is an upward trend of article published on the topic of cosmetics entrepreneurship.
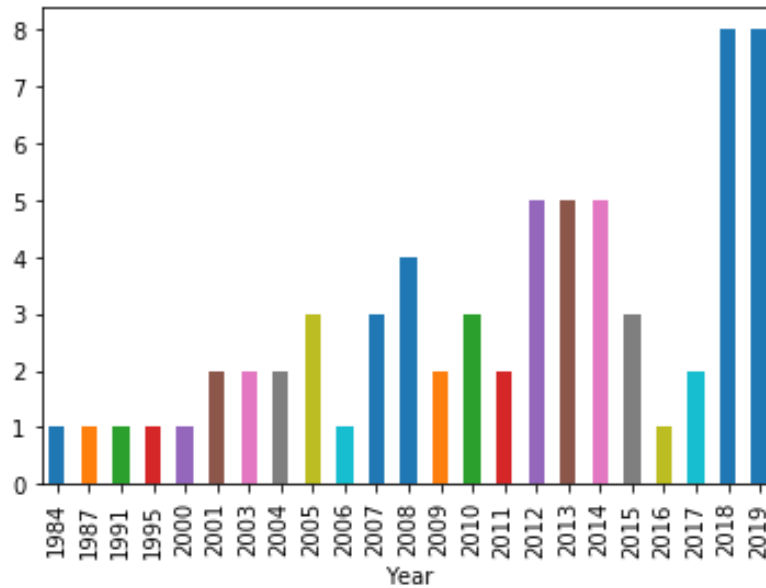
Figure 1.0 Published Articles in SCOPUS

Based on the increasing interest in the topic, this study was initiated to answer the following research questions:

1. What are the twenty most frequent words in the title of the articles?
2. What are the twenty most frequent words in the abstract of the articles?
3. What are the common topics based on the abstract of the articles?

Methodology

To answer the research questions above, this study selected SCOPUS as the data source and executed a query for the term (cosmetics AND (entrepreneurship OR entrepreneur) in the title or abstract or keyword of the articles. The search yielded 66 articles.

Analysis Of The Title

This study analyzed the title for all 66 articles. Based on frequency, world cloud in Figure 2.0 provided visual representation of the words of the title. Furthermore, Figure 3.0 listed 20 most frequent words based on appearances in the title of the articles.

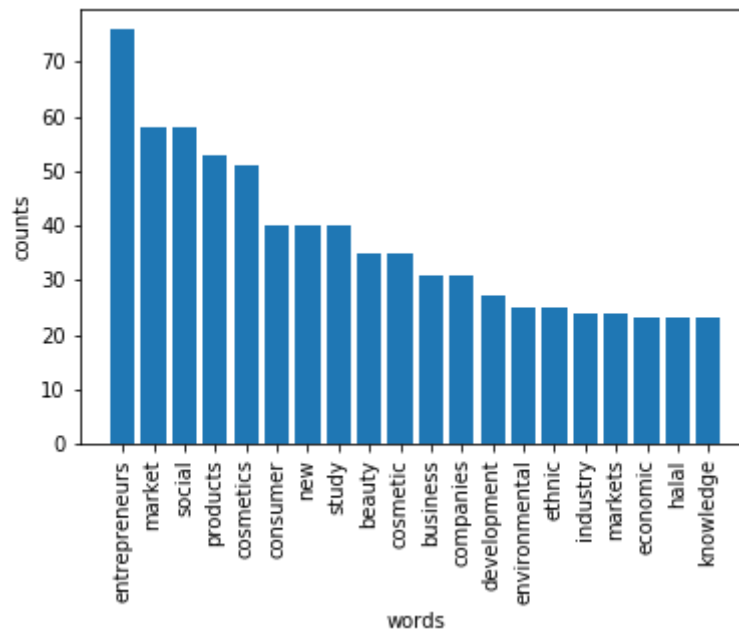*Figure 2.0 Word Cloud based on the Title of the Article*

Figure 3.0 20 Most Common Words based on the Title of the Article

Analysis Of The Abstract

In addition to the title, this study also analyzed the abstract of the 66 articles. Based on the frequency, word cloud in Figure 4.0 provided a visual representation of words in the abstracts. Moreover, Figure 5.0 listed 20 most frequent words in the abstract of the articles.

Figure 4.0 Word Cloud based on the Abstract of the Article

Figure 5.0 20 Most Common Words based on the Abstract of the Article

Topics Based On Latent Dirichlet Allocation

The objective of this section is to highlight the most frequent topics discussed in a body of literature and this study does not make a comprehensive review of each articles (Guerreiro, Rita, & Trigueiros, 2015). Table 1 presented key terms for five selected topics extracted by using LDA algorithm.

Table 1   Five Topics Based on LDA

No	Term
1	study Africa cosmetic city entrepreneurs artisanal start perspectives theoretical experimental
2	market industry entrepreneurs trade innovation beauty medications stimulation penetration century
3	conference IMCIC informatics complexity international relationship product proceedings market multi
4	skin market social war native indigenous Baumann olio influences industry
5	entrepreneur dermatologist capital cultural investigating generation cosmetics symbolic MSMES ayurvedic

Conclusion

This study explored the evolution of cosmetics entrepreneurship research by utilizing text mining analysis of 66 articles. More studies and use of combined methods are needed to develop a

comprehensive ontological roadmap (Ozaydin, Zengul, Oner, & Delen, 2017) for cosmetics entrepreneurship research.

References

Biron, B. (2019). Beauty has blown up to be a $532 billion industry — and analysts say that these 4 trends will make it even bigger. Retrieved from https://www.businessinsider.my/beauty-multibillion-industry-trends-future-2019-7/?r=US&IR=T

Guerreiro, J., Rita, P., & Trigueiros, D. (2015). A Text Mining-Based Review of Cause-Related Marketing Literature. Journal of Business Ethics, 139(1), 111-128. doi:10.1007/s10551-015-2622-4

Ozaydin, B., Zengul, F., Oner, N., & Delen, D. (2017). Text-mining analysis of mHealth research. Mhealth, 3, 53. doi:10.21037/mhealth.2017.12.02