# A Mathematical Phenomenon in the Quran of Earth-Shattering Proportions: A Quranic Work Based on Gematria Determining Quran Primary Statistics (words, verses, chapters) and Revealing its Fascinating Connection with the Golden Ratio 

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#### Abstract

As Almighty God has promised to protect the Quran from alteration, corruption, or distortion. Therefore, the scripture of the Quran has been subjected to various intense mathematically-based studies to reveal the protection mechanisms embedded in the composition of the Quran and to provide evidence of its credibility, authenticity, and divinity. Indeed, this study has discovered a mathematical framework in the Quran based on gematria that provides substantial evidence of the Quran's divine authorship and its perfect protection from human tampering. Essentially, this study has proposed a new research direction in numerological studies of the Quran. This study is textually based on the text delivered to Prophet Muhammad and drawn using the primary 28 letters in the alphabet of the Arabic language, the 112 un-numbered Basmalahs (verses that say "In the Name of God, The Merciful, The Compassionate") and the names of the Quran chapters. A numerical value (70.44911244) which is referred to in this study as the Quran Constant ( $Q C$ ) was derived to represent the mathematical design of the Quran. The Quran Constant has been found to be fundamental to the current study, whereby the Quran Constant manifests in all derived mathematical equations. The ratio of the total number of 114 chapters in the Quran which represents the physical design of the Quran divided by the Quran Constant (70.44911244) which represents the mathematical design of the Quran gives 1.6181893>; it is amazingly almost exactly the golden ratio of $1.618033>$. This work has also discovered that Almighty God embedded mathematical equations in the composition of the Quran that can easily lead to the determination of the Quran's primary statistics (words, verses, and chapters). This study has admirably discovered three elegant mathematical equations that determine the total number of words, verses, and chapters with great accuracy. More importantly, the letters/word ratio calculated in this work can be practically seen as a validation criterion of both the total number of letters and the total number of words in the Quran. Finally, what does this prove? It further proves that the Quran's miraculous mathematical structure discovered in this study provides unequivocal mathematical proof that the Quran was divinely authored and has been perfectly preserved from the day it was revealed. Indeed, we are witnessing a mathematical phenomenon of earth-shattering proportions $\sim$ a miracle beyond earthly justification and human comprehension.


> This study is set to mathematically and numerically validate and authenticate the first drawing of the Quran (Uthmanic manuscript) related statistics such as the total number of words, verses (Ayats) and chapters (Surahs) of the Quran (Figure 1: displays a sample of the first drawing of the Quran). As far as I am aware, this type of analysis has never been conducted before and no one has yet attempted to perform such analysis. Possibly, researchers and scholars have not been able to recognize that this type of analysis could deliver any promising outcomes of any nature to support and back the divine authorship of the Quran. The current study has diverted away from the traditional approaches that have been widely and commonly utilized in studying the numerical miracles in the Quran. The new approach is apparently a novel one because we strongly believe in the fact that since the Quran is the Word Of God, thus the Quran must have come with built-in mathematically-based algorithms, models and equations that demonstrate with numerical evidence its divinity and credibility and prove once and for all its divine
authorship. This work has been developed based an old alphabetic system and the Arabic system of numerology, which is known as Abjad notation (Abjad numerals), It has been very popular long before Islam in which the 28 letters of the Arabic alphabet are assigned numerical values which we also see in other languages such as Hebrew, Greek and others. The rest of this study is structured as follows. Section 2 discusses the concept of Abjad numerals and its historical development and significance. The third section presents the methodology used in the current study and the results related to the Quran's primary statistics and its related Abjad values. Section 4 discusses the theoretical formulation of the present study. The fifth section presents the contributions and concluding remarks of this work. Finally, the last section discusses some of the implementations and future works expected to emerge as a result of developing this new Quranic work.

## 1. Abjad Numerals

The intention of this study is to develop a mathematical work to expose the built-in mathematical system from which the Quranic basic statistics (words, verses, and chapters) can be numerically calculated with a remarkably high level of accuracy. This work is based purely on numerological calculations in which each Arabic alphabet ( 28 alphabets) is assigned a numerical value as shown in Table 1. This decimal numeral system has been known for a long time, whereas in Arabic this numeral system is referred to as Hisab Al- Jumal (King, 1974; Schanzlin, 1934). In fact, this method of calculation was extensively utilized long before the revelation of the Quran and even before the development of the Roman or Arabic numeral systems as we know today (Farooqi, 2003). This numeral system was used in the early days for mathematical analysis and numerology to predict the future and this type of numbering system were commonplace in the annals of history (Farooqi, 2003). However, there is no evidence to prove the origin of the Arabic system of numerology (Abjad numerals). Historically, the Arabs were known to be fascinated by this numeral system and they have widely used it for different purposes, particularly dates of important and interesting events. Historically, the origination of this numerical system is unknown and still a mystery, even many have declared that this system of numerology is of a divine origin (Yerachmiel, 2000). However, both Greeks and Hebrews were documented to extensively use the gematrical numbering systems that accommodate their own languages (Sanders, 1918; Hirshman, 2000; Blech, 2004; Michell, 2008).

Using this numerical system in the Quran has not yet delivered any prominent results. As a result, people have fallen into two camps: those who actually think it is a fruitless idea to continue utilizing this numerical system in the Quranic numerical studies. Because, according to them, no one has yet been able to find something worthy of recognition and attention (Al-Kaheel, 2012). The other camp is very much willing to continue experimenting with this numerical system in the Quranic mathematical calculations (Jarrar, 2001) because variations in mathematical structures can never be exhaustive. Therefore, if there are not many brilliant contributions from using this numeral system in the Quran, this does not strictly imply that this mathematical system can never be of any mathematical value in the numerology of the Quran. Admittedly, many studies have failed to produce any significant outcome to support the divinity of the Quran (Al- Kaheel, 2012). However, some interesting mathematical patterns in the Quran have been reported by Jarrar (2001) who has been extensively using the gematrical numeral system (Abjad numerals). The current study will use the Abjad numerals system because we believe that its characteristics are mathematically promising. Also, more importantly, the majority of studies conducted through this numerical system have used this crucial numeral system naively and superficially. Indeed, these studies have not been sophisticated enough to make full use of its great potentials and important characteristics. Certainly, this is the first study to unlock the relevance of this numeral decimal system to the Quran numerology.

## 2. Methodology and Results

This study is intended to prove that the Quran statistics (words, verses, and chapters) for the first drawing of the Quran can be computed through mathematical structure embedded by Almighty God. The one trillion dollar question: Does the Noble Quran have embedded mathematical equations that can be used to reveal its related basic parameters? If this happens to be true, therefore the probability that the Quran is human manufacture is comparable to the probability of a hurricane sweeping through a junk-yard and assembling a fully functional space shuttle. Furthermore, this study is set to prove that the Quran has been built based on the mathematical framework that divinely and supernaturally embedded in the Quran's composition.
of the Arabic language (See a sample of the first drawing of the Quran: Figure 1). Prophet Muhammad (blessings and peace of God be upon him) had commanded for the Quran to be written and organized into 114 chapters. As well as, the Quran contains 112 un-numbered Basmalahs (In the name of God, the Most Gracious and the Most Merciful). However, since the revelation of the Quran, naming each chapter has been a debated issue whether these are determined by revelation or otherwise. In fact, the majority of scholars have definitely confirmed that the naming of each chapter was a divine revelation inspired to Prophet Muhammad (e.g., AlSuyuti, 1948). As a result, I believe these names constitute important textual content to be considered in this study. In conclusion, this study will utilize the textual content of the following three divine components: (1) the Quran that consists of 6236 verses and 114 chapters, (2) the 112 un-numbered Basmalahs and (3) the names of the 114 chapters. Clearly, the current study believes that the whole Quran textually consists of these three components because they are all divinely revealed realities (Al-Suyuti, 1948). Indeed, as far as I am aware, no single study has included all three components. Apparently, no study has yet considered chapters' names as an important element even though most researchers have been aware of the fact that these names were determined by divine revelation (Al-Suyuti, 1948). Thus, the Holy Quran as a complete entity textually consists of these three divine components.

A committee of experts from various Arab countries headed by Abduldaem Al-Kaheel of Syria has worked hard for almost seven years to develop a digitized copy of the Quran and build software to provide searching facilities in the Quran. They have set the standards for computing the Quran statistics (letters and words) based completely on the first drawing of the Quran: these standards are extremely fundamental to set the proper rules and guidelines for counting letters and words (Al-kaheel, 2012). In fact, in the past and today still, many researchers have arbitrarily skewed their findings and results to fit their models through unnecessarily adding letters because the Arabic language has the characteristics that some letters (primarily vowels and syllables) have heavy emphasis (stress) on them, specifically the final heavy syllable of a root is normally stressed. Therefore, many researchers would simply double the count of these letters when necessary to fit the requirements of their mathematical patterns. Also, this explains why one can find different counts of letters and words of the Quran scattered in literature and websites. Thus, to guarantee full agreement with the first drawing of the Quran, the letter is only counted if it is physically written (Al-kaheel, 2012), and this similar to the English Language. This important requirement has not been considered in the counting process of letters in many studies before therefore methods of counting have been inconsistent. As a result, there have been many criticisms about the numerical conclusions of these studies (Philips, 1987). In order to achieve more realistic results, the current study will follow the rules and the guidelines set by Al- kaheel (2012) because he had established the proper counting criteria for both letters and words and these, of course, are in full agreement with the first drawing of the Quran (Uthmanic manuscript). In fact, the Uthmanic manuscript is exactly the same as the first drawing of the Quran (Nöldeke, 1992; Al-kaheel, 2012).

The first upheaval task facing the committee mentioned above was how to write the Quran in a computerized format so that the features and functionalities provided by existing software applications can be applied easily on the digitized format of the Quran. To achieve this objective, the technical committee headed by Al-Kaheel adopted the same rules used in drawing the first text of the Quran that was revealed to Prophet Muhammad. The next thing was performed after converting the Quranic text into a digital format was to check the text for full compliance with the Uthmanic script. Also, a compatibility check word by word and letter by letter was performed against the digitized document of the Quran issued by King Fahd Glorious Quran Printing Complex in Saudi Arabia (2017). In addition, free software was developed and launched by Al-Kaheel's technical institution with enormous potentials that make searching in the Quran is technically easy and $100 \%$ accurate (see the latest version: Al-kaheel, 2017). For example, each chapter and each verse can be tracked and traced so that the computation of the total number of letters and words is made easy and $100 \%$ accurate. Therefore, as long as the digitized copy is identical to the Quran in every sense, it is expected that the statistics related to the counting of letters and words in the Quran to be $100 \%$ exact. Indeed, the only reliable Quran statistics are the data that have been determined proficiently and accurately by the Al-Kaheel. I should remind readers that they are hundreds of websites and even researchers using and reporting inaccurate Quranic statistics, particularly with regard to the total number of letters, words, verses, and even chapters. The most important rule to consider a letter only if it is physically written because this is consistent with the first drawing of the Quran (Al-kaheel, 2012). Also, the letter (Waaw of copulative) in Arabic and its equivalent in English is the additive "and relation" is considered an independent word and this is precisely consistent with the first drawing of the Quran (Uthmanic manuscript) (Al-kaheel, 2012). In accordance with these considerations, Al-Kaheel's (2017) software has produced the results displayed in figure 2 and written in Arabic/Hindu numerals. More, this study has added the

English equivalent for all numerical facts in Figure 2. This figure also gives the total number of letters (322604), words (86967), and verses (6236) of the Quran (the first component of the whole Quran). More, this figure gives the frequency of each of the 28 letters in the Quran. Indeed, these figures are believed to be precisely what was revealed to Prophet Muhammad.


Fig. 1: A sample of the first drawing of the Quran



Fig. 2: Quran Statistics (The first drawing of the Quran - Uthmanic text)
The whole Quran is textually the sum of all three divine components (See Table 2 and Table 4): (1) the Quran which consists of 114 chapters, 6236 verses, 86967 words and 322604 letters, (2) the 112 unnumbered Bismillahs (each Bismillah has 4 words and 19 letters) which consist of 448 words and 2128 letters and (3) the names of the 114 chapters which consist of 115 words (chapter Al-Iimran is a two worded name) and 652 letters. The whole Quran consists of 87530 words and 325384 letters (Table 4). For consistency, I should remind readers that chapters' names have been written in the current study in a way
that conforms to the first drawing of the Quran (see Table 2). Finally, this study will calculate the total Abjad value of the 325384 letters for use in the forthcoming analysis.

This study will compute the Abjad value (gematrical value) of the Quran based on the first drawing of the Quran, the text that was vocally revealed in Arabic through angel Jibrail to the Prophet Muhammad and drawn in 28 alphabets under the guidance and direct command of the Prophet himself with a minimal number of diacritics and symbols. The text that will be included in the current study is the total sum of the text of the three divine components of the Holy Quran. The first step in the current study is to calculate the total Abjad value (AV) of the Quran, and this is equal to the sum of the Abjad values of the three divine components of the Quran as already mentioned. First, from Table 3, it is apparent that the calculated Abjad value of the Quran ( 114 chapters, 6236 verses, 86967 words, and 322604 letters) equals 23378278 . Second, the total Abjad value of the 19 letters that constitute the Bismillah is 786, thus the total Abjad value of the 112 un-numbered Bismillahs is $(=112 \times 786$ ) 88032 (Table 4). Third, the total Abjad value of the 652 letters of the names of the 114 chapters is 40234 (Table 2). Finally, the total Abjad value (AV) of the Holy Quran is the sum of the three components $(23378278+88032+40234)$ which equals 23506544 (Table 4). Indeed, this is the first study to incorporate the full text of the Quran in a single study because most of the existing research studies have included only a small portion of the Quran. Thus, effectively, the current study will be more relevant to the Quran (as a whole entity) than previous studies. The importance of the total Abjad value calculated in this study (23506544) lies in the fact that this number incorporates the total Abjad value of the whole Quran. The total Abjad value of the whole Quran acts as a protection mechanism to protect the Quranic text from human tampering and addition.

Further, the current work recognizes that the total sum of the number of every individual verse (the cumulative sum of verse numbers) in the Quran is an important parameter for the purpose of achieving the objective of the current study because this parameter has a direct key role to play in protecting the structure of the Quran. Because any change in the Quran with respect to deleting a verse or moving a verse from chapter to another chapter or adding verse to the Quran or minor distortion of the Quran's physical arrangement will force this parameter to change, therefore this parameter is extremely important from a mathematical structural design perspective. As a result, this study calculates the total sum of the number of every individual verse (see Table 2), for example, chapter 1 has 7 verses so its sum is $1+2+3+4+5+6+7=28$ and chapter 2 has 286 verses so its sum is $1+2+3+\ldots+286=41041$, and this goes through the rest of the Quran giving the final total of 333667 (Table 2): a unique prime number in its own right. The cumulative sum of verse numbers of the Quran (333667) plays a central role in protecting the organizational structure of the Quran from a distortion of its physical arrangement. Therefore, this golden number (333667) acts as a protection mechanism to protect the Quran's structural arrangement. Indeed, this prime number has unique mathematical properties that have long fascinated mathematicians (see subsection 4.1 below). Therefore, selecting the cumulative sum of verse numbers to equal 333667 must be the act of supernatural intelligence. This is a substantial verification that a supernatural Designer/Creator should have been involved in the Quran's design and development. Finally, in the coming sections, we will observe the importance of the total Abjad value (AV) of the Quran (23506544) and the total numbers of each individual verse in the Quran (333667) in the development of this important Quranic work.

Table 1: Abjad values of the Arabic Alphabet

| Sequential Value | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  | 10 | 11 | 12 | 13 | 14 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Arabic Alphabet |  | ب | ج | د | - | ¢ | ش | - | b | ي | ن | $J$ | 9 | $\stackrel{\square}{6}$ |
| English Transliteration Symbol | $\begin{aligned} & \text { alif } \\ & \text { aa } \end{aligned}$ | $\begin{aligned} & \mathrm{baa} \\ & \mathrm{~b} \end{aligned}$ | jeem | $\begin{aligned} & \text { daal } \\ & \text { d } \end{aligned}$ | $\begin{aligned} & \text { haa } \\ & \text { h } \end{aligned}$ |  | $\begin{aligned} & \text { zaay } \\ & \text { z } \end{aligned}$ | $\begin{aligned} & \mathrm{Haa} \\ & \mathrm{H} \end{aligned}$ | $\begin{aligned} & \text { Taa } \\ & \mathrm{T} \end{aligned}$ | $\begin{aligned} & \text { yaa } \\ & \text { y } \end{aligned}$ | $\mathrm{kaaf}_{\mathrm{k}}$ | $\begin{aligned} & \text { laam } \\ & 1 \end{aligned}$ | $\begin{aligned} & \text { meem } \\ & \text { m } \end{aligned}$ | $\begin{aligned} & \text { noon } \\ & \text { n } \end{aligned}$ |
| Abjad Value | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 20 | 30 | 40 | 50 |
| Sequential Value | 15 | 16 | 17 | 18 | 19 | 12 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Arabic Alphabet | ض | $\varepsilon$ | - |  | $\bigcirc$ | j | $\varepsilon$ | $\stackrel{-}{\square}$ | $\star$ | $\jmath$ | 2 | ض |  | ₹ |
| English | seen | aayn | faa | Saad | qaaf | raa | sheen | taa | Thaa | khaa | thaal | Daad | DHaad | ghayne |


| Transliteration <br> Symbol | s | 'a | f | S | q | r | sh | t | th | kh | dh | D | DH | gh |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Abjad Value | 60 | 70 | 80 | 90 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |

Table 2: Total number of verses, total sum of numbers of verses, total number of letters of chapters' names and total
Abjad value of chapters' names.

| Sequential Number | Chapter Name (Arabic)^ | $\begin{aligned} & \text { Chapter } \\ & \text { Name (English) } \end{aligned}$ | Number of Verses | Total Sum of Numbers of Verses | Number of Letters of Chapter's Name | Abjad Value of Chapter's Name |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  | al-Fatihah | 7 | 28 | 7 | 525 |
| 2 | 9 نالز | al-Baqarah | 286 | 41041 | 6 | 338 |
| 3 | الل عإِّا | Al-Imran | 200 | 20100 | 7 | 392 |
| 4 | 1 | an-Nisa' | 176 | 15576 | 5 | 142 |
| 5 | \|نُّايدِ | al-Ma'idah | 120 | 7260 | 7 | 91 |
| 6 | \|l|l | al-An`am & 165 & 13695 & 7 & 193 \\ \hline 7 & \|الإلعانـ & al-A`raf | 206 | 21321 | 7 | 383 |
| 8 |  | al-Anfal | 75 | 2850 | 7 | 193 |
| 9 | ¢انِّ | at-Taubah | 129 | 8385 | 6 | 444 |
| 10 | ط.6 | Yunus | 109 | 5995 | 4 | 126 |
| 11 | $\pm{ }^{\circ}$ | Hud | 123 | 7626 | 3 | 15 |
| 12 | ¢ | Yusuf | 111 | 6216 | 4 | 156 |
| 13 | سع | ar-Ra`d & 43 & 946 & 5 & 305 \\ \hline 14 & با & Ibrahim & 52 & 1378 & 7 & 259 \\ \hline 15 & الذجس & al-Hijr & 99 & 4950 & 5 & 242 \\ \hline 16 & 1-il & an-Nahl & 128 & 8256 & 5 & 119 \\ \hline 17 & الإلظا & Al-Isra & 111 & 6216 & 6 & 293 \\ \hline 18 & انكi & al-Kahf & 110 & 6105 & 5 & 136 \\ \hline 19 &  & Maryam & 98 & 4851 & 4 & 290 \\ \hline 20 & b & Ta Ha & 135 & 9180 & 2 & 14 \\ \hline 21 &  & al-Anbiya' & 112 & 6328 & 7 & 95 \\ \hline 22 & جانذ & al-Hajj & 78 & 3081 & 4 & 42 \\ \hline 23 & 区 & al-Mu'minun & 118 & 7021 & 8 & 223 \\ \hline 24 & ¢ & an-Nur & 64 & 2080 & 5 & 287 \\ \hline 25 &  & al-Furqan & 77 & 3003 & 7 & 462 \\ \hline 26 & نّانها & ash-Shu`ara' | 227 | 25878 | 6 | 602 |
| 27 | م'कu | an-Naml | 93 | 4371 | 5 | 151 |
| 28 | \| | al-Qasas | 88 | 3916 | 5 | 311 |
| 29 | - | al-`Ankabut | 69 | 2415 | 8 | 579 |
| 30 | \% | ar-Rum | 60 | 1830 | 5 | 277 |
| 31 | \%\% | Luqman | 34 | 595 | 5 | 221 |
| 32 | \|نعجد | as-Sajdah | 30 | 465 | 6 | 103 |
| 33 | الالداب | al-Ahzab | 73 | 2701 | 7 | 50 |
| 34 | ظ\% | Saba' | 54 | 1485 | 3 | 63 |
| 35 | \% | Fatir | 45 | 1035 | 4 | 290 |
| 36 | b. | Ya Sin | 83 | 3486 | 2 | 70 |
| 37 | \|نصافات | as-Saffat | 182 | 16653 | 7 | 603 |
| 38 |  | Sad | 88 | 3916 | 1 | 90 |
| 39 | \|in | az-Zumar | 75 | 2850 | 5 | 278 |
| 40 | غانس | Ghafir | 85 | 3655 | 4 | 1281 |
| 41 | فصّ | Fussilat | 54 | 1485 | 4 | 600 |
| 42 | \% نز | ash-Shura | 53 | 1431 | 6 | 547 |
| 43 | \|نصنف | az-Zukhruf | 89 | 4005 | 6 | 918 |
| 44 | \% | ad-Dukhan | 59 | 1770 | 6 | 686 |
| 45 | \|نجإِّكا | al-Jathiyah | 37 | 703 | 7 | 550 |
| 46 | \|الدمان | al-Ahqaf | 35 | 630 | 7 | 221 |
| 47 | بِّد | Muhammad | 38 | 741 | 4 | 92 |
| 48 | خ | al-Fath | 29 | 435 | 5 | 519 |
| 49 | \|نذجسات | al-Hujurat | 18 | 171 | 7 | 643 |
| 50 | ق | Qaf | 45 | 1035 | 1 | 100 |
| 51 | \|نرازيات | ad-Dhariyat | 60 | 1830 | 8 | 1343 |
| 52 | \| | at-Tur | 49 | 1225 | 5 | 246 |

| 53 | ｜i｜ | an－Najm | 62 | 1953 | 5 | 124 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 54 | 以एن | al－Qamar | 55 | 1540 | 5 | 371 |
| 55 | \％ | ar－Rahman | 78 | 3081 | 6 | 329 |
| 56 | ابنالِ | al－Waqi｀ah | 96 | 4656 | 7 | 213 |
| 57 | ｜iنذيد | al－Hadid | 29 | 435 | 6 | 57 |

Continue Table 2.

| Sequential Number | Chapter Name （Arabic）＾ | $\begin{array}{\|l\|} \hline \text { Chapter } \\ \text { Name (English) } \end{array}$ | Number of Verses | Total Sum of Numbers of Verses | Number of Letters of Chapter＇s Name | Abjad Value of Chapter＇s Name |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 58 | ن́ | al－Mujadilah | 22 | 253 | 8 | 114 |
| 59 | 山洤 | al－Hashr | 24 | 300 | 5 | 539 |
| 60 | ®்ப் | al－Mumtahanah | 13 | 91 | 8 | 574 |
| 61 | نصف | as－Saff | 14 | 105 | 4 | 201 |
| 62 | نجُّعٌ | al－Jumu｀ah | 11 | 66 | 6 | 149 |
| 63 | ※0ن¢ | al－Munafiqun | 11 | 66 | 9 | 358 |
| 64 | ن－ | at－Taghabun | 18 | 171 | 7 | 1484 |
| 65 | نطالق | at－Talaq， | 12 | 78 | 6 | 171 |
| 66 | OTCu | at－Tahrim | 12 | 78 | 7 | 689 |
| 67 | نٌ | al－Mulk | 30 | 465 | 5 | 121 |
| 68 | H080 | al－Qalam | 52 | 1378 | 5 | 201 |
| 69 | نذارِ | al－Haqqah | 52 | 1378 | 6 | 145 |
| 70 | ن | al－Ma｀arij | 44 | 990 | 7 | 345 |
| 71 | てÓ | Nuh | 28 | 406 | 3 | 64 |
| 72 | \％ | al－Jinn | 28 | 406 | 4 | 84 |
| 73 | نٌ | al－Muzammil | 20 | 210 | 6 | 148 |
| 74 |  | al－Mudathir | 56 | 1596 | 6 | 775 |
| 75 | نمبإي | al－Qiyamah | 40 | 820 | 7 | 187 |
| 76 |  | al－Insane | 31 | 496 | 7 | 193 |
| 77 | نز | al－Mursalat | 50 | 1275 | 8 | 762 |
| 78 | पं | an－Naba＇ | 40 | 820 | 5 | 84 |
| 79 | ناشٌ | an－Nazi｀at | 46 | 1081 | 8 | 560 |
| 80 | c | ＇Abasa | 42 | 903 | 3 | 132 |
| 81 | US | at－Takwir | 29 | 435 | 7 | 667 |
| 82 | ｜l | al－Infitar | 19 | 190 | 8 | 372 |
| 83 | ） | Al－Mutaffifeen | 36 | 666 | 8 | 300 |
| 84 |  | al－Inshiqaq | 25 | 325 | 8 | 583 |
| 85 | O | al－Buruj | 22 | 253 | 6 | 242 |
| 86 | نطازق | at－Tariq | 17 | 153 | 6 | 341 |
| 87 | اللعهي | al－A｀la | 19 | 190 | 6 | 142 |
| 88 |  | al－Ghashiya | 26 | 351 | 7 | 1347 |
| 89 | ｜ | al－Fajr | 30 | 465 | 5 | 314 |
| 90 | 4 | al－Balad | 20 | 210 | 5 | 67 |
| 91 | نُط | ash－Shams | 15 | 120 | 5 | 431 |
| 92 | نی\％ | al－Layl | 21 | 231 | 5 | 101 |
| 93 | نضذي | ad－Duha | 11 | 66 | 5 | 849 |
| 94 | نس | ash－Sharh | 8 | 36 | 5 | 539 |
| 95 | 0 | at－Tin | 8 | 36 | 5 | 491 |
| 96 | نك | al－｀Alaq | 19 | 190 | 5 | 231 |
| 97 | نديز | al－qadr | 5 | 15 | 5 | 335 |
| 98 | \％）${ }^{\circ}$ | al－Bayyinah | 8 | 36 | 6 | 98 |
| 89 | ； | Az－Zalzala | 8 | 36 | 7 | 110 |
| 100 | نعاديات | al－｀Adiyat | 11 | 66 | 8 | 517 |
| 101 | نما | al－Qari｀ah | 11 | 66 | 7 | 407 |
| 102 | Himb | at－Takathur | 8 | 36 | 7 | 1152 |
| 103 | نصس | al－｀Asr | 3 | 6 | 5 | 391 |
| 104 | ण6\％ | al－Humazah | 9 | 45 | 6 | 88 |
| 105 | \％ie | al－Fil | 5 | 15 | 5 | 151 |
| 106 | \％ | al－Quraish | 4 | 10 | 4 | 610 |
| 107 | \％gl＇j | al－Ma｀un | 7 | 28 | 7 | 198 |
| 108 | － | al－Kauthar | 3 | 6 | 6 | 757 |
| 109 | \％ | al－Kafirun | 6 | 21 | 8 | 388 |
| 110 | ｜ | an－Nasr | 3 | 6 | 5 | 371 |
| 111 | ¢́） | Al－Masad | 5 | 15 | 5 | 135 |


| 112 | الخال | al-Ikhlas | 4 | 10 | 7 | 753 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 113 | 淮 | al-Falaq | 5 | 15 | 5 | 241 |
| 114 | ناضض | an-Nas | 6 | 21 | 5 | 142 |
| Total |  |  | 6236 | 333667 | 652 | 40234 |

Note: ^Chapters’ names are written in accordance with the first drawing of the Quran.
Table 3: The Abjad value of the Quran ( 322604 letters)

| Number | Letter in Arabic | Letter in English | Letter's Abjad Value | Letter Frequency | Total Abjad Value |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | aa | 1 | 52655 | 52655 |
| 2 | ب | b | 2 | 11491 | 22982 |
| 3 | ج | j | 3 | 3317 | 9951 |
| 4 | د | d | 4 | 5991 | 23964 |
| 5 | ¢ | h | 5 | 17194 | 85970 |
| 6 | ¢ | w | 6 | 25676 | 154056 |
| 7 | ش | Z | 7 | 1599 | 11193 |
| 8 | $\tau$ | H | 8 | 4140 | 33120 |
| 9 | b | T | 9 | 1273 | 11457 |
| 10 | ي | y | 10 | 25746 | 257460 |
| 11 | ن | k | 20 | 10497 | 209940 |
| 12 | J | 1 | 30 | 38102 | 1143060 |
| 13 | 9 | m | 40 | 26735 | 1069400 |
| 14 | \% | n | 50 | 27268 | 1363400 |
| 15 | ض | S | 60 | 6010 | 360600 |
| 16 | $\varepsilon$ | 'a | 70 | 9405 | 658350 |
| 17 | ف | f | 80 | 8747 | 699760 |
| 18 | $\square$ | S | 90 | 2074 | 186660 |
| 19 | ق | q | 100 | 7034 | 703400 |
| 20 | j | r | 200 | 12403 | 2480600 |
| 21 | $\dot{\varepsilon}$ | sh | 300 | 2124 | 637200 |
| 22 | ت | t | 400 | 10520 | 4208000 |
| 23 | $\stackrel{\text { ث }}{ }$ | th | 500 | 1414 | 707000 |
| 24 | J | kh | 600 | 2497 | 1498200 |
| 25 | ذ | th | 700 | 4932 | 3452400 |
| 26 | ض | D | 800 | 1686 | 1348800 |
| 27 | ظ | DH | 900 | 853 | 767700 |
| 28 | $\dot{\varepsilon}$ | gh | 1000 | 1221 | 1221000 |
| Total |  |  | 5995 | 322604 | 23378278 |

Table 4: Total number of letters, words and Abjad value of the whole Quran: the three divine components

| Component | Number of Letters | Number of Words | Abjad Value (AV) |
| :--- | :--- | :--- | :--- |
| The Quran (6236 Verses) | 322604 | 86967 | 23378278 |
| The 112 un-numbered Basmalahs^ | $2128(19 \times 112)$ | $448(4 \times 112)$ | $88032(786 \times 112)$ |
| Names of chapters (Surahs) | 652 | 115 | 40234 |
| Total | $\mathbf{3 2 5 3 8 4}$ | $\mathbf{8 7 5 3 0}$ | $\mathbf{2 3 5 0 6 5 4 4}$ |

Note: ^ Each Basmalah consists of 4 words and 19 letters with a total Abjad value of 786.

## 3. Work

### 3.1 Quran Constant

This study recognizes the importance of the numerical value that represents mathematically the combination of both the textual content and the organizational structure/arrangement of the Quran. This numerical value will be referred to in the current study as Quran Constant (QC). Indisputably, this constant should not permit any change in the text (omissions or additions) or change in the physical structure of the Quran (moving verses from chapter to another or deleting a verse or adding a verse). Indeed, this constant (QC) provides a protection mechanism against any attempt to change the text or the organizational structure of the Quran. The Quran Constant will instantaneously expose any slight distortion of the Quran's text or physical structure/arrangement. Overall, the Quran Constant can be considered as the numerical value that represents the mathematical design of the Quran from both textual and organizational structure perspective.

Mathematically, the total Abjad value (AV) of the whole Quran (the Quran consists of 325384 letters with total Abjad value equals 23506544 ) can be used to represent the textual content of the whole Quran (see Table 4). Any change to the text of the Quran will be directly reflected upon the total Abjad value, especially additions or omissions or textual distortion. It is apparent that the total Abjad value of the Quran can be perceived as being the value that controls the text in the Quran, this implies that any distortion to the text will force the total Abjad value to change. Therefore, the first value to be considered in determining the Quran Constant is logically the total Abjad value of the Quran (AV=23506544).

The second numerical value must have the mathematical properties that control the organizational structure of the Quran. Definitely, the structural design of the Quran is related to chapters and verses and how verses are distributed among different chapters, each chapter has a certain number of verses ranging from 3 to 286 verses. The distribution of verses among chapters has been historically confirmed to be a divine institution (Haleem, 2005). The chapter/verse distribution is an important criterion to gauge the way the Quran is structurally organized into chapters. The one and the only numerical value which can be potentially a candidate to play the role of preserving the structure/arrangement of the Quran is the cumulative sum of verse numbers (333667) (Table 2). This numerical value governs the organizational structure of the Quran, whereby it does not permit any movement of any verse from chapter to another or adding or deleting a verse. Thus, this important number acts as a protection mechanism against any attempt to tamper with the physical structure/arrangement of the Quran.

Up to now, this number (333667) has not been given its due in all studies conducted in relation to the numerology of the Quran. However, this number, 333667, will be the cornerstone of this study since its value has a direct influence on the organizational structure/arrangement of the Quran. Surprisingly, this number has many unique attributes and characteristics that make it one of the most important, if not, THE most important six-digit prime number. As far as the Quran is concerned, the sum of its digits ( $3+3+3+6+6+7$ ) equals 28 (which is the total number of Arabic alphabets) and this number (28) plays an important role in the forthcoming analysis of current study. Further, if we multiply each digit of this prime number with the next digit and add the results ( $3 \square 3+3 \square 3+3 \square 6+6 \square 6+6 \square 7$ ), it gives 114 and this equals the total number of the Quran chapters. Furthermore, this 6 -digit prime number has many interesting mathematical properties that distinguish it from all 6 -digit prime numbers. First, 333667 prime factor is the largest prime factor of the palindrome 12345678987654321 . Second, the greatest prime factor of 9 -digit repdigit is 333667 . Third, when any 3 -digit number is multiplied by 333667 and 3 , the result will always be the same 3 -digit number replicated 3 times. For example, $111 \times 333667 \times 3=111111111$. Truly, it can never be a mere coincidence that the sum of the Quran verses numbers equals 333667 because this unique six-digit prime number is unlikely to be used in the design of
the Quran through human involvement at the time when the Quran was revealed 1400 years ago. Today's numbering systems didn't exist at the time of the revelation of the Quran and obviously, no human at that time may have appreciated the unique and interesting mathematical properties of this prime number (333667). Therefore, it must be a divine power supernaturally designed the Quran in such a way that the total sum of the Quran verses numbers equals 333667.

The Quran Constant (QC) can be considered as the numerical value that exposes any slight distortion or change in the Quran's text and/or its structure/arrangement. Since Almighty God promised to protect the Quran from both textual and structural distortions so the Quran Constant can be the mathematical measure to achieve that protection. Thus, to serve this objective, the Quran Constant will be derived by dividing the total Abjad value of the Quran (23506544) with the cumulative sum of verse numbers in the Quran (333667).

We write

$$
\begin{equation*}
\text { Quran Constant }(\mathrm{QC})=\frac{23506544}{333667}=70.44911244 . \tag{1}
\end{equation*}
$$

QC is a measure of Abjad value per each value of the cumulative sum of verse numbers. Thus, one can say that the Quran was mathematically coded and structured based on the numerical value of the Quran Constant. Therefore, the Quran Constant is a measure of the mathematical design of the Quranic contents. This implies that when the Quran was revealed 1400 years ago, Almighty God designed and constructed the Holy Quran in such a way that each value of the cumulative sum of verse numbers holds a value of 70.44911244 of Abjad value. Further, the current work recognizes that since the Quran Constant numerically resembles the way Quran was mathematically designed, structured, and configured. Consequently, the Quran Constant must have the keys to unlock the secrets of the Quran, such as unleashing numerically the Quran statistics (words, verses, and chapters) and revealing the Quran's numerical connection with the golden ratio.

### 4.2 Quranic Golden ratio

The golden ratio ( $\Phi$ ) is mathematically simple and usually approximated to 1.618 . Many interesting mathematical properties have been attributed to the golden ratio which makes it unique among all numbers (Kak, 2009). The golden ratio has pervasively manifested in the design and construction of many living and non-living objects in nature. Indeed, the golden ratio possesses the mathematical properties and characteristics that numerous natural objects and phenomena seem to follow. Many scientists have called the golden ratio as God's fingerprint which shows up all over in nature (Livio, 2008; Zonnefeld, 2015). In nature, any product design based on the golden ratio seems to be naturally connected with a Creator - the Master Engineer. Categorically, this divine ratio is a naturally occurring mathematical principle. Many believe that the golden ratio is a fundamental characteristic of the universe (Hejazi, 2004; Livio, 2008; Kak, 2009). Because of the golden ratio's unique mathematical properties, all divine scriptures have been extensively subjected to varying degrees of numerical analysis to associate them in a way or another to the golden ratio in order to prove their divinity, credibility, and divine authorship (Man, 2002). The golden ratio has already been widely proven to have an interesting theological trajectory due to its widespread use in Gods' instructions for measurements of Noahs Ark, The Ark of the Covenant, Moses' Alter, etc.

One of the main intentions of this study is to demonstrate if there is any numerical connection between the Quran and the golden ratio. Indeed, it has been proved beyond doubt that many living and non-living objects follow the mathematical rules and properties of the golden ratio. If the Quran was crafted by Almighty God it is most likely that there exists a connection between the Quran and the golden ratio. The current study proposes that if there is a basis for a supernatural intelligent design in the Quran then logically the golden ratio may have been the primary foundation for its overall design.

The current study has already computed an index called the Quran Constant (QC) that governs the aspects of textual content and physical structural design of the Quran. Thus, it is mathematically demonstrable to suggest that this numerical index symbolizes the mathematical design of the Quran. In other words, the

Quran has been transformed into an index called the Quran Constant ( $Q C=70.44911244$ ) that can be used to guarantee the preservation of both the text and the structure/arrangement of the Quran. Consequently, this index will be carried forward in this study for further analysis. Furthermore, it is known that the Noble Quran has various important numerals that constitute its structure and design. The most highly visible among Muslims is the total number of chapters, whereby the Quran is comprised of 114 chapters of varying lengths ranging from 3 to 286 verses and each verse varies in length from two letters to a full page. In other words, the text of the Quran is physically organized in 114 chapters and was performed through divine total involvement according to multiple references (Yauri et al., 2012; Almujalli, 2014; Aboul-Enein, 2016). Therefore, an important question to be asked, is there any quantitative connection between the Quran Constant (70.44911244) and the total number of chapters (114)? We write

$$
\begin{equation*}
\frac{114}{\mathrm{QC}}=\frac{114}{}=1.618189301 \tag{2}
\end{equation*}
$$

70.44911244

It is remarkable that the ratio of the total number of chapters of the Quran (114) which represents the physical design of the Quran and the Quran Constant (70.44911244) which represents the mathematical design of the Quran is extremely in close agreement with the ideal golden ratio (1.6180339887) and the ideal/calculated ratio is within $99.99 \%$. Highly accurate evaluation of the golden ratio in the Quran and other Holy Books is widespread and becoming well known today. This remarkable result is extraordinarily compelling evidence that provides clear proof for the divine authorship of the Quran. More importantly, this study has its unique peculiarity in comparison with other studies since it has incorporated all textual content of the Quran, including the 112 un-numbered Basmalahs and the names of Quran chapters. Therefore, the calculated golden ratio in this study reveals a strong connection with the whole textual content of the Quran.

Undoubtedly, this important result comprehensively proves that the Quran is structured in a way that it follows the golden ratio pattern and therefore according to a superhuman intelligent design. The presence of the golden ratio in the design and structuring of the Quran implies that there must be a Creator for this Holy Book (Livio, 2008). Indeed, without any reasonable doubt, this mathematical phenomenon cannot happen by sheer coincidence or chance because the probability of having this great mathematical phenomenon in the design of the Quran is almost infinitesimal. In conclusion, the numerical evidence provides by this study is so thoroughly convincing and conclusive to the effect that anyone can unequivocally believe that the Quranic design and development must be meticulously inspired and conducted by superhuman power of Almighty God.

### 4.3 Words total in the Quran

The development of a mathematical relationship or an algorithmic equation to determine the total number of words in a human authored book is so overwhelmingly impossible task. It is absolutely unattainable to link numerically the relationship between the total number of letters and the total number of words in a human designed book. Such a scenario could only be achievable if the supernatural intelligent design has been responsible for authoring the book. The big question: does the Quran have an embedded mathematical formula that leads to the knowledge of the ratio of the total number of letters and the total number of words?

To answer this, we need to compute a numerical value that represents one of the mathematical characteristics of the Abjad numerals. As far as I am aware, no one has yet used this mathematical property of the Abjad numerals in the numerology of the Quran. The importance of this numerical value has manifested in the current study because this study has observed that Almighty God embeds a unique mathematical relationship between this numerical value and the Quran Constant that will surprisingly lead to the ratio of the total number of letters and the total number of words of the Quran with extremely high
accuracy. This numerical value is given the symbol, $\pi_{\mathrm{A}}$. In the Abjad numerals system the 28 Arabic alphabets are assigned values from $1,2,3, \ldots$ to $7,8,9$, then $10,20,30, \ldots$.to $70,80,90$, then $100,200,300 \ldots$.to 1000) (Table 1). We define $\pi_{\mathrm{A}}$ mathematically as follows

$$
\begin{equation*}
\pi_{\mathrm{A}}=\sum_{\mathrm{n}=1}^{28} \frac{1}{\mathrm{AV}(\mathrm{n})} \tag{3}
\end{equation*}
$$

where $\mathrm{AV}(\mathrm{n})$ is the Abjad value of the nth alphabet (Table 1). Thus

$$
\begin{equation*}
\pi_{\mathrm{A}}=\sum_{\mathrm{n}=1}^{28} \frac{1}{\mathrm{AV}(\mathrm{n})}=\left(\frac{1}{1}+\frac{1}{2}+\frac{1}{3}+\ldots+\frac{1}{9}+\frac{1}{10}+\frac{1}{20}+\ldots+\frac{1}{90}+\frac{1}{100}+\frac{1}{200}+\ldots \frac{1}{900}+\frac{1}{1000}\right) \tag{4}
\end{equation*}
$$

Therefore

$$
\begin{equation*}
\pi_{\mathrm{A}}=\frac{263857}{84000} \approx 3.1411547619 \tag{5}
\end{equation*}
$$

This numerical value is a property of the Abjad numerals and constant for any textual book written in the Arabic language whether it is a divine scripture or a human authored book. 3.14 is the first 3 digits of PI! (3.141592>) And surprisingly, the sum of the first 28 digits of chapters (3.141154761904761904761904761) is equal to 114, the total sum of the Qurans' we recall that the Quran Constant (QC) has been computed and is directly proportional to the Abjad value of the Quran. However, $\square \mathrm{A}$ was calculated and it is inversely proportional to the Abjad value. Generally therefore, we expect that there is an exponential relationship between the two numerical values: QC and
$\pi_{\mathrm{A}}$, (Figure 3), such as

$$
\begin{equation*}
\mathrm{QC} \propto \frac{1}{\pi_{\mathrm{A}}}, \tag{6}
\end{equation*}
$$

or

$$
\begin{equation*}
\mathrm{QC}=\pi_{\mathrm{A}}{ }^{\mathrm{q}_{\mathrm{LW}}}, \tag{7}
\end{equation*}
$$

Where $\mathrm{q}_{\mathrm{LW}}$ is an exponential proportionality constant. By taking the natural algorithm of both sides of the equation and substitute for QC and $\pi_{\mathrm{A}}$, we get

$$
\begin{equation*}
\mathrm{q}_{\mathrm{LW}}=\frac{\log _{\mathrm{e}}(\mathrm{QC})}{\log _{\mathrm{e}}\left(\pi_{\mathrm{A}}\right)}=\frac{\log _{\mathrm{e}}(70.44911244)}{\log _{\mathrm{e}}(3.1411547619)}=3.717391219 \tag{8}
\end{equation*}
$$

Remarkably, the result ( $\mathrm{q}_{\mathrm{LW}}=3.717391219$ ) obtained is almost practically identical to the actual ratio of the total number of letters divided by the total number of words (letters/word ratio) in the Holy Quran ( $325384 / 87530=3.717399749$ ). Further, according to this result, the total number of words in the Quran can be calculated to give

$$
\begin{equation*}
\text { Totalnumber of words }=\frac{\text { Letters in Quran }}{q_{\mathrm{Lw}}}=\frac{325384}{3.717391219}=87530.20085 . \tag{9}
\end{equation*}
$$

According to the first drawing of the Quran (the way the Quran was written and documented under the direct guidance and supervision of Prophet Muhammad), the actual total number of words in the Quran is 87530 (Table 4). This is a miraculous correspondence between the theoretical result obtained by the current study and the Quran (the actual/calculated ratio is within $99.9998 \%$ ). More importantly, the calculation of $\mathrm{q}_{\mathrm{LW}}$ can be seen largely as a validation criterion of both the total number of letters and the total number of words in the Quran. The mathematical formula obtained in this study proves without any reasonable doubt that Almighty God, in a supernatural way, embedded the ratio of the total number of letters and the total number words in a mathematical system that governs the structural design and composition of the Quran. Definitely, this amazing mathematically-based invisible, unobservable phenomenon in the Quran as manifested by the numerical determination of the total number of words provides overwhelming tangible and convincing proof of its authenticity and divine revelation. Certainly, there can be no natural or earthly explanation of this mathematical phenomenon.


Figure 3: Letters/word relation

### 4.4 Verses total in the Quran

It is never an easy task to provide the theoretical means to evaluate the total number of verses in the Quran because how words of the Quran are distributed among verses can never be known or predicted mathematically. Some verses are two letters words and some between one-half and one full-page. However, this type of analysis could be practically possible if Almighty God has embedded some mathematical structure that lends itself to simplify the computation.

For the calculation of the total number of verses in the Quran and in accordance with how the Quran is mathematically structured, we need to derive another important mathematical property of the Abjad numerals, whereby the current study has noticed that such value together with the Quran Constant ( $Q C$ ) will numerically simplify the mathematical calculation of the ratio of total the number of verses divided by the total number of letters through a hierarchical mathematical structure corresponds with the chain of verse-word-letter system. This numerical value $\left(\mathrm{q}_{\mathrm{v}}\right)$ is defined as

$$
\begin{equation*}
\mathrm{q}_{\mathrm{v}}=\sum_{\mathrm{n}=1}^{28} \mathrm{AV}(\mathrm{n}) \tag{10}
\end{equation*}
$$

where $\mathrm{AV}(\mathrm{n})$ is the Abjad value of the $\mathrm{n}^{\text {th }}$ alphabet (Table 1). Therefore

$$
\mathrm{q}_{\mathrm{V}}=\sum_{\mathrm{n}=1}^{28} \mathrm{AV}(\mathrm{n})=(1+2+3+\ldots 9+10+20+\ldots+90+100+200+\ldots 900+1000)=5995
$$

Again, this numerical value ( $q_{V}=5995$ ) is constant whether the text under investigation is of divine nature or human-authored nature. If we add up the four digits $(5+9+9+5)$, it surprisingly gives 28 , the number of letters in the Arabic Alphabet. The hierarchical mathematical structure of the chain of verse-word-letter system plays an important role in determining the total number of verses in the Quran. In fact, we need to develop two relationships to compute the total number of verses through the chain of verse-word-letter system because verses are composed of words, and words are composed of letters. The interrelation between the two values ( $Q C$ and $q_{V}$ ) can be utilized in accordance with how Almighty God structures the relationships between them to evaluate the total number of verses of the Quran. In the current theoretical study, we need to realize that the heart of all calculations is the Quran Constant. Indeed, in accordance with how Almighty God embeds the mathematical structure in the Quran's composition, the mathematical relationships between verses, words, and letters can be grouped in two (see Figure 4):
(1) The first relationship $\left(r_{1}\right)$ between $q_{V}$ and QC, the relationship between them is linear because each of them was defined and derived based on direct proportionality with the Abjad value.
(2) The second relationship ( $\mathrm{r}_{2}$ ) consists of two links: the first link between $\mathrm{q}_{\mathrm{v}}$
$\pi_{\mathrm{A}}$, and this link is
exponential because $\pi_{\mathrm{A}}$
was defined and derived based on inverse proportionality with the Abjad value (AV). The second link is between $\pi_{\mathrm{A}}$ and QC, and this link has already been investigated in the previous section and it is an exponential

$$
\begin{equation*}
\mathrm{q}_{\mathrm{VL}}=\mathrm{r}_{1} \times \mathrm{r}_{2}, \tag{12}
\end{equation*}
$$

one. Apparently, in accordance with how Almighty God embeds the mathematical structure in the Quran, the two relationships are interrelated with verse per letters ratio in the following manner:
where $\mathrm{q}_{\mathrm{VL}}$ is the ratio between the total number of verses divided by the total number of letters. In order to comply with how the Quran has been mathematically structured, we need to take the natural algorithm of both sides of equation (12), so we get

$$
\begin{equation*}
\log _{\mathrm{e}}\left(\mathrm{q}_{\mathrm{VL}}\right)=\log _{\mathrm{e}}\left(\mathrm{r}_{1}\right)+\log _{\mathrm{e}}\left(\mathrm{r}_{2}\right) \tag{13}
\end{equation*}
$$

Therefore, as discussed above (Figure 4) we substitute in equation (13) for $\log _{e}\left(r_{1}\right)$ by $\log _{e}\left(\mathrm{QC} / \mathrm{q}_{\mathrm{V}}\right)$ and for $\log _{\mathrm{e}}\left(\mathrm{r}_{2}\right)$ (this relation consists of two links and its numerical value is equal to the multiplied values of both links and this complies with the way the Quran mathematically structured) (see Figure 4) by

$$
\frac{\log _{e}\left(\pi_{\mathrm{A}}\right)}{\log _{\mathrm{e}}\left(\mathrm{q}_{\mathrm{v}}\right)} * \frac{\log _{\mathrm{e}}(\mathrm{QC})}{\log _{\mathrm{e}}\left(\pi_{\mathrm{A}}\right)}=\frac{\log _{\mathrm{e}}(\mathrm{QC})}{\log _{\mathrm{e}}\left(\mathrm{q}_{\mathrm{v}}\right)}
$$

We have

$$
\begin{equation*}
\log _{e}\left(\mathrm{q}_{\mathrm{VL}}\right)=\log _{\mathrm{e}}\left(\frac{\mathrm{QC}}{\mathrm{q}_{\mathrm{v}}}\right)+\frac{\log _{\mathrm{e}}(\mathrm{QC})}{\log _{e}\left(\mathrm{q}_{\mathrm{v}}\right)} . \tag{14}
\end{equation*}
$$

We substitute for QC and $\mathrm{q}_{\mathrm{v}}$ in equation (14), we obtain
) $=\log$

$$
\left(\frac{70.44911244}{\mathrm{e} \quad}\right)_{+}+\log _{\mathrm{e}}(70.44911244)
$$

e VL
$\log _{e}$
(5995)

$$
\begin{equation*}
=-4.443790428+0.489142044 \tag{15}
\end{equation*}
$$

Thus Consequentlylog ${ }_{\mathrm{e}}\left(\mathrm{q}_{\mathrm{vL}}\right)=-3.954648384$.
$\mathrm{q}_{\mathrm{VL}}=0.019165406$ Verse/letters.

$$
\begin{equation*}
\text { Total number of verses }=325384 \times 0.019165406=6236.116466 \tag{18}
\end{equation*}
$$

The actual total number of verses in Quran $=6236$ (Table 2). The amazing correspondence between the calculated numerical value and the actual value (the actual/calculated ratio is within $99.998 \%$ ) provides concrete evidence that the Quran is a definitive divine revelation. Indeed, the elegant relationship in equation (14) embedded by Almighty God, the Master Engineer, is straightforward and yet there is no earthly explanation of how different parameters in the Quran and the mathematical properties of Abjad numeral system are structured
and arranged to achieve this remarkable mathematical phenomenon.


Figure 4: Verse/letters relations

### 4.5 Chapters total in the Quran

Any attempt to compute the total number of chapters in the Quran is undoubtedly an extremely challenging and unachievable task. Apparently, how the Quran was organized into chapters is simply mysterious to humans. There is no trace of any kind of how verses were distributed among the 114 chapters and these are varying in length from 3 to 286 verses. Any successful effort to evaluate the total number of chapters in the Quran must be implemented through the mathematical structure that divinely embedded in the Quran's composition. The current study will expose the secret and unlock the mathematical knowledge necessary to derive the equation from which the total number of the chapters can be simplistically determined.

The normal chain of the Quran consists of chapter-verse-word-letter. However, the current study has observed that the mathematical structure embedded in the Quran only provides tracking of three parameters (chapter-verse-word). The interrelated relationships between these three parameters (chapter, verse, and word) will be analyzed for the purpose of determining the equation for the ratio of words per chapter.

To achieve this objective, we need first to determine a numerical value that plays a central role in the forthcoming numerical analysis. This numerical value (qC) will be used in the current study together with QC, and qV to derive the equation needed to determine the ratio of words per chapter in the Quran. The definition of qC mathematically will be as follows

$$
\begin{equation*}
\mathrm{q}_{\mathrm{C}}=\sum_{\mathrm{n}=1}^{28}\left[\frac{1}{\operatorname{AV}(\mathrm{n})} \times \operatorname{AV}(\mathrm{n})\right] \tag{19}
\end{equation*}
$$

It is clear that the two expressions inside the square bracket in equation (19) are similar to those defined for $\pi_{\mathrm{A}}$ and $\mathrm{q}_{\mathrm{V}}$ (See equations (3) and (10)). On simplification of equation (19), we have

$$
\begin{equation*}
\mathrm{q}_{\mathrm{C}}=\sum_{\mathrm{n}=1}^{28}[1]=[1+1+1+\ldots+1+1+1]=28 \tag{20}
\end{equation*}
$$

This is an expected value and it represents the total number of Arabic alphabets which is the same as the total number of digits the Abjad numeral system consists of. Thus, qC is a constant value and a characteristic of the Abjad numerals whether the text is divine-based or human-based. The mathematical relationships between
chapters, verses and words can be grouped in two as set by the divinely embedded mathematical structure of the Quran (see Figure 5, no link between qV and QC exists in this figure because there is no connective relationship between words and letters in the process of calculating the total number of chapters):

1. The first relationship $\left(\mathrm{r}_{3}\right)$ between $\mathrm{q}_{\mathrm{C}}$ and $\mathrm{q}_{\mathrm{V}}$, the relationship is linear because $\mathrm{q}_{\mathrm{v}}$ was defined and derived based on direct proportionality with the Abjad value (AV) and $\mathrm{q}_{\mathrm{C}}$ is a constant value.
2. The second relationship $\left(\mathrm{r}_{4}\right)$ consists of two links: the first link between $\mathrm{q}_{\mathrm{C}}$ and $\pi_{\mathrm{A}}$, and this link is exponential one because $\pi_{\mathrm{A}}$ was defined and derived based on inverse proportionality with the Abjad value.
The second link is between $\pi_{\mathrm{A}}$ and QC , and this link has already been investigated and it is an exponential one. Actually, with regard to how Almighty God embeds the mathematical structure in the Noble Quran, both relationships ( $r_{3}$ and $r_{4}$ ) are interrelated with words per chapter ratio as follows

$$
\begin{equation*}
\mathrm{q}_{\mathrm{wC}}=\mathrm{r}_{3} \times \mathrm{r}_{4}, \tag{21}
\end{equation*}
$$

where $\mathrm{q}_{\mathrm{wc}}$ is words per chapter. Similar to the above, we take the natural algorithm of both sides of equation (22), thus we have

$$
\begin{equation*}
\log _{e}\left(q_{w C}\right)=\log _{e}\left(r_{3}\right)+\log _{e}\left(r_{4}\right) \tag{22}
\end{equation*}
$$

Consequently, as discussed above (Figure 5) we substitute in equation (22) for $\log _{\mathrm{e}}\left(\mathrm{r}_{3}\right)$ by $\log _{\mathrm{e}}\left(\mathrm{q}_{\mathrm{v}} / \mathrm{q}_{\mathrm{C}}\right)$ and $\log _{e}\left(r_{4}\right)$ (this relation consists of two links and its numerical value equals the multiplied values of both links and this agrees with the way the Quran is mathematically structured) (see Figure 5) by

$$
\begin{aligned}
& \log _{\mathrm{e}}\left(\pi_{\mathrm{A}}\right)_{*} \log _{\mathrm{e}}(\mathrm{QC})=\log _{\mathrm{e}}(\mathrm{QC}) \\
& \log _{\mathrm{e}}\left(\mathrm{q}_{\mathrm{C}}\right) \quad \log _{\mathrm{e}}\left(\pi_{\mathrm{A}}\right)
\end{aligned}=\begin{aligned}
& \log _{\mathrm{e}}\left(\mathrm{q}_{\mathrm{C}}\right)
\end{aligned}
$$

We have

$$
\begin{equation*}
\log _{e}\left(q_{W C}\right)=\log _{e}\binom{q_{V}}{q_{C}}+\frac{\log _{e}(\mathrm{QC})}{\log _{e}\left(q_{C}\right)} \tag{23}
\end{equation*}
$$

We substitute for the values of $q_{V}, q_{C}$ and $Q C$ in equation (23), we get

$$
\begin{align*}
\log _{e}\left(q_{W C}\right) & =\log _{e}\left(\frac{5995}{28}\right)+\frac{\log _{e}(70.44911244)}{\log _{e}(28)} \\
& =5.366476557+1.27689961=6.643376167 \tag{24}
\end{align*}
$$

Therefore

$$
\begin{equation*}
\mathrm{q}_{\mathrm{wC}}=767.6824469 \text { Words per chapter. } \tag{25}
\end{equation*}
$$

However, it is more appropriate to calculate letters per chapter ( qLC ) because this work has been developed primarily around Quran's letters (however, the difference in calculating the total number of chapters in the Quran whether we use words per chapter or letters per chapter are too small to be significant). We write (letters/chapter=letters/word*words/chapter)

$$
\begin{equation*}
\mathrm{q}_{\mathrm{LC}}=\mathrm{q}_{\mathrm{LW}} * \mathrm{q}_{\mathrm{wC}} \tag{26}
\end{equation*}
$$

where $\mathrm{q}_{\mathrm{LC}}$ is letters per chapter and $\mathrm{q}_{\mathrm{LW}}$
(= 3.717391219 ) is letters per word (see subsection 4.3).

On substitution for $\mathrm{q}_{\mathrm{LW}}$ and $\mathrm{q}_{W C}$ in equation (26), we have

$$
\begin{equation*}
\mathrm{q}_{\mathrm{LC}}=3.717391219 * 767.6824469=2853.7759871 \text { Letters per chapter. } \tag{27}
\end{equation*}
$$

Consequently
Totalnumber of chapters in the Quran $=\frac{\text { Total Quran letters }}{\text { Letters per chapter }}=\frac{325384}{2853.7759871}=114.01876$.
However, the Quran is physically organized in 114 chapters (Surahs). This study provides a theoretical value of the total number of chapters ( $=114.01876$ ). This incredible agreement between the theoretical result of this work and the actual value (the actual/calculated ratio is within $99.984 \%$ ) proves that Quran is mathematically designed and structured far beyond human capability and comprehension. The truth of the matter is that no human element will have the capacity to even come close to realize how the Quran is organized in 114 chapters in order to make this powerful mathematically-based phenomenon a reality. In conclusion, this mathematicallybased work is probably the most solidly concrete, thoroughly convincing, absolutely conclusive, extraordinarily impeccable, and theoretically provable discovery of all time that provides an overwhelmingly clear manifestation of God's revelation of the Quran.


Figure 5: Words/chapter relations

## 4. Contributions and remarks

One of the most prominent features of this work that it is based on text delivered to Prophet Muhammad and drawn using the primary 28 alphabets of the Arabic language which consists of 6236 verses and physically organized in 114 chapters (Uthmanic manuscript). A letter is counted if it is physically written (similar to the English language) and this precisely corresponds to the first drawing of the Quran.

A key contribution of this work is the determination of the Quran Constant (70.44911244) which represents the mathematical design of the Quran. This numerical value can be used for preserving the Quran from any distortion and alteration. The Quran Constant has proved to be of vital importance for the determination of many important numerical features in the Quran such as the total number of Quran's primary Quran statistics (words, verses, and chapters).

This is the first study to prove beyond any reasonable doubt that the mathematical design of the Quran is predominantly based on the golden ratio. Indeed, this work has definitely revealed that the Quran's mathematical composition follows the golden ratio principles. Indeed, the present finding provides clear evidence of supernatural intelligence in the design of the Quran.

One of the most seminal contributions of this work is the determination of the Quran's primary parameters. This has revealed that the Quran was mathematically-structured through divinely embedded design based on the Abjad numerical system, and as a result, elegant equations have been derived for calculating the Quran basic statistics (words, verses, and chapters) with extremely high accuracy. More significantly, the ratio between the total number of letters divided by the total number of words ( $\mathrm{qLW}=3.717391219$ ) determined in this study can be practically seen as a validation criterion of both the total number of letters and the total number of words in the Quran. What has been achieved regarding the primary Quran statistics in this study is in itself a remarkable contribution, and this provides overarching evidence that the Quran is inimitable and a supernatural force beyond human capability has been involved in its design, institution, and authorship.

Based on the findings of the current work, it has been mathematically supported that the Quran as a divine entity is composed textually of three components: the Quran that consists of 6236 verses ( 114 chapters), the 112 unnumbered Basmalahs and the names of the 114 chapters. Indeed, this is the first study to acknowledge theoretically and mathematically that the 112 un-numbered Basmalahs and the names of the Quran's chapters are divinely inspired. This is by itself a notable contribution. This is the first study to have discovered that the Quran was structured and organized according to Abjad numerals. This implies that the Quran has been mathematically coded via Abjad numerals, which is in itself a great contribution in its own right. This proves beyond doubt that the Quran was divinely inspired. What does this mean? For one thing, it means that we are witnessing a mathematical-based phenomenon of earth- shattering proportions. Also, this proves that Abjad numerals are valid numerological decimal systems. Thus, Abjad numerals cannot be thought of anymore as borne out of mere randomness or chance. Indeed, I would like to go further by stating that all gematrical-based systems must certainly be divinely-inspired.

Given the nature of the results of the current study, one can categorically recognize that the Quran is perfectly protected and preserved from all forms of changes and alterations. This implies that the Quran has never undergone any type of distortion or loss or any corruption or alteration or tampering from the day it was revealed some 1400 years ago. Therefore, this work has authenticated the first drawing of the Quran and proved the credibility of the Uthmanic manuscript which is identical to the original revealed text. Indisputably, the divine authorship and authenticity of the Quran have been established and confirmed.

Finally, the outcomes of this work genuinely provide further evidence to substantiate and consolidate that Muhammad is a true Messenger of God.

## 5. Conclusion

Indeed, beyond any doubt, this study has brought about yet another new research direction and thinking in mathematical studies of the Quran. As a result, a new door is now open into the science and frontiers of Quran numerology. The Quran is divinely protected and brilliantly codified far beyond human capability even with the advanced technological capabilities we have today.

QFC 10:38 So if they say: He invented it. Say: Bring a chapter the like hereof and call to any whom you can for help besides God if you be Truthful.

QFC 11:13 If they say: He has invented it. Say: Then bring ten chapters the like hereof and call for help to whom you can besides God if you be Truthful.

QFC 17:88 Say: If all humans and jinn set out to bring the like of this Quran they would not bring the like even if they were banded in solemn dedication at risk of death.

QFC 2:23-24 And if you are in doubt about what We have sent down upon Our Servant this Quran from Mohamet then design a chapter similar to any hereof and call your witnesses other than God if you be Truthful.But if you do not, and you will not, then be in Wise Fear of the Fire whose fuel is mankind jinn and humans and stones of coal prepared specifically for erring fools

