

الآية

بسم الله الرحمن الرحيم

قال تعالى: (هُوَ الَّذِي جَعَلَ الشَّمْسَ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَرَهُ
مَنَازِلَ لِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ، مَا خَلَقَ اللَّهُ ذَلِكَ إِلَّا
بِالْحَقِّ يُفَصِّلُ الْآيَاتِ لِقَوْمٍ يَعْلَمُونَ) سورة يونس – الآية 5

Dedication

To my parents,

My brothers and sisters,

To my colleagues

Acknowledgment

First of all my thanks would go to “Allah” for giving me health, willingness and strength to complete this work.

I would like to express my appreciation and thanks to my supervisor Dr. Adil Musa Younis and my co- supervisor Dr. Afra hashim, for their help, encouragement, valuable guidance and advices during this work.

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Abstract

When different techniques of sampling are used, there are different formulas for determination of appropriate sample size.

The aim of this study was to employ formula for determining representative sample size, when simple random sampling technique is used test from one tail and two tails. At the level of significant, depending on that, the value of test from two tails, and one tail, with variance, Standard Error, and population proportion, was used to obtain different sizes of samples.

Excel office and SPSS package were used for sample size generation and analysis. To obtained results showed that, the sample sizes increases, as the variance increases. The result also showed significant Correlation between variance value (s^2) and sample size (n) when test from one tail and two tails. There is Significant differences between samples sizes estimator from one tail or two tails when $\left(Z_{\frac{\alpha}{2}} = 1.76, z_{\alpha} = 1.41 \right)$, s^2 is variety and e is consist. The obtained samples sizes showed significant goodness of fitting with Poisson distribution.

The sample size increases as, the standard error decreases with a normal curve in all values, except in three cases where the standard errors were too small (0.001, 0.002 and 0.003). The three cases showed very large sample size compared with the other values. Sample size decreases as, the proportion decreases. There is significant correlation between sample size (n) and standard error (e), ($r = -0.52$) and there is significant difference between sample sizes obtained from one tail and two tails when $z_{\alpha/2} = 1.96, 2.58, 2.17$ and $z_{\alpha} = 1.64, 2.33, 1.9$, p and e is variety.

المستخلص

هناك العديد من اساليب المعاينات الاحصائية التي يتم استخدامها ولكل أسلوب العديد من المعادلات المستخدمة لتقدير حجم العينة المناسب.

هدفت هذه الدراسة الى استخدام اسلوب العينة العشوائية البسيطة لتقدير حجم العينة باستخدام اختبار Z من طرفين ومن طرف واحد وباستخدام مستوى معنوية وبناء على ذلك تم الحصول على قيم مختلفة لإختبار Z وباستخدام قيم إفتراضية لتباين المجتمع والخطأ المعياري ونسبة الظاهرة في المجتمع.

تم استخدام هذه القيم للحصول على احجام مختلفة للعينات، وباستخدام حزم البرامج الاحصائية للعلوم الاجتماعية SPSS وبرنامج مايكروسوفت إكسل Excel تم الحصول على النتائج أهمها أن:

حجم العينة المتحصل عليه يزيد بزيادة تباين المجتمع قيد الدراسة، كما ان هناك إرتباط طردي قوي بين حجم العينة المتحصل عليه n تباين المجتمع S^2 سواء كان الاختبار من طرف واحد او طرفين. كما توجد فروقات معنوية بين احجام العينة المتحصل عليها عندما يكون الاختبار من طرف واحد ومن طرفين عندما كانت قيمة اختبار $Z_{\alpha/2} = 1.76, Z_{\alpha} = 1.4$ بثبات قيمة الخطأ المعياري وتغير تباين المجتمع. احجام العينة التي تم الحصول عليها لها جودة تقدير معنوية. وكلما قل حجم الخطأ المعياري كلما زاد حجم العينة مع وجود ثلاث قيم شاذة عن المنحني الطبيعي عندما كانت قيم الخطأ المعياري صغيرة جدا (0.001, 0.002 and 0.003) مما يعطي احجام عينة كبيرة جداً مقارنة مع باقي القيم. ويزيد حجم العينة بزيادة قيم الظاهرة قيد الدراسة. يوجد ارتباط عكسي بين احجام العينة n والخطأ المعياري e بلغ (-0.52). يوجد فرق معنوي بين حجم العينة n المتحصل عليه عندما كانت قيم الاختبار من طرفين , $z_{\alpha/2} = 1.96, 2.58, 2.17$ ومن طرف واحد $z_{\alpha} = 1.64, 2.33, 1.9$ لصالح الاختبار من طرفين عند تغير قيم الخطأ المعياري ونسبة الظاهرة.

Table of contents

Title	Page number
الآية	I
Dedication	II
Acknowledgment	III
Abstract	IV
المستخلص	V
List of contents	VI
List of tables	VII
CHAPTER ONE	
introduction	
1-1 preface	2
1-2 The study Problem	2
1-3 The Hypotheses of the study	2
1-4 study objective	2
1-5 The data and research methodology	3
1-6 previous studies	3
1-7 Some previous studies	3-4
CHAPTER TWO	
Literature review	
2-1 preface	7
2-1-1 The steps of a sample survey	8
2-1-2 The Role of Sampling Theory	11
2-1-3 Definitions	11
2-1-4 Precision of results	12
2-1-5 Errors of Sampling	
2-1-6 Type of sampling	13
2-1-7 Advantages of the Statistical Sample	13
2-1-8 Probability sampling	16
2-1-8-1 Simple Random sampling	16
2-1-8-2 Stratified random sampling	17
2-1-8-3 Systematic sampling	18
2-1-8-4 Cluster sampling	19
2-2 Determination of sample size	19
2-2-1 Sample size	19
2-2-2 Estimation of Sample Size	20
2-3 Factors effecting on sample size	23

Title	Page number
2-3-1 The level of precession	23
2-3-2 Proportion	23
2-3-3 Confidence level desired	25
2-3-4 variance	26
CHAPTER THREE results and discussion	
3-1 sample size determination based on standard error and variance	29
3-2 Sample size for proportions	86
CHAPTER FIVE Conclusion and recommendations	
Conclusion	135
Recommendations	137
References	139

List of tables

Title	Page number
3-1 sample size determination for variance $z_{\alpha/2} = 1.96, e = 0.01$	27
3-2 sample size determination for variance $z_{\alpha/2} = 1.96, s^2 = 0.1$	29
3-3 sample size determination for variance $z_{\alpha} = 1.64, e = 0.01$	30
3-4 sample size determination for variance $z_{\alpha} = 1.64, s^2 = 0.1$	31-32
3-5 sample size determination for variance $z_{\alpha/2} = 2.58, e = 0.01$	34
3-6 sample size determination for variance $z_{\alpha/2} = 2.58, s^2 = 0.1$	35
3-7 sample size determination for variance $z_{\alpha} = 2.33, e = 0.01$	36
3-8 sample size determination for variance $z_{\alpha} = 2.33, s^2 = 0.1$	38
3-9 sample size determination for variance $z_{\alpha/2} = 2.17, e = 0.01$	39
3-10 sample size determination for variance $z_{\alpha/2} = 2.17, s^2 = 0.1$	40
3-11 sample size determination for variance $z_{\alpha} = 1.9, e = 0.01$	43
3-12 sample size determination for variance $z_{\alpha} = 1.9, s^2 = 0.1$	44
3-13 sample size determination for variance $z_{\alpha/2} = 3.32, e = 0.01$	45
3-14 sample size determination for variance $z_{\alpha/2} = 3.32, s^2 = 0.1$	46
3-15 sample size determination for variance $z_{\alpha} = 3.1, e = 0.01$	47
3-16 sample size determination for variance $z_{\alpha} = 3.1, s^2 = 0.1$	48-49
3-17 sample size determination for variance $z_{\alpha/2} = 1.76, e = 0.01$	50
3-18 sample size determination for variance $z_{\alpha/2} = 1.76, s^2 = 0.1$	52
3-19 sample size determination for variance $z_{\alpha} = 1.41, e = 0.01$	53
3-20 sample size determination for variance $z_{\alpha} = 1.41, s^2 = 0.1$	55
3-21 sample size determination for variance $z_{\alpha/2} = 1.96, s^2 = (0.1 - 2.0)$	56
3-22 sample size determination for variance $z_{\alpha} = 1.64, s^2 = (0.1 - 2.0)$	58
3-23 sample size determination for variance $z_{\alpha/2} = 2.58, s^2 = (0.1 - 2.0)$	60
3-24 sample size determination for variance $z_{\alpha} = 2.33, s^2 = (0.1 - 2.0)$	61
3-25 sample size determination for variance $z_{\alpha/2} = 2.17, s^2 = (0.1 - 2.0)$	63
3-26 sample size determination for variance $z_{\alpha} = 1.9, s^2 = (0.1 - 2.0)$	64
3-27 sample size determination for variance $z_{\alpha/2} = 3.32, s^2 = (0.1 - 2.0)$	66
3-28 sample size determination for variance $z_{\alpha} = 3.1, s^2 = (0.1 - 2.0)$	67

3-29 sample size determination for variance $z_{\alpha/2} = 1.76, s^2 = (0.1 - 2.0)$	69
3-30 sample size determination for variance $z_{\alpha} = 1.41, s^2 = (0.1 - 2.0)$	70
3-31 The goodness of fit testing	72-73
3-32 The Correlations between n and e	77
3-33 The Correlations between n and s^2	77
3-34 Independent sample t- test	78-79
3-35 sample size determination for proportion $z_{\alpha/2} = 1.96, p = 0.5$	82
3-36 sample size determination for proportion $z_{\alpha} = 1.64, p = 0.5$	84
3-37 sample size determination for proportion $z_{\alpha/2} = 2.58, p = 0.5$	85
3-38 sample size determination for proportion $z_{\alpha} = 2.33, p = 0.5$	87
3-39 sample size determination for proportion $z_{\alpha/2} = 2.17, p = 0.5$	88
3-40 sample size determination for proportion $z_{\alpha} = 1.9, p = 0.5$	90
Title	Page number
3-41 sample size determination for proportion $z_{\alpha/2} = 3.32, p = 0.5$	91
3-42 sample size determination for proportion $z_{\alpha} = 3.1, p = 0.5$	93
3-43 sample size determination for proportion $z_{\alpha/2} = 1.76, p = 0.5$	94
3-44 sample size determination for proportion $z_{\alpha} = 1.41, p = 0.5$	96
3-45 sample size determination for proportion $z_{\alpha/2} = 1.96, e = 0.02$	97
3-46 sample size determination for proportion $z_{\alpha} = 1.64, e = 0.02$	99
3-47 sample size determination for proportion $z_{\alpha/2} = 2.58, e = 0.02$	100
3-48 sample size determination for proportion $z_{\alpha} = 2.33, e = 0.02$	102
3-49 sample size determination for proportion $z_{\alpha/2} = 2.17, e = 0.02$	103
3-50 sample size determination for proportion $z_{\alpha} = 1.9, e = 0.02$	105
3-51 sample size determination for proportion $z_{\alpha/2} = 3.32, e = 0.02$	106
3-52 sample size determination for proportion $z_{\alpha} = 3.1, e = 0.02$	108
3-53 sample size determination for proportion $z_{\alpha/2} = 1.76, e = 0.02$	110
3-54 sample size determination for proportion $z_{\alpha} = 1.41, e = 0.02$	111
3-55 sample size determination for variance $z_{\alpha/2} = 1.96, p = (0.5 - 0.12)$	113
3-56 sample size determination for variance $z_{\alpha} = 1.64, p = (0.5 - 0.12)$	115
3-57 sample size determination for variance $z_{\alpha/2} = 2.58, p = (0.5 - 0.12)$	116
3-58 sample size determination for variance $z_{\alpha} = 2.33, p = (0.5 - 0.12)$	118
3-59 sample size determination for variance $z_{\alpha/2} = 2.17, p = (0.5 - 0.12)$	119
3-60 sample size determination for variance $z_{\alpha} = 1.9, p = (0.5 - 0.12)$	121
3-61 sample size determination for variance $z_{\alpha/2} = 3.32, p = (0.5 - 0.12)$	122
3-62 sample size determination for variance $z_{\alpha} = 3.1, p = (0.5 - 0.12)$	124
3-63 sample size determination for variance $z_{\alpha/2} = 1.76, p = (0.5 - 0.12)$	125
3-64 sample size determination for variance $z_{\alpha} = 1.41, p = (0.5 - 0.12)$	127

3-65 The goodness of fit testing	128-129
3-66 Correlations between n and e	130
3-67 Correlations between n and s^2	130
4-68 Independent sample t- test	131-133

List of figure

Title	Page number
(3-1): scatter diagram for different sample sizes (n)	29
(3-2): box plot for sample sizes(n)	30
(3-3): scatter diagram for different sample sizes (n)	31
(3-4): box plot for sample sizes(n)	31
(3-5): scatter diagram for different sample sizes (n)	32
(3-6): box plot for sample sizes(n)	33
(3-7): scatter diagram for different sample sizes (n)	34
(3-8): box plot for sample sizes(n)	34
(3-9): scatter diagram for different sample sizes (n)	35
(3-10): box plot for sample sizes(n)	36
(3-11): scatter diagram for different sample sizes (n)	37
(3-12): box plot for sample sizes(n)	37
(3-13): scatter diagram for different sample sizes (n)	38
(3-14): box plot for sample sizes(n)	39
(3-15): scatter diagram for different sample sizes (n)	40
(3-16): box plot for sample sizes(n)	40
(3-17): scatter diagram for different sample sizes (n)	41
(3-18): box plot for sample sizes(n)	42
(3-19): scatter diagram for different sample sizes (n)	43
(3-20): box plot for sample sizes(n)	43
(3-21): scatter diagram for different sample sizes (n)	44
(3-22): box plot for sample sizes(n)	45
(3-23): scatter diagram for different sample sizes (n)	46
(3-24): box plot for sample sizes(n)	47
(3-25): scatter diagram for different sample sizes (n)	48
(3-26): box plot for sample sizes(n)	48
(3-27): scatter diagram for different sample sizes (n)	50
(3-28): box plot for sample sizes(n)	50
(3-29): scatter diagram for different sample sizes (n)	51
(3-30): box plot for sample sizes(n)	52
(3-31): scatter diagram for different sample sizes (n)	53
(3-32): box plot for sample sizes(n))	53
(3-33): scatter diagram for different sample sizes (n)	54
(3-34): box plot for sample sizes(n)	55
(3-35): scatter diagram for different sample sizes (n)	56
(3-36): box plot for sample sizes(n)	56

(3-37): scatter diagram for different sample sizes (n)	57
(3-38): box plot for sample sizes(n)	58
(3-39): scatter diagram for different sample sizes (n)	59
(3-40): box plot for sample sizes(n)	59
(3-41): scatter diagram for different sample sizes (n)	60
(3-42): box plot for sample sizes(n)	61
(3-43): scatter diagram for different sample sizes (n)	62
(3-44): box plot for sample sizes(n)	62
(3-45): scatter diagram for different sample sizes (n)	63
(3-46): box plot for sample sizes(n)	64
(3-47): scatter diagram for different sample sizes (n)	65
(3-48): box plot for sample sizes(n)	65
(3-49): scatter diagram for different sample sizes (n)	66
(3-50): box plot for sample sizes(n)	67
(3-51): scatter diagram for different sample sizes (n)	68
(3-52): box plot for sample sizes(n)	68
(3-53): scatter diagram for different sample sizes (n)	69
(3-54): box plot for sample sizes(n)	70
(3-55): scatter diagram for different sample sizes (n)	71
(3-56): box plot for sample sizes(n)	71
(3-57): scatter diagram for different sample sizes (n)	72
(3-58): box plot for sample sizes(n)	73
(3-59): scatter diagram for different sample sizes (n)	74
(3-60): box plot for sample sizes(n)	74
(3-61): scatter diagram for different sample sizes (n)	85
(3-62): box plot for sample sizes(n)	85
(3-63): scatter diagram for different sample sizes (n)	86
(3-64): box plot for sample sizes(n)	87
(3-65): scatter diagram for different sample sizes (n)	88
(3-66): box plot for sample sizes(n)	88
(3-67): scatter diagram for different sample sizes (n)	89
(3-68): box plot for sample sizes(n)	90
(3-69): scatter diagram for different sample sizes (n)	91
(3-70): box plot for sample sizes(n)	91
(3-71): box plot for sample sizes(n)	94
(3-72): scatter diagram for different sample sizes (n)	95
(3-73): box plot for sample sizes(n)	96

(3-74): scatter diagram for different sample sizes (n)	97
(3-75): box plot for sample sizes(n)	97
(3-76): scatter diagram for different sample sizes (n)	98
(3-77): box plot for sample sizes(n)	97
(3-78): scatter diagram for different sample sizes (n)	97
(3-79): box plot for sample sizes(n)	98
(3-80): scatter diagram for different sample sizes (n)	99
(3-81): box plot for sample sizes(n)	100
(3-82): scatter diagram for different sample sizes (n)	100
(3-83): box plot for sample sizes(n)	101
(3-84): scatter diagram for different sample sizes (n)	102
(3-85): box plot for sample sizes(n)	103
(3-86): scatter diagram for different sample sizes (n)	103
(3-87): box plot for sample sizes(n)	104
(3-88): scatter diagram for different sample sizes (n)	105
(3-89): box plot for sample sizes(n)	106
(3-90): scatter diagram for different sample sizes (n)	106
(3-91): box plot for sample sizes(n)	107
(3-92): scatter diagram for different sample sizes (n)	108
(3-93): box plot for sample sizes(n)	109
(3-94): scatter diagram for different sample sizes (n)	109
(3-95): box plot for sample sizes(n)	110
(3-96): scatter diagram for different sample sizes (n)	111
(3-97): box plot for sample sizes(n)	112
(3-98): scatter diagram for different sample sizes (n)	112
(3-99): box plot for sample sizes(n)	113
(3-100): scatter diagram for different sample sizes (n)	114
(3-101): box plot for sample sizes(n)	115
(3-102): scatter diagram for different sample sizes (n)	115
(3-103): box plot for sample sizes(n)	116

(3-104): scatter diagram for different sample sizes (n)	117
(3-105): box plot for sample sizes(n)	118
(3-106): scatter diagram for different sample sizes (n)	118
(3-107): box plot for sample sizes(n)	119
(3-108): scatter diagram for different sample sizes (n)	120
(3-109): box plot for sample sizes(n)	121
(3-110): scatter diagram for different sample sizes (n)	121
(3-111): box plot for sample sizes(n)	122
(3-112): scatter diagram for different sample sizes (n)	123
(3-113): box plot for sample sizes(n)	124
(3-114): scatter diagram for different sample sizes (n)	124
(3-115): box plot for sample sizes(n)	125
(3-116): scatter diagram for different sample sizes (n)	126
(3-117): box plot for sample sizes(n)	127
(3-118): scatter diagram for different sample sizes (n)	127
(3-119): box plot for sample sizes(n)	128
(3-120): scatter diagram for different sample sizes (n)	129