Package ‘rgsp’

October 14, 2022

Type Package
Title Repetitive Group Sampling Plan Based on Cpk
Version 0.2.0
Author Muhammad Yaseen [aut, cre],
Muhammad Aslam [aut, ctb],
Sami Ullah [aut, ctb],
Muhammad Kashif [aut, ctb]
Maintainer Muhammad Yaseen <myaseen208@gmail.com>
Description Functions to calculate Sample Number and Average Sample Number for Repetitive Group Sampling Plan Based on Cpk as given in Aslam et al. (2013) (<DOI:10.1080/00949655.2012.663374>).
Depends R (>= 3.1)
Imports dplyr, magrittr, tibble
License GPL-2
URL https://github.com/myaseen208/rgsp,
https://myaseen208.github.io/rgsp/
Encoding UTF-8
LazyData true
RoxygenNote 6.1.0
Note Department of Mathematics and Statistics, University of Agriculture Faisalabad, Faisalabad-Pakistan.
Suggests testthat
NeedsCompilation no
Repository CRAN
Date/Publication 2018-10-26 07:40:02 UTC
R topics documented:

rgsp ......................................................... 2
rgsp_asym1 .................................................. 2
rgsp_asym2 .................................................. 4
rgsp_sym ..................................................... 5

Description

The rgsp package provides functionalities to calculate Sample Number and Average Sample Number for a Repetitive Group Sampling Plan based on Cpk as given in Aslam et al. (2013).

Author(s)

1. Muhammad Yaseen (<myaseen208@gmail.com>)
2. Muhammad Aslam (<aslam_ravian@hotmail.com>)
3. Sami Ullah (<samiullahuos@gmail.com>)
4. Muhammad Kashif (<mkashif@uaf.edu.pk>)

References


rgsp_asym1 Repetitive Group Sampling Plan Based on Cpk under asymmetric Case 1

Description

Calculates Sample Number and Average Sample Number for Repetitive Group Sampling Plan based on Cpk under asymmetric case 1 as given in Aslam et al. (2013)

Usage

## Default S3 method:
rgsp_asym1(.p1, .p2, .alpha, .beta, .nums, .rep)
Arguments

.p1  Acceptable Quality Level (AQL) Probability
.p2  Limiting Quality Level (LQL) Probability
.alpha  Producer's alpha-risk
.beta  Consumer's beta-risk
.nums  Number of samples with replacement at each iteration
.rep  Number of iterations

Value

Sample Number and Average Sample Number

Author(s)

1. Muhammad Yaseen (<myaseen208@gmail.com>)
2. Muhammad Aslam (<aslam_ravian@hotmail.com>)
3. Sami Ullah (<samiullahuos@gmail.com>)
4. Muhammad Kashif (<mkashif@uaf.edu.pk>)

References


Examples

```r
rgsp_asym1(
  .p1  = 0.001,
  .p2  = 0.003,
  .alpha  = 0.050,
  .beta  = 0.100,
  .nums  = 10000,
  .rep  = 1000
)
```
rgsp_asym2  

Repetitive Group Sampling Plan Based on Cpk under asymmetric Case 2

Description

Calculates Sample Number and Average Sample Number for Repetitive Group Sampling Plan based on Cpk under asymmetric case 2 as given in Aslam et al. (2013)

Usage

```r
## Default S3 method:
rgsp_asym2(.p1, .p2, .alpha, .beta, .nums, .rep)
```

Arguments

- `.p1` Acceptable Quality Level (AQL) Probability
- `.p2` Limiting Quality Level (LQL) Probability
- `.alpha` Producer's alpha-risk
- `.beta` Consumer's beta-risk
- `.nums` Number of samples with replacement at each iteration
- `.rep` Number of iterations

Value

Sample Number and Average Sample Number

Author(s)

1. Muhammad Yaseen (<myaseen208@gmail.com>)
2. Muhammad Aslam (<aslam_ravian@hotmail.com>)
3. Sami Ullah (<samiullahuos@gmail.com>)
4. Muhammad Kashif (<mkashif@uaf.edu.pk>)

References

rgsp_sym

Examples

rgsp_asym2(
  .p1 = 0.001,
  .p2 = 0.003,
  .alpha = 0.050,
  .beta = 0.100,
  .nums = 10000,
  .rep = 10 # 1000
)

rgsp_sym

Description

Calculates Sample Number and Average Sample Number for Repetitive Group Sampling Plan based on Cpk under symmetric case as given in Aslam et al. (2013)

Usage

## Default S3 method:
rgsp_sym(.p1, .p2, .alpha, .beta, .nums, .rep)

Arguments

.p1 Acceptable Quality Level (AQL) Probability
.p2 Limiting Quality Level (LQL) Probability
.alpha Producer's alpha-risk
.beta Consumer's beta-risk
.nums Number of samples with replacement at each iteration
.rep Number of iterations

Value

Sample Number and Average Sample Number

Author(s)

1. Muhammad Yaseen (<myaseen208@gmail.com>)
2. Muhammad Aslam (<aslam_ravian@hotmail.com>)
3. Sami Ullah (<samiullahuos@gmail.com>)
4. Muhammad Kashif (<mkashif@uaf.edu.pk>)
References


Examples

rgsp_sym(
  .p1 = 0.0010
  ,.p2 = 0.0020
  ,.alpha = 0.0500
  ,.beta = 0.1000
  ,.nums = 10000
  ,.rep = 10 # 1000
)

Index

rgsp, 2
rgsp-package (rgsp), 2
rgsp_asym1, 2
rgsp_asym2, 4
rgsp_sym, 5