

ICTHM 2023**International Conference in Technology, Humanities and Management****HARMONIZING LIFE WITH ISLAMIC PRINCIPLES: INSIGHTS
FROM THE HOLY QURAN'S WORDING**

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Abstract

In this study, by conducting a series of analyses that target better understanding the Holy Quran is attempted. With this aim, the English text of Quran is analysed and statistical data for explaining positive/negative inclinations in it is provided. Results have illuminated significant information about most noteworthy words and frequencies. It is significant to emphasize that this study cannot be categorized as a religious study, instead it is an automated study giving statistical results about frequently used positive and negative words and phrases in the Quran and trying to harmonize them with Islamic principles. The study covers research for traces of positivity/negative in the text. It should also be noted that while loading a positive or negative meaning to the words, assumptions of positive psychology literature have been used. Results of the study have revealed that the Quran is loaded mostly by neutral expressions. But when positive and negative expressions are compared the ratio of negative expressions are higher than positive ones.

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1. Introduction

The Holy Book Qur'an is the main guide for many Muslims. It is considered as the main source of legislation in various aspects of life (Arabiah et al., 2014). The holy book encompasses all aspects of human life including Biology, Law, Politics, Business, Economics, and so on. The Quranic text is rich in its vocabulary, morphology and syntactic structures and unique with its eloquence and style, differentiating it from any other texts (Arabiah et al., 2014, p. 2). Since, it is the word of Allah and the last scripture from Allah to humankind it requires careful handling (Arabiah et al., 2014; Alhawarat et al., 2015). Quran's eloquence made the revelation inimitable and difficult to translate (Elhindi, 2017). Actually, as Chesterman (2016) suggests translating holy books has always been a difficult task, mainly because they were regarded as words of Allah. In fact, many people in search of what Islam is and is not, want easier ways to find answers to their questions (Yauri et al., 2013). In retrieving the related knowledge, researchers have proposed a lot of retrieval methods and models (Slamet et al., 2016). The Holy Book has deep underlying connections binding the entire text into one conceptually meaningful and related to whole (Siddiqui et al., 2013). In this study, it will be examined the sentiment in the language of the book via text mining on the English translation of the holy book Quran. The assumptions of positive psychology approach have been taken as a criterion in the evaluation of the positive-negative balance of the Qur'an. The positive psychology movement was born as a reaction to the negative and pathology-centered evaluation of human nature and behavior in psychology (Baykal Narcikara, 2017). According to the positive psychology approach, psychology in the classical sense should not be a field dealing only with diseases or problems. With its positive effect on the psychological capital of the individual, it should help individuals to be happier and should create more positive organization and individual level outputs. Being inspired from the assumptions of positive psychology in this study, it is attempted to test whether wording of the Holy Book Quran is positively or negatively biased. So in this study, the text of Holy Book Quran has been preprocessed and also different text mining techniques have been used to reveal simple facts about the main concepts of Quran. In the following part we will discuss some important topics in Quran that overlaps with indicators of positivity in Positive psychology approach harmonized with Islamic principles. Later we will examine whether Quran has a negative or positive bias.

2. Positivity in Quran

The verses of the Qur'an can be considered as evidences illuminating hearts and life, and sources of positivity, guidance and mercy for a believing society (Bilgiz, 2017). In Quran, Allah introduces himself as merciful. Mercy is a concept that expresses emotion. It requires benevolence to the one who has mercy. The merciful relationship between Allah and human occupies a central place in Islamic thought. The word mercy occurs in 326 places with its derivatives in the Qur'an. In many surahs, it is emphasized that he is merciful (Maide, 5/74; Tevbe, 9/99; Hicr, 15/49; İsrâ, 17/110; Enbiya, 21/36, 112; Neml, 27/30; Yasin, 36/; Haşr, 59/22; Mülk, 67/ 29; Nebe, 78/37, 38). In addition, Allah has some properties such as forgiving his servants, forgiveness, dealing with justice, preparing the environment in which they will live in the world and providing sustenance in connection with mercy thus boosting positivity. Without doubt, Allah's mercifulness leads to a more positive approach in holy book Quran.

Hence from then on, we will endeavor to explain the traces of positivity in the text of holy book Quran, explaining the emphasis on more positive language in inspiring believers in the holy text. Moreover, most of the reward verses are about Paradise. Paradise is explained in the holy book as an eternal place for peace and bliss, wherein the believers are rewarded (Kamil & Yunos, 2015). Although the word Paradise is mentioned 147 times in the Qur'an with different names like Adn, Ravza, Firdevs and Eden (Çağlayan, 2006, p. 37), Kamil and Yunos (2015, pp. 115-119) argued that elements related to the Islamic garden such as trees, rivers and water, along with abstract environmental components such as calmness, beauty and balance also refer to the concept of 'Islamic paradise'. Modesty is also a praised concept in the holy book Quran. According to Quran, the most ideal form of human relationship is the prevalence of modesty among people. In the holy book, we can come across several surahs and verses mentioning modesty. To sum up, the general meaning of "modesty" in the Holy Book Quran is avoiding arrogance and conceit by thinking of the greatness of Allah. It is about avoiding words humiliating and underestimating other people in this sense, it is exactly similar to the general principles of positive psychology (Demir, 2010). In Islamic belief system wisdom is also a source of positivity. Besides being the basic power and ability in terms of using the will in the direction of goodness, the mind also acts as the basis of the will and responsibility of the human being (Arslantürk, 2018, p. 14). Reasoning, like revelation, is a proof in religion and the source of true knowledge and positive mindset. Allah commands individuals to use their mind, which leads to the truth and shows man the right path (Özden, 2019). Knowledge is the most important element that leads people to affirmation and Iman or faith (Muammer, 2011). In positive psychology gratitude is explained as an inclination to respond events with grateful emotions and positive reactions (Baykal et al., 2018). Through an Islamic perspective, gratitude also means knowing and spreading goodness, showing gratitude to goodness with words and behaviors, commemorating goodness with kindness. It is both reflected through words of gratitude or indebtedness and also recognized by actions—one performs to acknowledge blessings (Ali et al., 2020). The word gratitude is used 75 times in the Qur'an. In order to understand the truth of gratitude, first of all, it is necessary to know that everything that exists is a blessing and that all blessings come from Allah.

3. Methodology

3.1. Text Mining

Text mining has become popular owing to the great amount of existing text in digital format. It is an important field in the context of data mining that is helpful for finding interesting patterns in unstructured textual data. Actually, a sub-field of data mining is known as 'text mining', which refers to the extraction of information from text documents. It is mainly used to define the procedure of extracting interesting and non-trivial information from unstructured texts (Salloum et al., 2018). According to Hand et al. (2001) text mining is "the analysis of observational textual data sets to find unsuspected relationships and to summarize the text in understandable and useful manners.

Calculating term frequency, N-grams, bag of words (BoWs), stemming and lemmatization are some of the most frequently used text mining techniques. In this study, as it was mentioned before the holy book Quran has been used as the source of data. Each surah of the book has been treated as a single

text file. So, our corpus was the Quran and all surahs and verses were the text files and sentences. Figure 1 depicts the overall model and the processes which were performed during the text mining study.

Firstly, some nonmeaningful words such as and, the, but, or, this have been removed for the corpus using the Stopwords tool. After that, numbers have been removed. Next all text has been cleared from punctuation marks. Stanford Lemmatization has been applied in order to take all words to their base forms. Different from stemming, lemmatisation is closely related to correct identification of the intended part of speech and meaning of a word in a sentence. After this process, the word 'praying' or 'prays' is converted to the term 'pray'. Likewise, the word 'better' becomes 'good' and the word 'meeting' may be either 'meet' or 'meeting' depending on the meaning in the context. After the cleaning process the preparation phase has been continued with Bag of Words (BoWs) process. This process represents the text as a list of words without regarding the grammar. It is one example of vector space model which helps use to classify texts in NLP and IR.

After completing text preparation, the text in the form of BoWs has been analyzed with multiple techniques. These are;

- i. Topic extraction
- ii. Chisquare Keyword Extraction
- iii. Sentiment Analysis
- iv. N-Gram extraction

4. Findings

In this study, by using topic extraction technique, we have appointed 6 main topics in the Holy book Quran. The first topic can be labelled as Allah's Self-description, wherein Allah tries to explain his own self to believers by mentioning his power, knowledge, mercy and all the other adjectives and characteristics. As a result of sentiment analysis, it is revealed that, in the first topic, negative expressions are much more than positive expressions. These negative statements include verses describing the attitudes and behaviours of unbelievers like and say not of those slain in Allah's way, 'They are dead'; rather they are living, but you are not aware (Al-Baqarah 2, p. 154)

In topic 2 verses addressing people directly have been accumulated. The number of positive statements in this topic is half of the number of negative topics, as in the case with the first topic. Analyzes showed the presence of 55 positive statements versus 107 negative statements. Negative statements in this topic are seen mostly in the surah of Araf with 10 negative statements versus 3 positive statements. Under this category, we mostly come across verses addressing directly to people explaining that quran has been delivered for the sake of them with expressions such as the sons of Adam or children of Adam! For instance; Children of Adam! If there should come to you Messengers from among you, relating to you My signs, then whosoever is Allahfearing and makes amends -- no fear shall be on them, neither shall they sorrow (Araf 7, p. 35).

Moreover, in topic 3, the verses through which reward and punishment mechanisms designed by Allah have been mentioned. In this topic, negative expressions are three times more than negative expressions. In fact, this is understandable due to the nature of the subject. Our third topic consists of verses inviting believers to behave in an Islamic way that is correct and acceptable. Therefore, negative

statements that partially threaten people are seen more intensely. Most of the verses in this topic include warnings that attempts to call people to be careful about possible recompensations. For example; As for the unbelievers, their riches shall not avail them, neither their children, against Allah; those are the inhabitants of the Fire, therein dwelling forever (Al-İmran 3, p. 116).

In topic 4, concepts such as prophet, divine book and messengers that Allah used as tools to warn people were collected. This topic includes verses through which Allah aims to remind people of the earthly intermediaries he used for inviting people to faith. This topic seems highly negative, too. Positive statements are almost three times as many as negative statements. When the verses considered in details, it can be seen that negative expressions are seen in the kind of verses actually aiming something positive rather than threatening or frightening people. In this topic there are verses explaining the reason of sending the Holy Book to mankind. For instance this is an exposition for mankind, and a guidance, and an admonition for such as are Allahfearing (Al- i İmran 3, p. 138) and O believers, take not as your friends those of them, who were given the Book before you, and the unbelievers (Maide 5, p. 57).

Furthermore, in topic 5, verses related to chastisement of Allah has been mounted up. Interestingly, in this topic, we have 522 negative statements in comparison to 366 positive statements. This may give rise to the thought that even in a topic related to Allah's wrath, positive statements are considerably high. Under this category, there are verses including negative statements explaining the existence of hell for evildoers and unbelievers such as and if you do not -- and you will not -- then fear the Fire, whose fuel is men and stones, prepared for unbelievers (Baqarah 2, p. 24).

Lastly, topic 6 is about life and death cycle specifically about the earthly life. Verses explaining the significance of good deeds and faith in earthly life existed in this category. As in the case with the previous topics the number of negative statements is twice as high as the number of positive statements. Most of the negative statements are seen in the kind of verses explaining Allah's power to create life and death. For instance, how do you disbelieve in Allah, seeing you were dead and He gave you life, then He shall make you dead, then He shall give you life, then unto Him you shall be returned? (Al- Baqarah 2, p. 28).

5. Conclusion

In this study, by using text mining technique, we examined the holy book Quran and attempted to understand whether the Holy book has a negative or positive inclination in its expressions and how these words are harmonized with Islamic principles. In this study, contrary to what was predicted the positivity level of Quranic expressions were found to be below the expectations. As a result of our analyzes, we gathered the Qur'anic expressions in 6 main groups and it was seen that the negative expressions were more numerous than the positive expressions in each of these six main groups. Although it was assumed that positive expressions would be more than negative expressions when designing this study, when the expressions were examined in detail, it was seen that the negative expressions in the analyzes were actually expressions that warned people with the aim of preventing them from facing punishments and providing them to live their earthly and heavenly lives more peacefully. In Table 1 a summary of total number of negative, neutr and positive statements can be found. As seen in the table negative statements are nearly two times as high as positive statements in the total.

Table 1. Negative/Nötr/Positive Statements

Topics				
Row Labels	NEGATIVE	Notr	POSITIVE	Grand Total
topic 1	165	956	74	1195
topic 2	107	1106	55	1268
topic 3	150	1139	57	1346
topic 4	172	1675	60	1907
topic 5	522	2281	366	3169
topic 6	123	1447	73	1643
Grand Total	1239	8604	685	10528

When viewed on a surah-based basis, it is seen that the surah of Yasin with 83 positive phrases versus 13 negative concepts is the most positive Surah of Holy Book Quran whereas Surah of Baqara is the most negative one with 10 to 40 negative phrases. In the surah of Yâsîn, the subjects of tawhid, prophecy and the hereafter, which constitute the three principles of Islamic creed, are explained by bringing evidences from the perfect establishment and functioning of nature; meanwhile, exemplary examples from past tribes are cited within the framework of the struggle between faith and unbelief (Topaloğlu, 2013). From a very holistic point of view, the surah points to the necessity of faith for this world and for the next, and for the existence and oneness of Allah reflecting true picture of harmonization of Islamic principles. In this aspect, Yasin is accepted as a summary and the heart of the Holy Quran (Acar, 2001; Mahmut, 2012). It is acceptable that a surah, which is considered the heart of the Qur'an, is very positive in our analysis.

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References

- Acar, Y. (2001). *The Issue of the Dead Benefiting from the Worship and Recitation of the Alive in Terms of Narrative Sciences*. [Published Master's Thesis, Selçuk University Institute of Social Sciences]. Konya. <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>
- Alhawarat, M., Hegazi, M., & Hilal, A. (2015). Processing the Text of the Holy Quran: a Text Mining Study. *International Journal of Advanced Computer Science and Applications*, 6(2). <https://doi.org/10.14569/ijacsa.2015.060237>
- Ali, S. A., Ahmed, M., Bhatti, O. K., & Farooq, W. (2020). Gratitude and Its Conceptualization: An Islamic Perspective. *Journal of Religion and Health*, 59(4), 1740-1753. <https://doi.org/10.1007/s10943-019-00850-6>
- Alrabiah, M., Alhelewh, N., Al-Salman, A., & Atwell, E. S. (2014). An empirical study on the Holy Quran based on a large classical Arabic corpus. *International Journal of Computational Linguistics (IJCL)*, 5(1), 1-13.
- Arslantürk, R. S. (2018). The concept of "devil" in the context of the originality of the will in the Holy Quran [English Translation]. [Doctoral dissertation, Marmara University]. Turkey.
- Baykal Narcıkara, E. (2017). Örgüt Ortamında Artarak Yükselen Olumluluk: Pozitif Örgüt Okulu Bakış Perspektifi [Increasingly Rising Positivity in the Organizational Environment: Positive

- Organizational School Perspective]. *İş'te Davranış Dergisi*, 2(1), 20-20. <https://doi.org/10.25203/idd.300393>
- Baykal, E., Zehir, C., & Köle, M. (2018). Effects of servant leadership on gratitude, empowerment, innovativeness and performance: Turkey example. *Journal of Economy Culture and Society*, (57), 29-52. <https://doi.org/10.26650/jecs390903>
- Bilgiz, M. (2017). Some Features of the Qur'an. *Journal of Tafsir Research*, 1(2), 185-213. <https://dergipark.org.tr/en/download/article-file/357351>
- Çağlayan, R. (2006). *Kur'an-ı Kerim'de Cennet ve Cennetlikler* [Master's thesis, Sakarya Üniversitesi].
- Chesterman, A. (2016). *Memes of translation: The spread of ideas in translation theory* (Vol. 123). John Benjamins Publishing Company.
- Demir, M. Y. (2010). *The concept of humility in the Quran* (Master's thesis, Ankara University Institute of Social Sciences, Department of Basic Islamic Sciences (Tafsir)).
- Elhindi, Y. (2017). Metaphors in the Quran: A Thematic Categorization. *International Journal of Quranic Research*, 9(1), 1-20. <https://doi.org/10.22452/quranica.vol9no1.1>
- Hand, M. M., Simms, D. A., Fingersh, L. J., Jager, D. W., Cotrell, J. R., Schreck, S., & Larwood, S. M. (2001). *Unsteady aerodynamics experiment phase VI: wind tunnel test configurations and available data campaigns* (No. NREL/TP-500-29955). National Renewable Energy Lab., Golden, CO.(US).
- Kamil, S. M., & Yunos, M. Y. M. (2015). Establishing Malaysia Islamic Garden Based On Quranic Paradise Imagery: Descriptive Analysis From Tafsir Surah Waqiah. *Advances in Environmental Biology*, 9(23), 115-119. <http://www.aensiweb.net/AENSIWEB/aeb/aeb/2015/October/115-119.pdf>
- Mahmut, Ö. Z. E. R. (2012). Türkiye'de uluslararası öğrenciler [International students in Turkey]. *Yükseköğretim ve Bilim Dergisi* [Journal of Higher Education and Science], (1), 10-13.
- Muammer, E. (2011). Kur'an'da Akıl - İman İlişkisi [Reason-Faith relationship in the Quran]. *Ankara Üniversitesi İlahiyat Fakültesi Dergisi*, 52(2), 85-96. https://doi.org/10.1501/ilhfak_0000001079
- Özden, M. (2019). Kur'an'dan hareketle akıl-vahiy ilişkisi üzerine bir değerlendirme [An evaluation on the relationship between reason and revelation based on the Quran]. *Türkiye İlahiyat Araştırmaları Dergisi*, 3(2), 259-286.
- Salloum, S. A., AlHamad, A. Q., Al-Emran, M., & Shaalan, K. (2018). A Survey of Arabic Text Mining. *Intelligent Natural Language Processing: Trends and Applications*, 417-431. https://doi.org/10.1007/978-3-319-67056-0_20
- Siddiqui, M. A., Faraz, S. M., & Sattar, S. A. (2013). Discovering the Thematic Structure of the Quran using Probabilistic Topic Model. *2013 Taibah University International Conference on Advances in Information Technology for the Holy Quran and Its Sciences* (pp. 234-239). <https://doi.org/10.1109/nooric.2013.55>
- Slamet, C., Rahman, A., Ramdhani, M. A., & Darmalaksana, W. (2016). Clustering the verses of the Holy Qur'an using K-means algorithm. *Asian Journal of Information Technology*, 15(24), 5159-5162. <https://digilib.uinsgd.ac.id/5117/>
- Topaloğlu, Z. Ç. (2013). *4-5 yaş çocuklarının sosyal yetkinlik, saldırganlık, kaygı düzeyleri ile anne-babalarının ebeveyn özyeterliği algısı arasındaki ilişkilerin incelenmesi* [Examining the relationships between 4-5 year old children's social competence, aggression, anxiety levels and their parents' perception of parental self-efficacy] [Master Thesis]. Pamukkale Üniversitesi Eğitim Bilimleri Enstitüsü [Pamukkale University Institute of Educational Sciences].
- Yauri, A. R., Kadir, R. A., Azman, A., & Murad, M. A. A. (2013). Quranic Verse Extraction base on Concepts using OWL-DL Ontology. *Research Journal of Applied Sciences, Engineering and Technology*, 6(23), 4492-4498. <https://doi.org/10.19026/rjaset.6.3457>