

AN ABSTRACT OF THE THESIS OF

Eyad Ayman Moria for the degree of Master of Science in Industrial Engineering presented on May 17, 2022.

Title: Selecting Probability Distributions for Use in Complex Discrete Event Simulation Models

Abstract approved: _____

David S. Kim

In discrete event simulation, probability distributions are used as models of various unpredictable system components. The times between equipment failures and job processing times are examples of such random system components. The commonly recommended and taught practice for selecting a probability distribution to represent a random component is a multistep process that concludes with a recommended “best fit” distribution. In this research, a more straightforward approach for selecting a probability distribution to represent a random component is examined. In this approach a standard or “default” distribution is used, with parameters set so that the distribution moments match the first two sample moments of collected data. Two default distributions were examined, which were the two parameter Lognormal, and Mixed Empirical-Exponential distribution. Comparisons of the use of default distributions was compared to the use of best fit distributions in three models of increasing complexity. Measurements of complexity were developed that show a clear difference in the complexity of the models developed. Statistically significant differences in estimated performance measures when using best, or default distributions are less frequent as the systems become more complex. The results also indicate that using two-parameter lognormal default distributions results in fewer differences when compared to results using best fit distributions than the Mixed Empirical-Exponential default distribution.

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Selecting Probability Distributions for Use in Complex Discrete Event Simulation Models

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Eyad Ayman Moria

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APPROVED:

Major Professor, representing Industrial Engineering

Head of the School of Mechanical, Industrial and Manufacturing Engineering

Dean of the Graduate School

I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Eyad Ayman Moria, Author

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1 INTRODUCTION

The research in this thesis addresses the impact on discrete event simulation results when using commonly recommended distribution fitting practice, versus a more simple approach using selected “default” distributions. More specifically, comparisons between the simulation results when using recommended distribution fitting practice (for every random component in the system), and when using a more simple approach are made for simulation models with varying complexity. Before presenting additional research approach details, a discussion of the general steps when conducting a discrete event simulation study is provided in the following paragraphs.

1.1 Background

Simulation modeling involves understanding system operations and representing these operations in simulation software to study and estimate the behavior of the system. There are multiple recommended steps when developing a simulation model such as: understating and describing the system operation, being clear about the simulation modeling goals, formulating the model representation and implementation of the model in software, collecting and analyzing data related to random system components and system parameters, validating and verifying the simulation program, designing experiments and making simulation model runs, and analyzing model results (Law and Kelton, 1982). This research focuses the representation of random system components after data collection for the random components has been collected. Following commonly recommended practice, this step takes a considerable amount of time to complete, and requires knowledge in multiple areas such as probability, statistics, and the use of specific software, etc. The multiple steps involved include collecting the raw data, analyzing it, and “fitting” the data to specific probability distributions to use in the

simulation models, which are then assumed to be a good representation of the random system component.

The probability distribution selected is assumed to be an adequate model for the purposes of the simulation model. Fitting data to a probability distribution requires multiple steps, such as selecting candidate distributions, estimating distribution parameters, and conducting statistical goodness-of-fit tests. All of these steps are completed for each random component in the simulation model. In general, there are two types of probability distributions fit to collected data. The probability distributions fit to collected data can be classified as generalizable and flexible. Generalizable implies that the range of the distribution is not dependent on the range of the observed data, while flexible distributions attempt to fit the collected data as closely as possible. The distributions that are the most widely fit to data are standard theoretical distribution such as Exponential, Normal, Lognormal, Weibull, etc. These distributions are generalizable but not necessarily flexible. When no theoretical distribution provides an acceptable fit, empirical distributions are utilized that are constructed directly from the collected data. Empirical distributions can be viewed as flexible but not generalizable. In addition to theoretical and empirical distributions, a flexible parametric family of distributions are sometime utilized that approximate the collected data more closely than many standard theoretical distributions by utilizing more distribution parameters. Examples are Johnson distribution and Mixed Empirical-Exponential distribution. These distributions can be considered generalizable and flexible. (Shanker and Kelton, 1991).

Moreover, in some cases there are multiple ways to estimate probability distribution parameters such as maximum likelihood estimators, method of moments, minimum variance unbiased estimators, method of least square, etc... Sometimes these estimators are the same, and in other cases they may differ. Furthermore, there are multiple statistical goodness of fit

tests such as the chi-square test, Anderson-Darling test, Kolmogorov-Smirnov test, Shapiro-Wilk test, etc. Because of the number of steps involved and the prevalence of random components in many systems, simplification of probability distribution selection will reduce the overall time to build simulation models making the simulation study more efficient.

1.2 Research Problem Statement

This research focuses on examining the impact on estimated system performance measures generated from a simulation model when using commonly recommended distribution fitting practice, versus a much simpler approach using standard “default” probability distributions that match the first two sample moments from collected data. The hypothesis is that statistically significant differences between these two approaches disappears as the systems and thus simulation models become more complex. System and model complexity is a combination of model size and the interactions between various system components. The hope is to reduce the work and effort involved with probability distribution selection in a simulation study.

1.3 Research Approach

The approach used in this study to examine the impact of performance measures between commonly distribution and standard "default" distribution is shown in figure 1.1 and explained as follows.

- Develop a simple quantitative measure of system complexity

Its purpose is to have a measure that clearly separates models that are intuitively vastly different with respect to complexity. The developed measure identifies two categories of factors that increase a system's complexity. The two categories are system-related factors and entity-related factors.

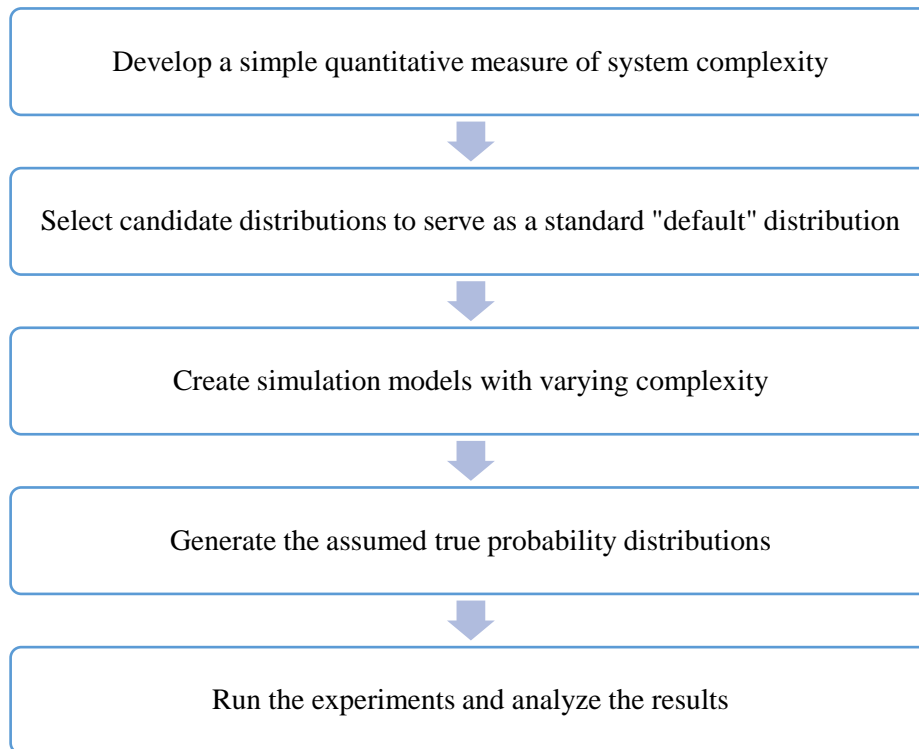


Figure 1.1 Research Approach

- Select candidate distributions to serve as a standard "default" distribution

One candidate distribution was selected from common theoretical distributions and is the two-parameter Lognormal. The other distribution tested is the Mixed Empirical-Exponential. The selection criteria are,

- It should have the capability to match any coefficient of variation.
- It should only generate positive random variates.
- It should be available in most simulation software and distribution fitting software, and should be easy to implement.
- It should be continuous.

- Create simulation models with varying complexity

Three models have been developed, and these are low, intermediate, and high complexity models based on the quantitative measure of complexity. The simulation models developed are networks of workstations, which include both manual and automated workstations. In manual workstations, the processing time is random. In an

automated workstations the processing time is fixed, and the workstation and experiences random failures and repair times. The more complex model includes finite buffer spaces (room for work-in-process) that causes interactions between workstations through workstation starving and blocking.

- Generate the assumed true probability distributions

To "simulate" or represent the data collection and distribution fitting process, a "true" distribution is needed for each random component, which is not an existing theoretical distribution. The assumed true probability distribution will be a linear combination of theoretical distributions. The theoretical distributions utilized in the linear combinations are the Lognormal, Gamma, Weibull.

- Run the experiments and analyze the results

The three models will be programmed using Arena® Simulation software, and the results will be analyzed using appropriate statistical methods.

1.4 Terminology

This section provides definitions of specific terms/concepts that are referred to often in this thesis.

Best Fit Distribution

This refers to the commonly recommended distribution fitting practice that starts with data collection, hypothesizing candidate distributions, parameter estimation, and statistical goodness of fit tests. The distribution assumed to be the "best" is based on the goodness of fit tests.

Less Fit Distribution

This refers to standard "default" probability distributions. Two distributions were chosen from common theoretical distributions in the literature that can be easily implemented which are two-parameters Lognormal and Mixed Empirical-Exponential (MEE).

1.5 Research Contribution

This research explores the impact of using best fit distributions versus a less fit distribution on the accuracy of simulation performance measures. Best fit distributions, are compared with the two less fit distributions, which are the Lognormal and Mixed Empirical-Exponential (MEE) distribution. For this comparison, the first two moments are the same for both the best fit and less fit distributions. It is observed that the MEE is not able to match the second moment of the best fit distribution since the MEE second moment is higher than the sample variance. However, it is observed that when the first two moments of the best fit and less fit two-parameter Lognormal distribution are the same and the system complexity increases, the difference between the performance of best fit and less fit distribution disappears. Hence it can be concluded that efforts such as choosing a hypothesized distribution, estimating the parameters, and conducting the goodness of fit test to obtain the best fit distribution can be replaced by simply choosing a less fit two parameter Lognormal distribution.

1.6 Thesis structure

The thesis is structured as follows.

- Chapter 1: Introduction
- Chapter 2: Literature Review
- Chapter 3: Methodology
- Chapter 4: Results
- Chapter 5: Conclusions and Future Work

2 LITERATURE REVIEW

This chapter provides a review of published work that addresses distribution fitting as a component of a discrete event simulation study. Multiple textbooks convey the importance of finding the “best fit” distribution, and have influenced existing recommended practice. However, several research articles have addressed using default distributions to avoid the multiple steps required when finding best fit distributions, and address how this will affect the overall performance measures estimated from simulation.

2.1 Best Fit Distributions

A “best fit” distribution will be defined as the probability distribution that is selected as a probability model for some random variable, based on the distribution fitting analysis of collected data for the random variable. In the context of this research these random variables represent some random system component that will be incorporated into a discrete event simulation model of the system. Examples of such random system components are the workstation processing times in a production line, and the time between customer arrivals in a service system.

The importance of using of best fit distributions in discrete simulation models is implied by the chapters dedicated to describing distribution fitting that are found in most discrete event simulation textbooks and in some papers. Examples of such textbook chapters are

- Systems Simulation the Art and Science, Chapter 2 Systems Investigation (Shannon, 1975)
- A Guide to Simulation, Chapter 4 Rational Choice of Input Distributions (Bratley et, 1987)

- Simulation Modeling and Analysis, Chapter 6 Selecting Input Probability Distributions (Law and Kelton, 1982)
- Discrete-Event System Simulation, Chapter 9 Input Modeling (Banks et al., 2005)

Examples of such papers from Winter Simulation Conference (WSC) are

- Selecting Input Models (Russell, 1994)
- Advanced Input Modeling for Simulation Experimentation (Schmeiser, 1999)
- A Tutorial on How to Select Simulation Input Probability Distributions (Law, 2016)

In these textbooks and papers, the general recommended process for selecting a best fit distribution is presented below

- Suggest a distribution from a family distribution such as Gamma, Exponential, etc. based on,
 - Process knowledge and theory
 - Descriptive statistics
 - Histogram
- Estimate the parameters of the selected distribution, such as,
 - Method of moments
 - Maximum likelihood estimators
 - Minimum variance unbiased estimators
- Conduct a statistical goodness of fit test to evaluate the null hypothesis that the observed data are observations from the suggested distribution with the estimated parameters, such as
 - Chi-Square test
 - Kolmogorov-Smirnov test

- Anderson-Darling test

Performing the explained statistical procedures can be difficult, error-prone, and time-consuming, etc. However, software exists that perform many of these steps. Examples of such software are Input Analyzer, Stat Fit, Crystall Ball in Excel, R studio, etc. Nevertheless, it is important to understand all the statistical procedures implemented in software when selecting the best fit distribution.

2.2 Drawbacks of Best Fit Distributions

Bratley et al. (1987) discussed the difficulties in applying the steps involved to find the best fit distribution, especially estimating the parameters. If the collected data contains an outlier, the accuracy of the estimated parameters will be affected. In addition, Fox (1981) argued that there is a high possibility that the distribution from which the data come from are different from the best fitted distribution, so fitting loses and distorts information. Here information means the collected observations that will be used for fitting distribution. Lastly, the power of goodness of fit tests is low since the null hypothesis is that the data are observations from a suggested distribution, and there must be strong evidence present to reject the null hypothesis.

2.3 Alternative Default Distributions

Several published papers have explored ways to simplify or avoid the distribution fitting process. Fox (1981) established a non-standard distribution that is “quasi-empirical,” combining a continuous piecewise-linear component with a shift exponential tail called the Mixed Empirical-Exponential. The advantage of this distribution is that it in part models the actual collected observations which is the empirical part, while adding an exponential tail to capture less frequent larger outcomes not reflected in the data. Also, it can be sampled easy

and quickly by inversion. Shanker and Kelton (1991) examine the use of the mixed empirical-exponential distribution with different numbers of observations in the tail (exponential values) to approximate a theoretical service time distribution in a $M/G/1$ queuing system. The reason for selecting this queueing system is the existence of simple analytical expressions for some desired output measures. In their research, four other known distributions were tested along with the Mixed Empirical-Exponential distribution: Exponential, 2-Erlang, Gamma, and Weibull. The performance measures were the variance and the bias of the waiting time in the queue. In most cases, the mixed empirical-exponential and the standard distributions (i.e., the four known distributions) were the same based on the variance and bias in their estimates. The major disadvantage of using the Mixed Empirical-Exponential distribution is it will not match the variance of the collected observations (See Methodology section 3.2.2.1). In this research, the Mixed Empirical-Exponential distribution is tested in more complex models, which was one of the suggested future research topics mentioned in Shanker and Kelton (1991).

Sharma (2003) tested replacing the best fit distribution with an alternative distribution. The effect of coefficient of variation (CV) and skewness on the throughput of serial production lines with finite buffers and blocking was explored. The alternative distributions identified were based on several criteria. It was found that the two-parameter distribution that meets the criteria is the lognormal distribution, and the three-parameter distributions that meet most of the criteria are the two-level hyper-exponential distribution and the three-parameter lognormal distribution. Many of the same criteria were used in this research to select the default "less" fit distribution. Sharma (2003) concluded that matching the first two moments works well when the CV is low and the difference in skewness is low and also when the CV is high, and the skewness difference is low. When the CV is high and the skewness difference is high, using a three-parameter default distribution is better. However, the model tested in Sharma (2003)

contained just four workstations. In this research, more complex models were applied that containing multiple manual or automated workstations, and more complex network structure.

Lastly, Muller et al. (2017) examine the effectiveness of distribution choice on the modeling of life cycle inventory uncertainty. The default distribution used is the lognormal, and the research aims to measure the effect of this default distribution by changing distributions and examining whether this change affects the uncertainty of the life cycle assessment results. The lognormal is chosen because it always generates positive values, is linked to a normal distribution, and is driven by a multiplicative process. The other distributions were selected based on the main characteristics of the distribution. For example, a gamma distribution is unbounded and positively skewed, a triangular distribution can be positively skewed and bounded, and lastly, the normal distribution is unbounded and symmetric. They conclude that there is no significant effect on the product's life cycle when switching among the distributions.

Therefore, the above studies present some evidence that simplified distribution selection in some simulated systems will not cause a significant difference in the results. In this research, we explore the effect of replacing the best fit distribution with "less" fit distribution in models of increasing complexity.

3 METHODOLOGY

This thesis addresses the research hypothesis that statistically significant differences between simulation model system performance estimates when using best fit versus less fit distributions disappear as the simulated systems become more complex. Testing this hypothesis required a number of different elements. First, a simple complexity measure was developed that quantifies differences between systems that are intuitively at different levels of complexity. Then simulations of three systems that differ based on the complexity measure were developed, and specific performance measures to estimate were defined for each system. For specific random components in each system the “true” probability distribution was established. This true distribution was established as the mixture of multiple theoretical distributions so this “true” probability distribution was different than one of the possible best fit distributions that may be fit. Next candidates for the less fit distributions were selected. The less fit distributions selected either met a set of pre-established criteria, or were proposed in prior research as a simple distribution that may be used in simulation. After establishing the true and less fit distributions, common simulation practice was duplicated. This consisted of the following steps:

1. Data from specific random system components were “collected”. Here, collected means observations from the true distributions were generated. 30 and 100 observations were generated to represent situations where data is somewhat harder and easier to obtain.
2. Using the same data set (30 or 100 observations), both best fit and less fit distributions were obtained.

3. The simulations were run with only best fit distributions as probability models for the specific random components, and the pre-specified performance measures were estimated, as well as the variability of the estimates.
4. The simulations were run with only less fit distributions as probability models for the random components, and the pre-specified performance measures were estimated, as well as the variability of the estimates.
5. A statistical analysis of the differences in performance measure estimates when using best fit versus less fit distributions was conducted. The analysis utilized recognized that the common random numbers variance reduction approach was implemented.

The remainder of this chapter presents details for the various steps conducted to test the hypothesis stated. An outline of the various elements is,

- Complexity Measure

A measure of complexity is developed to quantitatively separate models that intuitively differ with respect to complexity.

- Identify Random System Components

Various random system component used in the models will be specified. The collection of data, and distribution fitting will be simulated for a subset of these random components. Other random components and the probability distributions that represent these random components do not vary.

- Models Description

Verbal description, graphical description, operation characteristic, and complexity measures for each model are presented.

- Types of Workstations in The Models

Workstations are where entities compete for limited resources. Both manual and automated workstations are included in some of the models. Definition and the

parameters of these workstations are explained in detail. Distribution fitting is simulated for only manual workstations.

- Simulation Parameters

The parameters that should be determined before running the models, such as number of replications, replication length, warm-up period, etc.

- Test Cases Examined

The test cases that were examined, and for which the results from using best fit and less fit distributions are analyzed.

3.1 Measures of Complexity

There is no general definition or single accepted definition of complexity when applied to a simulation model, although there are several definitions of model complexity in the research literature. Simon (1962) defines it as “A complex system is one made up of a large number of parts that interact in a non-simple way.” Badii and Politi (1997) define complexity as “that property of a model which makes it difficult to formulate its overall behavior in a given language, even when given reasonably complete information about its atomic components and their inter-relations.”

A quantitative measure of complexity is developed in this research. The objective is a measure that clearly separates models that are intuitively vastly different with respect to complexity. In the measure developed there are two categories of factors that are connected to a system's complexity. These are “system-related” factors and “entity-related” factors. Different models are compared factor by factor. A model with higher values for every factor is clearly a more complex model. These different system-related and entity-related factors that are present in the systems simulated in this research are listed next.

- *System Related Factors*

- Number of connections

Process i is connected to process j if the flow of entities through process i can directly (no intermediate processes) affect the flow of entities through process j . This can be measured by summing all the number of connections in the system.

- Number of random components in the system

An element of the simulation model where a value (e.g., process time, inspection outcome etc.) is determined from the simulated realization of a random variable. This can be measured by summing all the number of random components in the system.

- Number of processes

An element of the simulation model where entities compete for limited resources, and once acquired the entity holds on to the resource for a finite amount of time and prevents other entities from acquiring the resource. This can be measured by summing all the number of processes in the system.

- Number of resources

Resources are competed for at process steps by entities. The number of resources may be greater than, less than, or equal to the number of processes simulated. This can be measured by summing all the number of resources in the system.

- Number of different resources type

A resource type is a distinct resource with a specified number or capacity. This can be measured by summing all the number of different resources type in the system.

- *Entity Related Factors*

- Number of different routes an entity may follow.

A route is a series of processes visited by an entity that enters and leaves the system.

This can be measured by counting the number of different routes in the system.

- Weighted average number of steps

The average number of different actions (e.g., processing, waiting in queue, transfer time between workstations) experienced by an entity that is processed through the system. This can be measured by summing the number of steps in each route multiplied by the weight of the different routes before summing them up.

- Weighted average number of random components

The average number of directly simulated random variables that makes up the total time an entity spends in the system. This contrasts with indirect random variables such as processing times. This can be measured by summing the number of random components that make up the total time an entity spends in the system in each route multiplied by the weight of the different routes before summing them up.

Example

Assume parts arrive with a random interval time to two serial workstations (workstation 1 then workstation 2). Both workstations contain queues of infinite capacity. Parts in queue are served in First Come First Serve order. In the first workstation, a single server services a single part, whereas, in the second workstation, two servers can service, and each can service a single part. The complexity measures of this system are shown below.

- System Related Factors

- Number of connections = 1

Since there are two processes, the only connection is between workstation 1 and workstation 2

- Number of random components = 3

The interarrival time, the processing time of workstation 1 and the processing time of workstation 2 are the random components

- Number of processes = 2
Workstation 1 and workstation 2 are the two processes
- Number of resources = 3
One resource in workstation 1 and two resources in workstation 2
- Number of different resources = 2
The two different resources are the workstation 1 and workstation 2 resources
- Entity Related Factors
 - Number of different routes = 1
There is one route that the parts can follow
 - Weighted average number of steps = 4
The first action is waiting in workstation 1 queue and the second action is processing time in the workstation 1, the third action is waiting in workstation 2 queue and the fourth action is processing time in workstation 2.
 - Weighted average number of random components = 2
There are two random components that the parts can follow which is the processing time in the workstation 1 and the processing time in workstation 2.

3.2 Random System Components

In the models that are developed to test the hypothesis (see section 3.3) various random system components exist in the models created. There are four different types of random components which are:

- Job interarrival times

The probability distribution of interarrival times assumed to follow an exponential distribution in the intermediate and complex models and assumed to follow uniform distribution in the simple model. The mean will be fixed and will not be variant

between simulation runs. No distribution fitting will occur for this random component.

- Manual workstation process times

Distribution fitting will occur for all manual workstations in a system (see sections 3.2.1, 3.2.2 and 3.2.3)

- Time between failure

The probability distribution of time between failure is assumed to follow an exponential distribution. The mean will be fixed and will not vary between simulation runs. No distribution fitting will occur for this random component (see section 3.4.2)

- Time to repair

The probability distribution of time to repair is assumed to follow an exponential distribution. The mean will be fixed and will not vary between simulation runs. No distribution fitting will occur for this random component (see section 3.4.2)

3.2.1 “True” Distributions for Manual Workstation

For the random components in the model, where in practice observations will be collected and probability distributions will be fit, the assumed “true” probability distributions must be established. The assumed true probability distribution will be a linear combination of theoretical distributions, so that it is not the same as a theoretical distribution that may be fit. The theoretical distributions used to create the true distributions are the Lognormal, Gamma, and Weibull. The reasons for selecting these distributions are,

- They have the capability to match any Coefficient of Variation (*CV*)
- They can only generate positive random variates
- They are unbounded distributions

- They are continuous distributions

From the true distributions 30 and 100 observations were generated to represent the data which normally would be collected by observation, or from historical records.

The following example shows how a true distribution is specified. The mean and variance of the true manual process time is specified (see section 3.4.1). The parameters the equally weighted Lognormal, Gamma, and Weibull random variables can then be determined. The mean of X (manual process time random variable) is $E[X]$, and the variance of X is $Var[X]$.

Since X represents a manual process time, it is assumed that X consists of a non-zero minimum (a), plus a random component Y . Thus $X = a + Y$ where $a = 0.2 * E[X]$ is the minimum process time. Let $X_1 \sim \text{Lognormal}$, $X_2 \sim \text{Gamma}$, and $X_3 \sim \text{Weibull}$ represents the random variables that are mixed to obtain X . Each X_i will have the same mean and variance so that $E[X_i] = 0.8 * E[X]$, and $Var[X_i] = 3 * Var[X]$ because the expected value in a linear combination of three distribution is

$$E[Y] = 0.8 * E[X] = \frac{1}{3}E[X_1] + \frac{1}{3}E[X_2] + \frac{1}{3}E[X_3]$$

and the variance is

$$Var[Y] = Var[X] = \left(\frac{1}{3}\right)^2 Var[X_1] + \left(\frac{1}{3}\right)^2 Var[X_2] + \left(\frac{1}{3}\right)^2 Var[X_3]$$

From $E[X_i]$ and $Var[X_i]$, the parameters of $X_1 \sim \text{Lognormal}$, $X_2 \sim \text{Weibull}$, and $X_3 \sim \text{Gamma}$ can be calculated using the following equations (Kelton and Law, 1982).

- Lognormal

$$\sigma = \sqrt{\ln \left(\frac{Var[X]}{E[X]^2} + 1 \right)}$$

$$\mu = \ln(E[X]) - \frac{\sigma^2}{2}$$

- Gamma

$$\alpha = \frac{E[X]^2}{\text{Var}[X]}$$

$$\beta = \frac{\text{Var}[X]}{E[X]}$$

- Weibull (Solve for α and β)

Excel solver is used since solving for the alpha and beta parameters as a function of the mean and variance requires the inversion of gamma function, which does not have a simple functional form.

$$E[X] = \frac{\beta}{\alpha} \Gamma\left(\frac{1}{\alpha}\right)$$

$$\text{Var}[X] = \frac{\beta^2}{\alpha} \left\{ 2\Gamma\left(\frac{2}{\alpha}\right) - \frac{1}{\alpha} \left[\Gamma\left(\frac{1}{\alpha}\right) \right]^2 \right\}$$

Then $X = \frac{1}{3}X_1 + \frac{1}{3}X_2 + \frac{1}{3}X_3$.

Excel Crystal Ball Software were used to sample (i.e., generate observations) the 30 and 100 observations from the true distribution. The seed number will be randomly selected between 1 – 2,147,483,646. From each true distribution two different samples of 30, and two different samples of 100 observations were generated.

3.2.2 Less Fit Distributions

A “Less Fit Distribution” is used instead of a best fit distribution, with the objective of being much faster to implement with little or no loss of accuracy when the simulation model is used to estimate system performance measures. Some desirable characteristics of a less fit distribution are:

- It should have the capability to match any Coefficient of Variation (CV)

The Coefficient of Variation (CV) is a statistical measure of relative variability that captures the amount of dispersion relative to the mean. The equation below is used to calculate the CV .

$$CV = \frac{\sigma}{\mu}$$

Where σ is the population standard deviation and μ is the population mean

- It should only generate positive random variates.

This is important in a real-life process since negative values are usually not applicable.

- It should be available in most simulation software or distribution fitting software and should be easy to implement. Since one of the objectives is to simplify the simulation modeling process, a distribution that is commonly accessible in most/all simulation software is desirable.
- It should be continuous.

Since many real-life random processes are continuous, the less fit distribution should take a value in a continuous range.

One distribution that has all these characteristics is the two-parameter lognormal and this will be used as a less fit. Another less fit distribution that will be tested is the Mixed Empirical-Exponential. This distribution was proposed in Bratley et al (1987) and was tested in Shanker and Kelton (1991). It is a generalizable and flexible distribution.

3.2.2.1 Two-Parameter Lognormal Distribution

The two-parameter lognormal distribution is a continuous distribution whose logarithm is normally distributed (i.e., if the random variable X is lognormally distributed, then $Y = \ln(X)$ has a normal distribution.) If X is a two-parameter lognormal random variable, then $X \sim \text{Lognormal}(\sigma, \mu)$ has density function:

$$f(x) = \begin{cases} \frac{1}{x\sqrt{2\mu\sigma^2}} e^{-\frac{(\ln x - \mu)^2}{2\sigma^2}} & \text{if } x > 0 \\ 0 & \text{otherwise} \end{cases}$$

where $\sigma > 0$ is called a shape parameter and $\mu \in (-\infty, \infty)$ is called a scale parameter. The expected value (mean) and variance of $X \sim \text{Lognormal}(\sigma, \mu)$ are.

Mean $E[X]$: $e^{\mu + \sigma^2/2}$

Variance $Var[X]$: $e^{2\mu + \sigma^2}(e^{\sigma^2} - 1)$

The parameters of the lognormal distribution, expressed as a function of its mean and variance are:

$$\sigma = \sqrt{\ln \left(\frac{Var[X]}{E[X]^2} + 1 \right)}$$

Having σ, μ can be calculated using the following formula:

$$\mu = \ln(E[X]) - \frac{\sigma^2}{2}$$

Therefore, by knowing $E[X]$ and $Var[X]$ of the random system component, the two-parameters of the lognormal can be computed. If you have n observations of X , x_1, x_2, \dots, x_n , then estimates of the lognormal parameters can be computed by using the sample average and sample variance of x_1, x_2, \dots, x_n , in place of $E[X]$ and $Var[X]$ respectively. Arena simulation software asks for $E[X]$ and $Var[X]$ as inputs to the lognormal distribution, and computes parameter estimates in this way when the sample average and sample variance are entered. This method of parameter estimation is very close to the method of moments estimators. The difference is that in the method of moment estimators the population variance value computed from x_1, x_2, \dots, x_n , would be used instead of the sample variance. (Ginos, 2009)

3.2.2.2 Mixed Empirical-Exponential Distribution

Bratley et al (1987) establish a probability distribution for a random variable X that is a combination of an exponential distribution (right), and empirical distribution called the Mixed Empirical-Exponential distribution. Starting with a set of n observations of X , x_1, x_2, \dots, x_n , a piecewise-linear Cumulative Distribution Function (CDF) is fit to the smallest $n - k$ data points, and an exponential tail to the remaining k points. Let $x_{(i)}$ be the i^{th} smallest of these n observations. Define $x_{(0)} = 0$. The CDF for this distribution is given by

$$F(x) \begin{cases} 0 & \text{if } x < 0 \\ \frac{i}{n} + \frac{x - x_{(i)}}{n(x_{(i+1)} - x_{(i)})} & \text{if } x_{(i)} \leq x \leq x_{(i+1)}, i = 0, \dots, n - k - 1 \\ 1 - \frac{k}{n} e^{\left[\frac{-(x - x_{(n-k)})}{\theta} \right]} & \text{if } x > x_{(n-k)} \end{cases}$$

Where k is the number of observations used to fit the tail ($1 \leq k \leq n - 1$), and

$$\theta = \frac{x_{(n-k)}/2 + \sum_{i=n-k+1}^n (x_{(i)} - x_{(n-k)})}{k}$$

For the Mixed Empirical-Exponential distribution the mean and variance are given below (Bratley et al., 1987).

Mean:

$$\bar{X}$$

Variance:

$$\frac{1}{3n} \left[2 \sum_{i=1}^{n-k-1} x_{(i)}^2 + \sum_{i=1}^{n-k-1} x_{(i)} x_{(i+1)} + x_{(n-k)}^2 \right] + \frac{k}{n} [(\theta + x_{(n-k)})^2 + \theta^2] - \left[\frac{1}{n} \sum_{i=1}^n x_i \right]^2$$

It can be seen from the two equations that the mean matches the sample mean (\bar{X}), but the variance does not match the sample variance ($\frac{\sum_{i=1}^n (x_i - \mu)^2}{n}$).

Bratley et al (1987) supply a two-step algorithm for variate generation as shown below.

Generate $U \sim [0,1]$

If $U > 1 - \frac{k}{n}$ *then*

Return $x = x_{(n-k)} - \theta \ln \left(\frac{n(1-U)}{k} \right)$

Else

Set $i = \lfloor nU \rfloor$

Return $x = n \left(U - \frac{i}{n} \right) (x_{(i+1)} - x_{(i)}) + x_{(i)}$

In this research, the number of observations in the tail (Exponential part) is set as 30% of the number of observations. Since the mixed empirical exponential distribution is not supported in arena simulation software, the simulation will be read in externally generated realizations from the two-step algorithm above. Realizations from these distributions will be generated using Excel Crystal Ball.

Example 2: How to use the two-step algorithm to generate Mixed Empirical-Exponential observations.

Assuming the 30 observations below were generated from the “true” distribution of a manual processing time random variable X .

0.98	0.98	0.67	1.39	1.89	1.06
1.96	1.33	1.35	0.47	3.94	1.92
1.03	1.07	1.17	0.49	1.14	0.86
1.39	0.76	1.11	0.75	1.62	0.65
1.41	0.68	3.24	3.40	1.04	1.61

Then, $n = 30$ and $k = 0.3 * 30 = 9$.

Let $w =$ the minimum value

$Y =$ set of n observations before subtracting the minimum value w , y_1, y_2, \dots, y_n

$Z =$ set of n observations after subtracting the minimum value w , z_1, z_2, \dots, z_n

To ensure that the minimum value w is met, the Mixed Empirical-Exponential is constructed from the resulting values after subtracting w from each observation. w is then added after generating the Mixed Empirical-Exponential observation.

Minimum value needed (w) = mean from true distribution * 0.2 = $1.76 * 0.2 = 0.352$

After sorting the observations y_1, y_2, \dots, y_n from minimum to maximum and setting $y_{(0)} = 0$, the following bullet points show the generation of two observations of X .

- Generate $U \sim [0,1] = 0.4013$

$$\text{If } U > 1 - \frac{9}{30}$$

Else

$$\text{Set } i = \lfloor nU \rfloor = \lfloor 30 * 0.4013 \rfloor = 12$$

$$z_{(12)} = y_{(12)} - w = 1.04 - 0.352 = 0.69$$

$$z_{(13)} = y_{(13)} - w = 1.06 - 0.352 = 0.71$$

$$\text{Return } x = n \left(U - \frac{i}{n} \right) (z_{(i+1)} - z_{(i)}) + z_{(i)} = 30 \left(0.4013 - \frac{12}{30} \right) * (0.71 - 0.69) +$$

$$0.69 = 0.69078 \text{ then add the minimum value } (w) 0.352 = 1.04278$$

So, the first value is 1.04278

- Generate $U \sim [0,1] = 0.7705$

$$\text{If } U > 1 - \frac{9}{30}$$

$$\text{Return } x = y_{(n-k)} - \theta \ln \left(\frac{n(1-U)}{k} \right)$$

$$y_{(n-k)} = y_{(30-9=21)} = 1.39$$

$$z_{(21)} = y_{(21)} - w = 1.39 - 0.352 = 1.04$$

$$\theta = \frac{z_{(n-k)}/2 + \sum_{i=n-k+1}^n (z_{(i)} - z_{(n-k)})}{k} = \frac{1.04/2 + \sum_{i=22}^{30} (z_i - 1.04)}{9} = 0.9977$$

$$\text{Return } x = z_{(n-k)} - \theta \ln \left(\frac{n(1-U)}{k} \right) = 1.04 - 0.9977 * \ln \left(\frac{30*(1-0.7705)}{9} \right) =$$

$$1.3073 \text{ then add the minimum value } (w) 0.352 = 1.6593$$

So, the second value is 1.6593

3.2.3 Best Fit Distribution

A “best fit” distribution will be defined as the probability distribution that is selected as a probability model for some random variable (manual process times in the models created), based on the analysis of collected data for the random variable. It is the "best" distribution based on goodness of fit tests (see Introduction and Literature Review). Two different probability distributions were selected as best fit distributions from the observations generated from the true distributions. This was completed independently for each set of data (30 and 100 observations). Crystal Ball distribution fitting software was used for distribution fitting. The criteria for choosing best fit distributions are,

- Ignore the Lognormal distribution since it will be used as the “less” fit distribution,

- Ignore any distribution that can generate negative values (or the probability of getting negative values is high). This may occur for normal, loglogistic, min extreme, max extreme, and students t distributions.
- Select the best fit distribution based on higher goodness of fit test p-values, starting from the Anderson-Darling test, then Kolmogorov-Smirnov test, and lastly the Chi Square test. The selection of the first-best fit will be “Best fit rank 1” and the selection of second-best fit will be “Best fit rank 2”.
- The p-value should be greater than 0.05

The parameters of the two best fit distributions were estimated using method of moments estimators. Using the method of moments estimators for best fit distributions and less fit distribution ensures that the expected values, and variance of the less fit and best fit distributions are the same, and match the sample means and variances of the data.

3.3 Model Description

Three simulation models with varying complexity were created and the complexity measures for each model are generated. All simulations were implemented using Arena simulation software. A verbal and graphical system description for each model is shown and each model may include one or more operational characteristics that is not included in the complexity measure.

The simulation models developed are networks of workstations, which include manual and automated workstations. In manual workstations, the processing times are random with a fixed minimum time, and for automated workstations the processing time is fixed, and the workstation and experiences random failures and repair times. Distribution fitting will occur for only the manual workstations.

The operational characteristics represented in the models are some variations of one or more of the following features.

- Arrivals
 - Stationary or non-stationary arrival processes,
 - The number of different entity types,
 - Batch arrival of entities, etc.
- Processes
 - The number of resources, and the number of different resources at the process,
 - Different workers/machines may have different processing times at the same workstation/process (i.e., different efficiency or schedule), etc.
 - Reliable workstations with variable process times,
 - Unreliable workstations with fixed process times, and random times between failure and random repair times. This is the model of an automated workstation.
- Buffers
 - Infinite capacity,
 - Finite capacity.
- Entity/material movement
 - Non-zero transfer times,
 - Conveyors, or transporters between the processes are required.

3.3.1 Simple Model

The verbal description, graphical description, operation characteristics, complexity measures, and the performance measures that have been used to test the hypothesis are shown below.

- Verbal Description:

Parts arrive one at-a-time at an arrival rate of 30 per hour (interarrival time follows a uniform distribution with minimum 1.134 minutes, and maximum 2.866 minutes) to a queue of infinite capacity. If there is no one in queue when the first part arrives the parts begins service at a manual workstation upon arrival. Parts arriving when the manual workstation is busy join a queue. Parts in queue are served in First Come First Served (FCFS) order. A single manual workstation serves a single part at a time with a service time with a mean of 1.76 minutes (the distributions will be the true, best fit, and less fit). The workstation is never idle while parts are in the system. The model was run for 10, 2000-hour replications and no warm-up period. The rest of parameters such as the true distributions formula, best and less fit distributions, etc. are shown in Appendix A.

- Graphical Description:

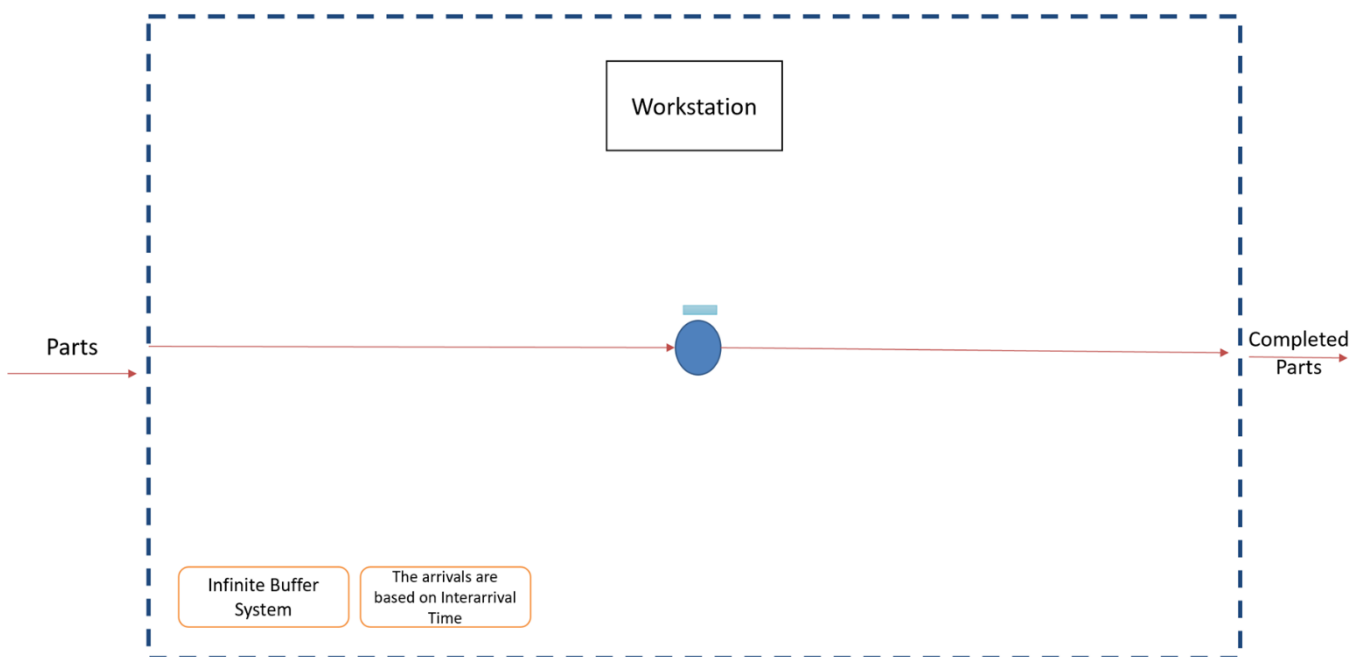


Figure 3.1 Graphical Description of the Simple Model

- Operation Characteristics:

The operational features of the simple model are shown below.

- Arrivals
 - One part type
 - Stationary arrival process
- Processes
 - Parts processed in all workstations follow the same processing time distribution with the given parameters
 - The workstation processes one part at a time
- Buffers
 - Infinite capacity
- Entity/material movement
 - Zero transfer time
- Complexity Measures:

Measurements of complexity based on system related factors and entity related factors are shown below.

- System Related Factors
 - Number of connections = 0
Since there is just one process, so the number of connections is zero.
 - Number of random components = 2
The interarrival time and the processing time are the random components
 - Number of processes = 1
There is one process in the system which is the workstation
 - Number of recourses = 1
There is one resource in the workstation
 - Number of different resources = 1
There is one resource in the workstation

- Entity Related Factors
 - Number of different routes = 1
There is one route that the parts can follow
 - Weighted average number of steps = 2
The first action is waiting in the queue and the second action is the processing time in the workstation
 - Weighted average number of random components = 1
There is one random component that the parts can follow which is the processing time in the workstation

- Performance Measures:

The selected performance measures for the simple model are:

- Average work-in-process
- Average time parts spend in the system
- Average number waiting in the workstation queue
- Maximum number waiting in the workstation queue

3.3.2 Intermediate Model

The verbal description, graphical description, operation characteristics, complexity measures, and the performance measures used to test the hypothesis are shown below.

- Verbal Description:

Parts arrive one at-a-time at an arrival rate of 60 per hour (interarrival time is) to three serial manual workstations that each has a queue of infinite capacity. After processing is completed on the third workstation twenty percent (randomly selected) of the parts go to a manual rework workstation with an infinite capacity queue. The mean processing times are 0.8, 0.84, 0.81,

respectively for the three serial workstations, and 8.2 minutes for rework. There are two resources in the rework workstation and one resource in each of the three workstations, and each part requires a single resource to be processed. Parts in queues are served in First Come First Served (FCFS) order. The simulation model was run for 14, 1000-hour replications with an 8-hour warm-up period for each replication. The rest of parameters such as the true distributions formula, best and less fit distributions, etc. are shown in Appendix B.

- Graphical Description:

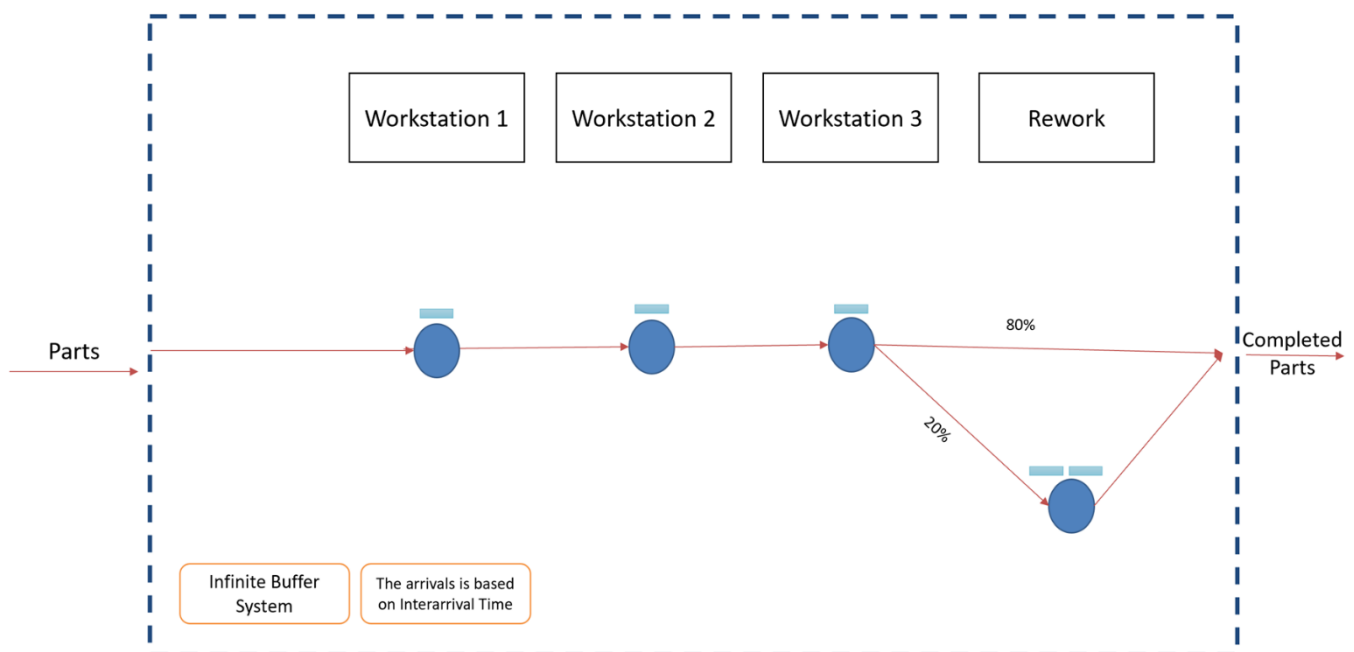


Figure 3.2 Graphical Description of the Intermediate Model

- Operation Characteristics:

The operational characteristics of the intermediate model are shown below.

- Arrivals:
 - One part type
 - Stationary arrival process
- Processes

- Parts processed in all workstations follow the same processing time distribution with the given parameters
- All the workstations are reliable
- There are two resources in the rework workstation and one resource in each of the three workstations
- Buffer
 - Infinite capacity
- Entity/material movement
 - Zero transfer time
- Complexity Measures:

Measurements of complexity based on the system related factors are entity related factors are shown below.

- System Related Factors
 - Number of connections = 3
Workstation 1 affect workstation 2, workstation 2 affect workstation 3, and workstation 3 affect the rework. Therefore, there are 3 connections.
 - Number of random components = 5
The interarrival time, processing time for workstation 1, workstation 2, workstation 3, rework. Therefore, there are 5 random components.
 - Number of processes = 4
There are four processes which are workstations 1, 2, 3 and rework.
 - Number of recourses = 5
There are five resources, each workstation has one and rework has two.
 - Number of different resources = 4

There are four different resources since the rework contains two resources with the same type (i.e., the two resources have the same schedule, efficiency, etc....)

- Entity Related Factors

- Number of different routes = 2

There are two different routes, the first route will not join the rework (80% of the parts) otherwise, they will join the rework.

- Weighted average number of steps = 6.4

The first route (80%) has six steps (queue workstation 1, service, queue workstation 2, service, queue workstation 3, service) the second route (20%) has two additional steps (queue rework, service). Therefore, $0.8 * 6 + 0.2 * 8 = 6.4$

- Weighted average number of random components = 3.2

The first route (80%), has three random components (processing times in workstation 1, 2, and 3) the second route (20%) has one more random component (rework processing time), therefore, $0.8 * 3 + 0.2 * 4 = 3.2$

- Performance Measures:

The selected performance measures for the intermediate model are:

- Average work-in-process
- Average time the parts spend in the system
- Average number waiting in workstation number 1 queue
- Maximum number waiting in workstation number 1 queue
- Average number waiting in workstation number 3 queue
- Maximum number waiting in workstation number 3 queue
- Average number waiting in the rework queue
- Maximum number waiting in rework queue

3.3.3 Complex Model

The verbal description, graphical description, operation characteristics, complexity measures, and the performance measures used to test the hypothesis are shown below.

- Verbal Description:

Three different Parts (A, B, C) arrive at a system that contains eleven workstations (three workstation 1's – one for each part type, one workstation 2 that processes all part types, three workstations 3's – one for each part type, three workstations 4's – one for each part type, plus a single rework workstation). The three workstation 1's are automated workstations, and the rest are manual workstations. There is one resource in each of the three workstation 1's, two resources in workstation 2, two resources in each of the three workstation 3's but they are non-identical resources (i.e., they have different processing time, one is faster than the other), three resources in each of the three workstation 4's and one resource in the rework workstation, and each part requires a single resource to be processed. The system is never starved for parts (A, B, C). There is limited storage space for work-in-process inventory for all the workstations except the rework workstation. If workstation 1's completes processing and there is no output storage space available, the job remains in the workstation, and the workstation remains "blocked" until space is available. A blocked workstation cannot process any new jobs). After finishing workstation 4's, 80% of the parts leave the system, and the remaining will go to the rework process. If the part has been processed twice in the rework, it will leave the system as scrapped parts; otherwise, it will go back to workstation 2. The simulation model was run for 21, 1000-hour replications with a 4-hour warm-up period for each replication. The parameters of the models are shown below. The rest of parameters such as the true distributions formula, best and less fit distributions, etc. are shown in Appendix C.

Table 3.1 Parameters of the Complex Model

Workstation Name	Processing time	Buffer Size	Type of WS	MTBF	MTTR
WorkStation 1 For Part A	2.5000	Always Jobs Available	Automated	120	168
WorkStation 1 For Part B	1.1494	Always Jobs Available	Automated	90	66.6
WorkStation 1 For Part C	1.0526	Always Jobs Available	Automated	60	25.5
WorkStation 2	1.0125	3	Manual		
New WorkStation 3 For Part A	6.6667	9	Manual		
Old WorkStation 3 For Part A	10.0000		Manual		
New WorkStation 3 For Part B	2.4167	13	Manual		
Old WorkStation 3 For Part B	3.6250		Manual		
New WorkStation 3 For Part C	1.7083	2	Manual		
Old WorkStation 3 For Part C	2.5625		Manual		
WorkStation 4 For Part A	12.7500	6	Manual		
WorkStation 4 For Part B	4.4500	5	Manual		
WorkStation 4 For Part C	3.2625	2	Manual		
Rework Process	2.7813	Infinite	Manual		

- Graphical Description:

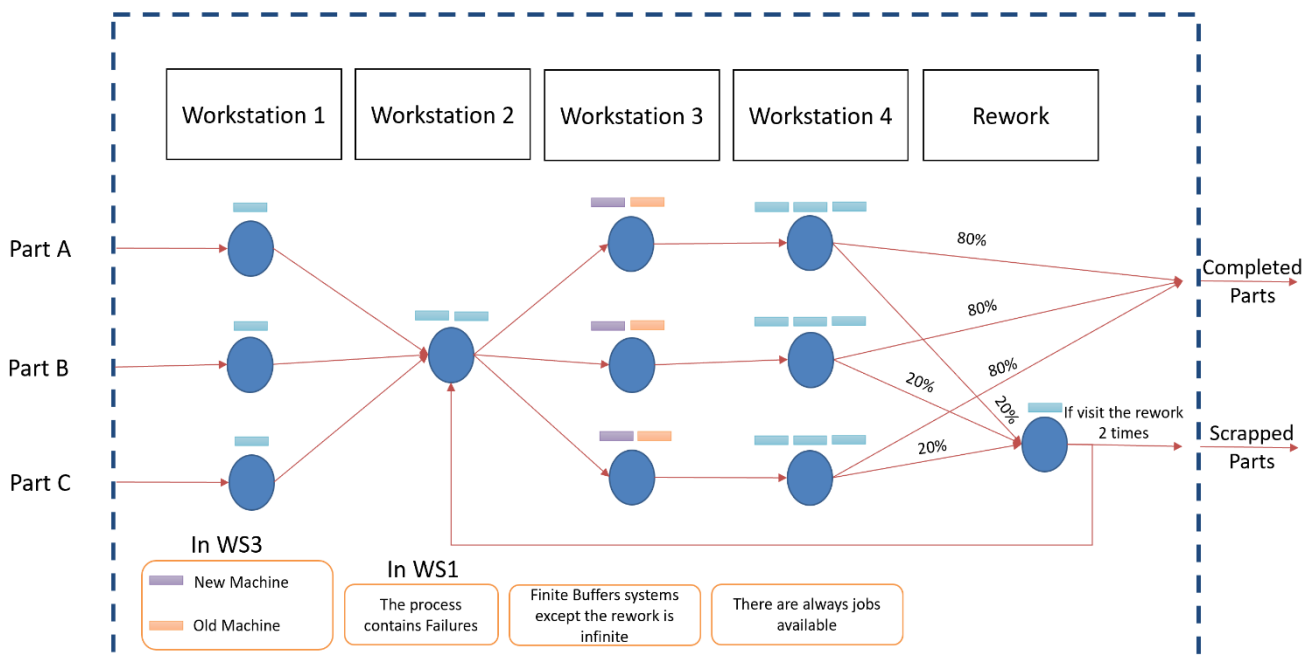


Figure 3.3 Graphical Description of the Complex Model

- Operation Characteristics:

The operational characteristics of the complex model are shown below.

- Arrivals

- Three parts type (A, B, C)
- The system is never starved for parts, there are always jobs available
- Processes
 - There is one resource in each of the three workstation 1's
 - There are two resources in workstation 2,
 - The three workstations 3's have two resources with different efficiency (new and old machine)
 - There are three resources in each of the three workstation 4's
 - There is one resource in the rework workstation
 - The three workstation 1's is unreliable
 - Workstation 2, the three workstation 3's, the three workstation 4's, rework workstation is reliable
 - Parts processed in all workstations follow the same processing time distribution with the given parameters, except workstation 3's since it has resources with different processing time distributions
- Buffer
 - There is limited storage space for work-in-process inventory for all the workstations except the rework workstation.
- Entity/material movement
 - Zero transfer time
- Complexity Measures:

Measurements of complexity based on system related factors are entity related factors are shown below.

 - System Related Factors
 - Number of connections = 23

Since this system contains finite buffers, the number of connections is higher than system with infinite buffers. The lists of affects are shown below.

- Workstation 1 Part A affect workstation 2
- Workstation 1 Part B affect workstation 2
- Workstation 1 Part C affect workstation 2
- Workstation 2 affect workstation 3 Part A
- Workstation 2 affect workstation 3 Part B
- Workstation 2 affect workstation 3 Part C
- Workstation 3 Part A affect workstation 4 Part A
- Workstation 3 Part B affect workstation 4 Part B
- Workstation 3 Part C affect workstation 4 Part C
- Workstation 4 Part A affect the rework
- Workstation 4 Part B affect the rework
- Workstation 4 Part C affect the rework
- Rework affect workstation 2
- Workstation 2 affect the rework
- Workstation 4 Part A affect workstation 3 Part A
- Workstation 4 Part B affect workstation 3 Part B
- Workstation 4 Part C affect workstation 3 Part C
- Workstation 3 Part A affect workstation 2
- Workstation 3 Part B affect workstation 2
- Workstation 3 Part C affect workstation 2
- Workstation 2 affect workstation 1 Part A
- Workstation 2 affect workstation 1 Part B
- Workstation 2 affect workstation 1 Part C

- Number of random components = 17

Time between failures and time to repair for the three workstation 1's are six random components, one processing time for workstation 2, six processing time for the three workstations 3's since it contains two resources with different processing time, three processing for the three workstation 4's and, one processing time for the rework. Therefore, there are 17 random components.

- Number of processes = 11
- Number of recourses = 21
- Number of different resources = 14

Workstation 2 has two resources with the same type, workstations 4's have three resources with the same type. Therefore, 21 resources minus seven equal 14

- Entity Related Factors

- Number of different routes = 9

3 different parts (A, B, C) will be considered as completed parts without visiting the rework, 3 different parts will be considered as completed parts with visiting the rework, and 3 different parts will be considered as scrapped parts.

- Weighted average number of steps = 9.68

Based on the parameters of the models, 80% of the part will be considered as completed parts without visiting rework, 16% ($0.8*0.2=0.16$) of the parts will be considered as completed part with visiting the rework. Lastly 4% ($0.2*0.2=0.04$) of the parts will be considered as scrapped parts. The 80% will have 8 actions, 16% of the parts will have 16 actions, and 4% will have 18 actions. Therefore, ($0.8*8 + 0.16*16 + 0.04*18 = 9.68$)

- Weighted average number of random components = 3.84

80% of the parts will have 3 random components, 16% will have 7 random components, and 4% will have 8 random components. Therefore, $(0.8*3 + 0.16*7 + 0.04*8 = 3.84)$

- Performance Measures:

The selected performance measures from complex model are:

- Total parts completed over replication length
- Average work-in-process for part A
- Average time part A spends in the system
- Average work-in-process for part B
- Average time part B spends in the system
- Average work-in-process for part C
- Average time part C spends in the system

3.3.4 Complexity Measures of the Three Models

The table below shows the complexity measures of the three models. The numbers of system-related and entity-related factors indicate that the complex model is more complicated than the intermediate model since it contains larger numbers for each factor. The intermediate model is more complex than the simple model.

Table 3.2 Complexity Measures of the Three Models

Complexity Measures	Simple Model	Intermediate Model	Complex Model
System Related Factors			
Number of Connections	0	3	23
Number of Random Components in the System	2	5	17
Number of Processes	1	4	11
Number of Resources	1	5	21
Number of Different Resources	1	4	14
Entity Related Factors			
Number of Different Routes	1	2	9
Weighted Average Number of Steps	2	6.4	9.68
Weighted Average Number of Random Components	1	3.2	3.84

3.4 Manual Workstations Example – True Distribution Parameters

As discussed in section 3.2.1 the manual workstation processing time assumed true distributions will be a mixture of theoretical distributions. The parameters of these theoretical distributions are determined from the specified workstation processing time mean and variance. The steps below show how the theoretical distribution parameters were calculated for the manual workstations.

- If X is the process time, the mean process times $E[X]$ for each manual workstation/process in all the models was calculated based on a randomly selected utilization between 80 – 89 %. Let

$$\rho = \text{Workstation/process utilization (80-89\%)}$$

$$\lambda = \text{Arrival rate per hour}$$

The mean process time of X ($E[X]$) will then be computed using the following formula.

$$E[X] = \rho/\lambda$$

- Since the manual workstation/process has processing time variability, the standard deviation is calculated as the mean process time multiplied by the Coefficient of Variation (CV). CV levels of 0.25 and 0.75 were simulated. Thus, the final formula of calculating the standard deviation or the variance of the processing time of a manual workstation/process is.

$$SD [X] = E[X] * CV[X]$$

and

$$SD [Y] = SD[X] * \sqrt{3}$$

Let the workstation/process utilization $\rho = 0.85$

Let arrival rate per hour $\lambda = 4$

$$E[X] = \frac{\rho}{\lambda} = \frac{0.85}{4} = 0.2125 \text{ Hours} = 12.75 \text{ Minutes}$$

Let $CV[X] = 0.25$

$$SD[X] = E[X] * CV[X] = 12.75 * 0.25 = 3.1875$$

$$X = a + Y$$

where $a = \text{minimum}(X) = 0.2 * E[X] = 0.2 * 12.75 = 2.55$

and let Y represents the continuous portion of X so that

$$E[Y] = 0.8 * E[X] = 0.8 * 12.75 = 10.2 \text{ and}$$

$$SD[Y] = \sqrt{3} * SD[X] = \sqrt{3} * 3.1875 = 5.5209$$

Then, the parameters of Lognormal, Gamma, and Weibull distributions can be calculated

- *Lognormal*

$$\sigma = \sqrt{\ln\left(\frac{\text{Var}[Y]}{E[Y]^2} + 1\right)} = \sqrt{\ln\left(\frac{5.5209^2}{10.2^2} + 1\right)} = 0.5069$$

$$\mu = \ln(E[Y]) - \frac{\sigma^2}{2} = \ln(10.2) - \frac{0.5069^2}{2} = 2.1939$$

- *Gamma*

$$\alpha = \frac{E[Y]^2}{\text{Var}[Y]} = \frac{10.2^2}{5.5209^2} = 3.4133$$

$$\beta = \frac{\text{Var}[Y]}{E[Y]} = \frac{5.5209^2}{10.2} = 2.9883$$

- *Weibull (Solve for α and β)*

$$E[Y]: \frac{\beta}{\alpha} \Gamma\left(\frac{1}{\alpha}\right)$$

$$\text{Var}[Y]: \frac{\beta^2}{\alpha} \left\{ 2\Gamma\left(\frac{2}{\alpha}\right) - \frac{1}{\alpha} \left[\Gamma\left(\frac{1}{\alpha}\right) \right]^2 \right\}$$

$$\alpha = 1.9241$$

$$\beta = 11.4991$$

The final formula of the true distribution is:

$$X = a + \frac{1}{3}X_1 + \frac{1}{3}X_2 + \frac{1}{3}X_3$$

where X_1 is lognormal, X_2 is Gamma, and X_3 is Weibull

Therefore, $a + \left(\frac{1}{3}\right) * \text{Lognormal}(\mu, \sigma) + \left(\frac{1}{3}\right) * \text{Gamma}(\alpha, \beta) + \left(\frac{1}{3}\right) * \text{Weibull}(\alpha, \beta)$

From the previous example:

$$2.55 + \left(\frac{1}{3}\right) * \text{Lognormal}(2.1939, 0.2570) + \left(\frac{1}{3}\right) * \text{Gamma}(2.9883, 3.4133) + \left(\frac{1}{3}\right) *$$

$\text{Weibull}(11.4991, 1.9241)$

32 true distributions for the three models are shown in (Appendix A.2, B.2, and C.2). There are 32 true distributions since there are 16 manual workstations, and there are two CV levels for each.

3.5 Automated Workstation Example – Determining Parameters

The automated workstations have fixed processing times, and assumed mean time between failures, and mean time to repair (both assumed to follow an exponential distribution). There will be no distribution fitting related to automated workstations. Automated workstations are included to introduce variability that manifests in a different manner than manual workstations. If X represents the time an entity spends in an automated process, X will consist of a fixed processing time plus any repair time incurred during the processing of an entity due to random

failures. It will be assumed that the time between failures is operation time between failures. The true means for the time between failure, repair times, and the fixed processing times may be adjusted to obtain a specified utilization. Let

$\lambda = \text{arrival rate per hour}$

$p = \text{the fixed processing time (a parameter).}$

$JPH = \text{the speed of the machine/per hour (i.e., number of jobs produced per hour)}$

$MTBF = \text{the mean time between failures}$

$MTTR = \text{the mean time to repair}$

$SAA = \text{Stand Alone Availability} = \text{fraction of time the workstation is up when jobs are available for processing} = MTBF / (MTBF + MTTR).$

$X = \text{the effective process time} = p + \text{repair time during job processing (a random variable)}. E[X] = p/SAA.$

$\text{Capacity utilization} = (\text{arrivals per hour}) / (MTBF / (MTBF + MTTR) * JPH)$

p will be specified and is the reciprocal of machine speed when the workstation is operating. The $MTBF$ will be specified and equal to 60, 90, or 120 and the $MTTR$ will be computed to match a specified utilization ρ , equal to 80%, 87%, or 95% (with a specified job arrival rate λ). The variance of X ($Var[X]$) will then be computed using the following formula. (Kim and Alden, 1997)

$$Var[X] = \frac{2p(MTTR)^2}{(MTBF)}$$

Three different levels of failures and utilization will be assigned randomly to the automated workstations to have either low, moderate, high variance of effective processing time.

- Low variance: Utilization (95%), *MTBF* (60 mins), and speed is the arrival rate + 50% of the arrival rate.
- Moderate variance: Utilization (87%), *MTBF* (90 mins), and speed is the arrival rate + 100% of the arrival rate.
- High variance: Utilization (80%), *MTBF* (120 mins), and speed is the arrival rate + 200% of the arrival rate.

Example

Let the level of Failure and Utilization = High variance

Utilization $\rho = 0.8$

$MTBF = 120$

Let the arrival rate $\lambda = 8$

*The speed will be $8 + 200\% * 8 = 24$ Jobs per hour*

The fixed processing time $p = \frac{1}{s} = \frac{1}{24} = 0.0417$ Hours = 2.5 Minutes

From this equation capacity utilization = (arrival per hour) / (MTBF/(MTBF+MTTR))

**JPH) so that the $MTTR = \frac{\rho * MTBF * S}{\lambda} - MTBF = \frac{0.8 * 120 * 24}{8} - 120 = 168$*

$$SAA = \frac{MTBF}{MTBF + MTTR} = \frac{120}{120 + 168} = 0.41667$$

$$E[X] = \frac{p}{SAA} = \frac{2.5}{0.41667} = 6$$

$$\text{Var}[X] = \frac{2p(MTTR)^2}{(MTBF)} = \frac{2 * 2.5 * (168)^2}{120} = 1176$$

3.6 Simulation Run Parameters

Values for the following parameters are needed for the three models

- Stream Number

The stream numbers that will be used within the simulation will be different among the workstations but will be the same between different runs. If there are several different random number generators, we will dedicate a stream number to producing the random numbers for each particular type of input random variate. For example, in the simple model, one stream could dedicate to generating the interarrival times, and a different stream could be dedicated to service times (for example, best fit distributions). However, if there is a different run (simple model with different processing time (for example, less fit distribution)), the same stream that used in the first run will be used in the run. Therefore, it will minimize the differences observed between the two systems. Thus, it will reduce the variance caused by differences in random component. The stream numbers of the three models are shown in Appendix A.5, B.5, and C.5 respectively.

- Buffer Size

The complex model contains finite buffers, so the size of these buffers needs to be specified. It was determined by taking twenty percent of the average number in the queue when the model is simulated with infinite buffers. By doing this, it is likely that the finite buffers will cause workstation interactions. A blocked workstation cannot process any new jobs.

- Replication Length

The replication length is the simulated period in a simulation study. The replication length used in the three models is an arbitrary number of 1000 hours. It is long enough to have estimates of long-term performance measure with low variance.

- Warm-up Period

Since the models start with an empty-and-idle state, a warm-up period is needed, and the objective is to estimate a long-term performance measures. The warm-up period has been used in the intermediate and complex models; however, since the simple model is a single server queue, there is no need to have a warm-up period.

- Number of Replication

The number of replications is the number of simulations runs to execute and it needs to be determined before running the simulation and getting the results. The equation below is used to determine the number of needed replications in the three models (simple, intermediate, and complex models) (Kelton et al., 2007)

$$n = n_0 * \frac{h_0^2}{h^2}$$

Where n_0 is the initial number of replications and the chosen initial number was 10 in the three models, h_0 is the initial half-width from the initial replications n_0 (i.e., half width after running the simulation with 10 replications) which is the statistical reliability of the results and for comparing results across different scenarios and experiments, and h is the half-width that you want to reach to. The performance measure that was chosen to get the half-width is the work-in-process in the three models.

3.7 Test Cases Examined

The total number of test cases simulated was determined by the combinations of: simulation model (three different complexity levels), type of distributions used in manual workstations (true, best fit, less fit), CVs of processing times in manual workstation (two levels), the number

of observations that will be generated from the assumed true distribution (30 and 100), and the number of times observations from the true distribution are obtained and fit to distributions (two times). In total, there are 102 different test cases. Since there are three models, times two levels of CVs, times four types of distribution in manual workstation, times two numbers of generated observations, times two number of times observations are obtained from the true distribution, plus each model was run with the assumed true distributions (two true distribution in each model), which added six more runs.

Table 3.3 Test Cases Examined

Number	Case Description	Levels
1	Number of Models	3 Models <ul style="list-style-type: none"> • Low • Intermediate • Complex
2	Type of distribution in manual workstation	4 Types <ul style="list-style-type: none"> • Best Fit Rank 1 • Best Fit Rank 2 • Less Fit Lognormal • Less Fit Mixed Empirical-Exponential
3	True Distribution	2 True Distribution for the levels of CV's (0.25 & 0.75) in each model
4	Type of CV of the mean service times	2 Levels <ul style="list-style-type: none"> • 0.25 • 0.75
5	Number of observations that will be collected from the assumed true distribution	2 Levels <ul style="list-style-type: none"> • 30 • 100
6	Number of times data is collected from the true distribution	2 Samples

4 RESULTS

This chapter presents the results of comparisons between categories of probability distributions used to model manual process times in different simulation models. The simulation models varied in complexity, and the probability distribution categories are: two different best fit distributions, and two different less fit distributions (two-parameter Lognormal and Mixed Empirical-Exponential). The results from the simulation output (i.e., performance measures) when using two different categories of probability distributions for the manual process times were statistically compared using paired t-tests. Paired t-test were used since random numbers have been synchronized in the simulations. 95% Confidence Interval (CI) is evaluated in this research is that there are significant differences between the performance measures estimated using simulation when using two different probability distribution categories to model manual process times, the significant difference if the CI excludes zero, while there is no significant difference if the CI includes zero.

4.1 Statistical Comparisons

The different categories of probability distributions used to model manual process times are:

- The assumed true distribution.
- Best fit distributions based on results of probability distribution fitting. Two best fit distributions (Best fit rank 1, Best fit rank 2) were considered.
- Less fit distributions: less fit Lognormal and less fit Mixed Empirical-Exponential.

Before presenting the summary of the comparison between the best fit distributions and less fit distributions some experimental parameters, notation, and simulation model performance measures are reviewed below.

- There are two levels of coefficient of variation of the manual workstation 0.25 and 0.75.

- There are two levels of observations (30 and 100) sampled from the true distributions to represent data which normally would be collected.
- From each true distribution two different samples of 30, and two different samples of 100 observations were generated.
- All the results are in minutes.

Table 4.1 Notation Definitions

Description	Notation
Best fit Distribution	<i>BF</i>
Less fit Distribution	<i>LF</i>
Best fit distribution rank 1	<i>BFR1</i>
Best fit distribution rank 2	<i>BFR2</i>
Less fit two-parameters lognormal	LN
Less fit mixed empirical exponential	MEE
Performance measures	PM
Coefficient of variation of the manual workstation	<i>CV</i>
Percentage difference between the two approaches	% Diff
Average difference between the two approaches	Avg Diff
Confidence interval upper limit	CI UL
Confidence interval lower limit	CI LL
Point estimate of parameters	PE
Test statistics	TS
Reject the null hypothesis	“0”
Do not reject the null hypothesis	“1”

Table 4.2 Notations Definitions of the Performance Measures

Description	Notation
Simple Model Performance Measures	
Average work-in-process	<i>WIP</i>
Average time parts spend in the system	<i>ATS</i>
Average number waiting in the workstation queue	<i>Avg WS</i>
Maximum number waiting in the workstation queue	<i>Max WS</i>
Intermediate Model Performance Measures	
Average work-in-process	<i>WIP</i>
Average time parts spend in the system	<i>ATS</i>
Average number waiting in workstation number 1 queue	<i>Avg Q1</i>

Maximum number waiting in workstation number 1	<i>Max Q1</i>
Average number waiting in workstation number 3 queue	<i>Avg Q3</i>
Maximum number waiting in workstation number 3 queue,	<i>Max Q3</i>
Average number waiting in rework workstation	<i>Avg QR</i>
Maximum number waiting in rework workstation	<i>Max QR</i>
Complex Model Performance Measures	
Total parts completed over replication length	<i>Throughput</i>
Average work-in-process for part A	<i>WIP A</i>
Average time part A spends in the system	<i>ATS A</i>
Average work-in-process for part B	<i>WIP B</i>
Average time part B spends in the system	<i>ATS B</i>
Average work-in-process for part C	<i>WIP C</i>
Average time part C spends in the system	<i>ATS C</i>

4.1.1 Confidence Intervals between best fit distribution and less fit distribution

Confidence Interval

The interpretation of the confidence interval (CI) would be that there is a difference between the two approaches (best fit and less fit) if the CI excludes zero, while there is no difference if the CI includes zero. Because the maximum number in queue is not normally distributed, the confidence interval is not computed.

The following is the equation of the confidence interval (CI) when comparing the simulation results generated between a best fit and less fit probability distribution category (Ramsey & Schafer, 2012):

$$CI = \text{Point estimate of parameter} \pm t_{df(1-\frac{\alpha}{2})} * SE(\text{Point estimate})$$

$$CI = \bar{Y} \pm t_{df(1-\frac{\alpha}{2})} * SE(\bar{Y})$$

$$SE(\bar{Y}) = \frac{s}{\sqrt{n}}$$

Where:

$Y_i =$ Difference in performance measure estimates between two distribution categories
for replicate $i, i=1, \dots,$

$\bar{Y} =$ Sample mean of Y_1, Y_2, \dots, Y_n

$s =$ Sample standard deviation of Y_1, Y_2, \dots, Y_n

$n =$ Sample size (number of simulation replicates)

$df =$ degree of freedom = $(n - 1)$

α (Type I error level) is equal to 0.05

Examples of Computing Confidence Intervals

Consider the average work-in-process (WIP) in Table H.2. The upper and lower confidence intervals limit can be calculated as blow

n	BF	LF	$Y_i (BF-LF)$
1	8.99126	8.99316	-0.001895
2	8.58501	8.58299	0.002015
3	8.84085	8.85091	-0.010057
4	8.45397	8.46172	-0.007752
5	8.77263	8.77582	-0.003191
6	9.30538	9.30966	-0.004283
7	8.80194	8.80913	-0.007186
8	8.5583	8.56498	-0.006683
9	8.49137	8.49637	-0.005002
10	8.77415	8.77854	-0.004394
11	8.95824	8.96401	-0.005772
12	8.54951	8.55495	-0.005432
13	8.86667	8.87265	-0.005983
14	8.88718	8.89547	-0.008297
Average			-0.005279429
Std Dev			0.002977982

$$\bar{Y} = -0.00528$$

$$s = 0.002978$$

$$n = 14$$

$$CI = \bar{Y} \pm t_{df(1-\frac{\alpha}{2})} * SE(\bar{Y})$$

$$t_{df(1-\frac{\alpha}{2})} = t_{13(1-\frac{0.05}{2})} = t_{13(0.975)} = 2.160368$$

$$CI = -0.00528 \pm 2.160368 * \frac{0.002978}{\sqrt{14}}$$

$$CI \text{ UL} = -0.0036$$

$$CI \text{ LL} = -0.0070$$

There is a statistically significant difference in the average work-in-process between the less fit lognormal distribution and the best fit distribution rank 1 since the CI excludes 0.

Consider the average number waiting in the workstation 1 queue (*Avg WSI*) in *Table H.2*. The upper and lower confidence intervals limit can be calculated as blow

<i>n</i>	<i>BF</i>	<i>LF</i>	<i>Yi (BF-LF)</i>
1	1.29239	1.29228	0.000101
2	1.26734	1.26801	-0.000671
3	1.31743	1.3174	3.2E-05
4	1.21553	1.21683	-0.0013
5	1.29651	1.29525	0.001263
6	1.3732	1.37301	0.000193
7	1.25103	1.25167	-0.000638
8	1.2222	1.2219	0.000302
9	1.24127	1.24173	-0.000461
10	1.26371	1.26331	0.000398
11	1.33508	1.3348	0.000279
12	1.26818	1.26823	-5.4E-05
13	1.27631	1.27574	0.000573
14	1.32352	1.32287	0.000648
Average			4.75E-05
Std Dev			0.000647508

$$\bar{Y} = -0.0000475$$

$$s = 0.000647508$$

$$n = 14$$

$$CI = \bar{Y} \pm t_{df(1-\frac{\alpha}{2})} * SE(\bar{Y})$$

$$t_{df(1-\frac{\alpha}{2})} = t_{13(1-\frac{0.05}{2})} = t_{13(0.975)} = 2.160368$$

$$CI = -0.0000475 \pm 2.160368 * \frac{0.000647508}{\sqrt{14}}$$

$$CI \text{ UL} = 0.0004$$

$$CI \text{ LL} = -0.0003$$

There is no statistically significant difference in the average number waiting in the workstation 1 queue between the less fit lognormal distribution and the best fit distribution rank 1 since the CI includes 0.

4.1.2 Paired t-test between best fit rank 1 and best fit rank 2

Null and Alternative Hypotheses

Comparisons of the results generated for the same system using two different best fit distributions was also conducted. Let,

μ_{FR1} = Performance measure estimate using a best fit probability distribution rank 1.

μ_{FR2} = Performance measure estimate using a best fit probability distribution rank 2.

Then,

$$H_0: \mu_{FR1} = \mu_{FR2}$$

$$H_1: \mu_{FR1} \neq \mu_{FR2}$$

By posing the null and alternative hypotheses in this manner the objective is that rejection of the null hypotheses will represent a more definitive conclusion based on a stated Type I error level.

Statistical Test Utilized

The equation of conducting the paired t-test is (Ramsey & Schafer, 2012):

$$t\text{-stat} = \frac{\text{Point estimate of parameter} - \text{null hypothesized value}}{\text{Standard Error of point estimate}}$$

$$t\text{-stat} = \frac{\bar{Y} - 0}{SE(\bar{Y})}$$

$$SE(\bar{Y}) = \frac{s}{\sqrt{n}}$$

Where:

$Y_i = \text{Difference in performance measures for pair } i, i = 1, \dots,$

$\bar{Y} = \text{Sample mean of } Y_1, Y_2, \dots, Y_n$

$s = \text{Sample standard deviation of } Y_1, Y_2, \dots, Y_n$

$n = \text{Sample size}$

After calculating the t-test statistic, a p-value is computed which is “the smallest level of significance α for which the observed data indicate that the null hypothesis should be rejected,” (Wackerly et al., 2014). A 0.05 Type I error level (α) is used and a t-distribution function from excel is used to find the p-value.

Examples of Executing Paired Comparisons

Consider comparisons between estimated performance measures when using best fit distribution rank 1, and best fit distribution rank 2.

Table 4.3 Best Fit Distribution Rank 1 vs Best Fit Distribution Rank 2 in the Simple Model

2nd	<i>Best Fit R1 vs Best Fit R2 with CV = 0.25, 30 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>
1	1.0040	0.9964	2.0104	1.9952	0.1806	0.1734	4.0000	4.0000
2	1.0146	1.0074	2.0269	2.0125	0.1882	0.1811	4.0000	4.0000
3	1.0073	1.0001	2.0154	2.0008	0.1827	0.1757	4.0000	4.0000
4	0.9996	0.9939	2.0023	1.9910	0.1763	0.1706	4.0000	3.0000
5	1.0073	1.0029	2.0166	2.0077	0.1824	0.1779	4.0000	4.0000
6	1.0046	0.9969	2.0099	1.9946	0.1811	0.1736	4.0000	4.0000
7	1.0080	0.9980	2.0144	1.9945	0.1842	0.1747	5.0000	5.0000
8	1.0133	1.0048	2.0285	2.0115	0.1873	0.1792	4.0000	4.0000
9	1.0072	1.0006	2.0143	2.0010	0.1835	0.1772	4.0000	4.0000
10	1.0149	1.0080	2.0291	2.0152	0.1891	0.1822	5.0000	4.0000
Avg	1.0081	1.0009	2.0168	2.0024	0.1835	0.1765	4.2000	4.0000
PE	0.0072		0.0144		0.0070		0.2000	
TS	15.1869604		15.21567954		16.37867418		1.5	
P-Value	1.01299E-07		9.96491E-08		5.2447E-08		0.167850656	
Reject?	0		0		0		1	
Avg Diff	0.0072		0.0144		0.0070		0.2000	
% Diff	0.71%		0.71%		3.81%		4.76%	

The table above shows a comparison in the simple model between best fit distribution rank 1 and best fit distribution rank 2 when the CV of the manual workstation is 0.25, the number of observations that were generated from the true distributions is 30, and the second sample from the true distribution is utilized.

Consider the average time parts spend in the system (ATS). Then,

$$H_0: \mu_{FR1} = \mu_{FR2}$$

$$H_1: \mu_{FR1} \neq \mu_{FR2}$$

n	$BFR1$	$BFR2$	Y_i
1	2.0104	1.9952	0.0152
2	2.0269	2.0125	0.0144
3	2.0154	2.0008	0.0146
4	2.0023	1.9910	0.0113
5	2.0166	2.0077	0.0089
6	2.0099	1.9946	0.0153
7	2.0144	1.9945	0.0199
8	2.0285	2.0115	0.0171
9	2.0143	2.0010	0.0133
10	2.0291	2.0152	0.0138
Average			0.0144
Std Dev			0.00299

$$\bar{Y} = 0.0144,$$

$$s = 0.00299$$

$$n = 10$$

$$t\text{-stat} = \frac{\bar{Y}-0}{SE(\bar{Y})} = \frac{0.0144}{\frac{0.00299}{\sqrt{10}}} = 15.2157$$

$$\text{The } p\text{-value is} = 9.96e^{-8}$$

There is strong evidence that there a difference in the average time parts spend in the system between best fit distribution rank 1 and best fit distribution rank 2.

4.1.3 Paired t-test between best fit distribution and less fit distribution

The null hypotheses evaluated in this research is that there are significant differences between the performance measures estimated using simulation when using two different probability distribution categories to model manual process times, and these significant differences are at least $\pm 1\%$, $\pm 5\%$, $\pm 10\%$, $\pm 15\%$, or $\pm 20\%$. Rejecting null hypotheses expressed in this manner

allows for more definitive conclusions based on a stated Type I error level. Exploring the data set and choosing a statistical analysis is referred as ‘Data Snooping.’ In this research the use of paired t-test for statistical analysis is acknowledged as data snooping.

Null and Alternative Hypotheses

When comparing the simulation results generated between a best fit and less fit probability distribution category let,

μ_{BF} = Performance measure estimate using a best fit probability distribution category.

μ_{LF} = Performance measure estimate using a less fit probability distribution category.

Then the following null (H_0) and alternative (H_1) hypotheses are evaluated.

If $\mu_{LF} > \mu_{BF}$ then

$$H_0: \mu_{LF} \geq (1+p) * \mu_{BF}$$

$$H_1: \mu_{LF} < (1+p) * \mu_{BF}$$

If $\mu_{LF} < \mu_{BF}$ then

$$H_0: \mu_{LF} \leq (1-p) * \mu_{BF}$$

$$H_1: \mu_{LF} > (1-p) * \mu_{BF}$$

where $p = 0.01, 0.05, 0.10, 0.15,$ and 0.20 .

Statistical Test Utilized

The equation of conducting the paired t-test is (Ramsey & Schafer, 2012):

$$t\text{-stat} = \frac{\text{Point estimate of parameter} - \text{null hypothesized value}}{\text{Standard Error of point estimate}}$$

$$t\text{-stat} = \frac{\bar{Y} - 0}{SE(\bar{Y})}$$

$$SE(\bar{Y}) = \frac{s}{\sqrt{n}}$$

Where:

$Y_i = \text{Difference in performance measures for pair } i, i = 1, \dots,$

If $\overline{X_{LF}} > \overline{X_{BF}}$ then

$$Y_i = L_{Fi} - (1 + p)B_{Fi}$$

If $\overline{X_{LF}} < \overline{X_{BF}}$ then

$$Y_i = L_{Fi} - (1 - p)B_{Fi}$$

where $p = 0.01, 0.05, 0.10, 0.15,$ and 0.20 .

$\bar{Y} = \text{Sample mean of } Y_1, Y_2, \dots, Y_n$

$s = \text{Sample standard deviation of } Y_1, Y_2, \dots, Y_n$

$n = \text{Sample size}$

After calculating the t-test statistic, a p-value is computed which is “the smallest level of significance α for which the observed data indicate that the null hypothesis should be rejected,” (Wackerly et al., 2014). A 0.05 Type I error level (α) is used and a t-distribution function from excel is used to find the p-value.

Examples of Executing Paired Comparisons

The table below shows comparisons in the simple model between best fit distribution rank 2 and less fit lognormal when the CV of the manual workstation is 0.25, the number of observations that were generated from the true distributions is 100, and is the first sample from the true distribution.

Table 4.4 Best Fit Rank 2 vs Lognormal in the Simple Model

3rd	<i>Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2848	1.2849	2.5717	2.5719	0.3856	0.3860	7.0000	7.0000
2	1.3144	1.3154	2.6226	2.6246	0.4098	0.4110	6.0000	6.0000
3	1.2928	1.2964	2.5854	2.5926	0.3919	0.3956	7.0000	6.0000
4	1.2990	1.3011	2.5975	2.6018	0.3971	0.3994	6.0000	6.0000
5	1.2667	1.2686	2.5382	2.5420	0.3673	0.3694	5.0000	5.0000
6	1.3000	1.3010	2.5963	2.5983	0.3973	0.3985	6.0000	6.0000
7	1.2826	1.2832	2.5639	2.5652	0.3831	0.3840	6.0000	6.0000
8	1.3130	1.3148	2.6234	2.6271	0.4094	0.4114	7.0000	7.0000
9	1.2834	1.2861	2.5676	2.5729	0.3835	0.3863	7.0000	7.0000
10	1.2706	1.2718	2.5479	2.5505	0.3723	0.3738	6.0000	6.0000
Avg	1.2907	1.2923	2.5815	2.5847	0.3897	0.3915	6.3000	6.2000
[+ -] 20% PE	-0.2565		-0.5131		-0.0761		1.1600	
[+ -] 15% PE	-0.1920		-0.3840		-0.0567		0.8450	
[+ -] 10% PE	-0.1275		-0.2549		-0.0372		0.5300	
[+ -] 05% PE	-0.0629		-0.1258		-0.0177		0.2150	
[+ -] 01% PE	-0.0113		-0.0226		-0.0021		-0.0370	
[+ -] 20% TS	-240.6704		-266.8659		-79.6390		12.4286	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.000002854	
Reject?	0		0		0		0	
[+ -] 15% TS	-232.3291		-255.9309		-75.7706		9.0637	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000040296	
Reject?	0		0		0		0	
[+ -] 10% TS	-212.3616		-230.3764		-67.3089		5.6180	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0001633351	
Reject?	0		0		0		0	
[+ -] 05% TS	-153.4744		-160.3262		-45.4031		2.2251	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0265586932	
Reject?	0		0		0		0	
[+ -] 01% TS	-34.2962		-34.4032		-6.5530		-0.3728	
P-Value	0.0000000000		0.0000000000		0.0000524051		0.6410463792	
Reject?	0		0		0		1	
CI UL	-0.0009		-0.0018		-0.0011			
CI LL	-0.0024		-0.0047		-0.0025			
Avg Diff	0.0016		0.0032		0.0018		-0.1000	
% Diff	0.13%		0.13%		0.46%		-1.59%	

Consider the average work-in-process (*WIP*). The estimated average *WIP* using less fit distributions is greater than the estimated average *WIP* using best fit distributions. If we assume that there is a 5% difference between the average *WIP* when using less fit distributions, and when using best fit distributions then,

$$H_0: \mu_{LF} \geq (1+0.05) * \mu_{BF}$$

$$H_1: \mu_{LF} < (1+0.05) * \mu_{BF}$$

<i>n</i>	<i>BF</i>	<i>BF*1.05</i>	<i>LF</i>	<i>Yi (LF-BF*1.05)</i>
1	1.28483	1.34907	1.28492	-0.0641495
2	1.31441	1.38013	1.31545	-0.0646897
3	1.2928	1.35744	1.29642	-0.06102405
4	1.29896	1.3639	1.30111	-0.06279775
5	1.26674	1.33007	1.26863	-0.0614409
6	1.29997	1.36496	1.30097	-0.0639953
7	1.28256	1.34668	1.2832	-0.0634838
8	1.31297	1.37862	1.3148	-0.06381755
9	1.28344	1.34762	1.2861	-0.0615212
10	1.27057	1.3341	1.27185	-0.06225045
Average				-0.06291702
Std Dev				0.00129638

$$\bar{Y} = -0.06292$$

$$s = 0.001296$$

$$n = 10$$

$$t\text{-statistic} = \frac{\bar{Y}-0}{SE(\bar{Y})} = \frac{-0.06292}{\frac{0.001296}{\sqrt{10}}} = -153.4744$$

$$\text{The } p\text{-value is} = 5.38e^{-17}$$

There is strong evidence that any difference in the average work-in-process is less than 5% between the less fit lognormal distribution and the best fit distribution rank 2.

Consider the maximum number waiting in the workstation queue (*Max WS*). The estimated average *Max WS* using less fit distributions is less than the estimated average *Max WS* using best fit distributions. If we assume that there is a 1% difference between the average *Max WS* when using Less fit distributions, and when using best fit distributions then,

$$H_0: \mu_{LF} \leq (1-0.01) * \mu_{BF}$$

$$H_1: \mu_{LF} > (1-0.01) * \mu_{BF}$$

<i>n</i>	<i>BF</i>	<i>BF*0.99</i>	<i>LF</i>	<i>Yi (LF-BF*0.99)</i>
1	7.0000	6.93	7.0000	0.0700
2	6.0000	5.94	6.0000	0.0600
3	7.0000	6.93	6.0000	-0.9300
4	6.0000	5.94	6.0000	0.0600
5	5.0000	4.95	5.0000	0.0500
6	6.0000	5.94	6.0000	0.0600
7	6.0000	5.94	6.0000	0.0600
8	7.0000	6.93	7.0000	0.0700
9	7.0000	6.93	7.0000	0.0700
10	6.0000	5.94	6.0000	0.0600
Average				-0.0370
Std Dev				0.313831165

$$\bar{Y} = -0.0370$$

$$s = 0.31383$$

$$n = 10$$

$$t\text{-statistic} = \frac{\bar{Y}-0}{SE(\bar{Y})} = \frac{-0.0370}{\frac{0.31383}{\sqrt{10}}} = -0.3728$$

The *p* – value is = 0.6410

There is insufficient evidence to conclude that the difference in the maximum number waiting in the workstation queue is less than the 1% difference assumed between the less fit lognormal distribution and the best fit distribution rank 2.

4.2 Summary of The Results

The main research objective is to evaluate if there are statistically significant differences in simulated performance measure estimates between simulations that use best fit distributions as probability models, and simulations that use less fit distributions. Additionally, if there are any significant differences in estimated performance measures, evaluate if these differences become less frequent as the systems modeled become more complex. Experimental results indicate that the differences in estimated performance measures when using best fit distribution and two-parameters lognormal distribution do become less frequent as the simulation models become more complex. Furthermore, the Mixed Empirical-Exponential distribution does not work as well as the two-parameters lognormal as a default distribution since the variance of Mixed Empirical-Exponential distribution is higher than the sample variance of the collected data, and the method of moments was used to estimate the best fit distribution parameters.

The statistical analysis in Appendices G, H, and I show that there are no differences in the estimated performance measures between generating 30 and 100 observations from the true distributions. The only difference in the estimated performance measures between using 30 and 100 observations occur using best fit distribution or less fit distribution are compared to the true distribution. Not surprisingly using 100 observations generates performance closer to the true distribution than when using 30 observations. The following sections 4.2.1, 4.2.2, and 4.2.3 show the overall summary.

4.2.1 Best Fit Distribution vs Less Fit Lognormal Distribution

Simple Model:

Table 4.5 shows the percent difference, average difference, the results of the statistical analysis and the confidence intervals for the simple model when using two best fit distributions (*BFR1* and *BFR2*), and the less-fit two-parameters lognormal distribution.

Table 4.5 Two Best Fit Distributions vs Lognormal Distribution with 100 Observations, First Replicate in the Simple Model

<i>Two Best Fit Distributions vs Lognormal Distribution with 100 Obs., 1st Replicate</i>									
PM	WIP	ATS	Avg WS	Max WS	WIP	ATS	Avg WS	Max WS	
CV	0.25				0.75				
<i>BFR1 vs LN</i>	% Diff	0.80%	0.80%	2.65%	1.64%	1.99%	1.99%	3.44%	22.36%
	Avg Diff	0.0102	0.0205	0.0101	0.1000	0.0390	0.0780	0.0386	3.6000
	[+ -] 20%	0	0	0	0	0	0	0	1
	[+ -] 15%	0	0	0	0	0	0	0	1
	[+ -] 10%	0	0	0	0	0	0	0	1
	[+ -] 05%	0	0	0	1	0	0	0	1
	[+ -] 01%	0	0	1	1	1	1	1	1
	CI UL	-0.00828	-0.01657	-0.00825		-0.01674	-0.0335	-0.01689	
	CI LL	-0.01218	-0.02436	-0.012		-0.06121	-0.12245	-0.06028	
<i>BFR2 vs LN</i>	% Diff	0.12%	0.12%	0.46%	-1.59%	4.63%	4.63%	7.77%	27.92%
	Avg Diff	0.0016	0.0032	0.0018	-0.1000	0.0882	0.1764	0.0836	4.3000
	[+ -] 20%	0	0	0	0	0	0	0	1
	[+ -] 15%	0	0	0	0	0	0	0	1
	[+ -] 10%	0	0	0	0	0	0	1	1
	[+ -] 05%	0	0	0	0	1	1	1	1
	[+ -] 01%	0	0	0	1	1	1	1	1
	CI UL	-0.00088	-0.00176	-0.0011		-0.02971	-0.05943	-0.02899	
	CI LL	-0.00236	-0.00472	-0.00252		-0.14668	-0.2932	-0.1383	

Intermediate Model:

Table 4.6 shows the percent difference, average difference, the results of the statistical analysis and the confidence intervals for the intermediate model when using two best fit distributions (*BFR1* and *BFR2*), and the less-fit two-parameters lognormal distribution.

Table 4.6 Two Best Fit Distributions vs Lognormal Distribution with 100 Observations, First Replicate in the Intermediate Model

Two Best Fit Distributions vs Lognormal Distribution with 100 Obs., 1st Replicate																	
PM	WIP	ATS	Avg Q1	Max Q1	Avg Q3	Max Q3	Avg QR	Max QR	WIP	ATS	Avg Q1	Max Q1	Avg Q3	Max Q3	Avg QR	Max QR	
CV	0.25								0.75								
<i>BFR1 vs LN</i>	% Diff	0.20%	0.20%	-0.01%	-0.59%	1.82%	1.20%	-0.01%	-0.81%	1.09%	1.10%	0.07%	3.06%	7.52%	24.38%	-0.66%	-10.00%
	Avg Diff	0.0199	0.0198	-0.0001	-0.1429	0.0057	0.0714	-0.0001	-0.1429	0.1292	0.1303	0.0012	0.7143	0.1237	5.5714	-0.0157	-2.5714
	[+ -] 20%	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	[+ -] 15%	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	[+ -] 10%	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
	[+ -] 05%	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	1
	[+ -] 01%	0	0	0	1	1	1	0	1	1	1	0	1	1	1	1	1
	CI UL	-0.01424	-0.01424	0.00366		-0.0043		0.00243		-0.00066	-0.00241	0.00699		-0.07242		0.13771	
CI LL	-0.02556	-0.02554	-0.00163		-0.00719		-0.00222		-0.25785	-0.25814	-0.00941		-0.17496		-0.10623		
<i>BFR2 vs LN</i>	% Diff	-0.08%	-0.08%	-0.30%	-0.30%	-1.15%	-2.33%	0.06%	-1.61%	1.04%	1.04%	1.38%	8.71%	-0.17%	14.37%	0.14%	1.57%
	Avg Diff	-0.0079	-0.0079	-0.0059	-0.0714	-0.0037	-0.1429	0.0010	-0.2857	0.1232	0.1237	0.0230	1.9286	-0.0030	3.5714	0.0034	0.3571
	[+ -] 20%	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	[+ -] 15%	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
	[+ -] 10%	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
	[+ -] 05%	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0
	[+ -] 01%	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1
	CI UL	0.0211	0.02109	0.00786		0.00491		0.00462		-0.0215	-0.02172	0.0175		0.03013		0.0347	
CI LL	-0.00543	-0.00542	0.00576		0.00239		-0.00661		-0.22505	-0.22554	-0.06367		-0.02405		-0.04143		

Complex Model:

Table 4.7 shows percent difference, average difference, the results of the statistical analysis and the confidence intervals for the complex model when using two best fit distributions (*BFR1* and *BFR2*), and the less-fit two-parameters lognormal distribution.

Table 4.7 Two Best Fit Distributions vs Lognormal Distribution with 100 Observations, First Replicate in the Complex Model

<i>Two Best Fit Distributions vs Lognormal Distribution with 100 Obs., 1st Replicate</i>															
PM	<i>Throughput</i>	<i>WIP A</i>	<i>ATS A</i>	<i>WIP B</i>	<i>ATS B</i>	<i>WIP C</i>	<i>ATS C</i>	<i>Throughput</i>	<i>WIP A</i>	<i>ATS A</i>	<i>WIP B</i>	<i>ATS B</i>	<i>WIP C</i>	<i>ATS C</i>	
CV	0.25							0.75							
<i>BFR1 vs LN</i>	% Diff	0.02%	0.05%	-0.01%	0.03%	0.06%	0.05%	0.01%	0.46%	0.25%	0.03%	0.42%	-0.01%	0.06%	-0.49%
	Avg Diff	10.0500	0.0055	-0.0069	0.0036	0.0206	0.0040	0.0022	230.5700	0.0267	0.0300	0.0503	-0.0020	0.0050	-0.1007
	[+ -] 20%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 15%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 10%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 05%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 01%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CI UL	61.319348	0.02354	0.30324	0.02484	0.05636	0.01561	0.03548	-114.09902	0.01008	0.29334	0.00817	0.17947	0.02667	0.16549
	CI LL	-81.414586	-0.03457	-0.28947	-0.03206	-0.09754	-0.02347	-0.03995	-347.04384	-0.0636	-0.35386	-0.10879	-0.17559	-0.03671	0.03582
<i>BFR2 vs LN</i>	% Diff	-0.09%	0.09%	0.14%	-0.23%	-0.17%	-0.04%	0.09%	1.29%	2.44%	0.76%	1.47%	0.40%	0.45%	-0.90%
	Avg Diff	-49.2400	0.0093	0.1257	-0.0281	-0.0616	-0.0035	0.0158	644.3300	0.2523	0.7516	0.1731	0.1483	0.0388	-0.1855
	[+ -] 20%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 15%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 10%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 05%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 01%	0	0	0	0	0	0	0	1	1	1	1	0	0	1
	CI UL	112.873398	0.01301	0.13277	0.06656	0.15293	0.02155	0.01547	-487.49366	-0.2065	-0.07462	-0.11616	0.04405	-0.00478	0.23399
	CI LL	-14.397207	-0.03159	-0.3842	-0.01026	-0.02975	-0.01458	-0.04707	-801.17301	-0.29815	-1.43275	-0.22998	-0.34077	-0.0729	0.13685

Table 4.5 and Table 4.6 shows a low difference in all performance measures between the two best fit distributions and lognormal distribution when the coefficient of variation of the manual workstation is 0.25. However, the difference increases between the approaches when the *CV* is 0.75, especially the maximum number of parts in the queue since the lognormal distribution generates extreme values. From the statistical analyses, there is a significant difference in the maximums number of waiting in the queue, but the percentage difference is meager in those cases. Table 4.7 shows that the differences disappear as the model becomes complex especially with 0.25 coefficient of variance.

4.2.2 Best Fit Distribution vs Less Fit Mixed Empirical-Exponential

Simple Model:

Table 4.8 shows percent difference, average difference, the results of the statistical analysis and the confidence intervals for the simple model when using two best fit distributions (*BFR1* and *BFR2*), and the less-fit two-parameters mixed empirical-exponential distribution.

Table 4.8 Two Best Fit Distributions vs Mixed Empirical-Exponential Distribution with 100 Observations, First Replicate in the Simple Model

<i>Two Best Fit Distributions vs Mixed Empirical Exponential Distribution with 100 Obs., 1st Replicate</i>									
PM	WIP	ATS	Avg WS	Max WS	WIP	ATS	Avg WS	Max WS	
CV	0.25				0.75				
BFR1 vs MEE	% Diff	1.00%	1.00%	3.38%	-1.64%	9.28%	9.27%	16.21%	18.63%
	Avg Diff	0.0128	0.0256	0.0129	-0.1000	0.1814	0.3626	0.1817	3.0000
	[+ -] 20%	0	0	0	0	0	0	0	1
	[+ -] 15%	0	0	0	0	0	0	1	1
	[+ -] 10%	0	0	0	0	1	1	1	1
	[+ -] 05%	0	0	1	1	1	1	1	1
	[+ -] 01%	1	1	1	1	1	1	1	1
	CI UL	-0.00256	-0.00513	-0.00301		-0.14872	-0.29748	-0.15002	
	CI LL	-0.02298	-0.04599	-0.02272		-0.21388	-0.42776	-0.21333	
BFR2 vs MEE	% Diff	0.33%	0.32%	1.18%	-4.76%	12.10%	12.09%	21.08%	24.03%
	Avg Diff	0.0042	0.0083	0.0046	-0.3000	0.2306	0.4610	0.2267	3.7000
	[+ -] 20%	0	0	0	0	0	0	1	1
	[+ -] 15%	0	0	0	0	0	0	1	1
	[+ -] 10%	0	0	0	1	1	1	1	1
	[+ -] 05%	0	0	0	1	1	1	1	1
	[+ -] 01%	0	0	1	1	1	1	1	1
	CI UL	0.00575	0.01148	0.00495		-0.18556	-0.37137	-0.18413	
	CI LL	-0.01406	-0.02815	-0.01404		-0.27548	-0.55054	-0.26934	

Intermediate Model:

Table 4.9 shows percent difference, average difference, the results of the statistical analysis and the confidence intervals for the intermediate model when using two best fit distributions (*BFR1* and *BFR2*), and the less-fit two-parameters mixed empirical-exponential distribution.

Table 4.9 Two Best Fit Distributions vs Mixed Empirical-Exponential Distribution with 100 Observations, First Replicate in the Intermediate Model

<i>Two Best Fit Distributions vs Mixed Empirical Exponential Distribution with 100 Obs., 1st Replicate</i>																	
PM	WIP	ATS	Avg Q1	Max Q1	Avg Q3	Max Q3	Avg QR	Max QR	WIP	ATS	Avg Q1	Max Q1	Avg Q3	Max Q3	Avg QR	Max QR	
CV	0.25								0.75								
<i>BFR1 vs MEE</i>	% Diff	2.31%	2.31%	0.85%	-4.14%	18.27%	15.66%	3.09%	5.69%	1.09%	1.10%	5.81%	0.61%	1.92%	1.56%	-8.08%	-15.28%
	Avg Diff	0.2284	0.2282	0.0166	-1.0000	0.0571	0.9286	0.0532	1.0000	0.1292	0.1300	0.0981	0.1429	0.0315	0.3571	-0.1912	-3.9286
	[+ -] 20%	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
	[+ -] 15%	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
	[+ -] 10%	0	0	0	0	1	1	0	1	0	0	0	0	0	1	0	1
	[+ -] 05%	0	0	0	1	1	1	0	1	0	0	1	1	0	1	1	1
	[+ -] 01%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CI UL	-0.17555	-0.17538	-0.00194		-0.0492		-0.02023		-0.03834	-0.03989	-0.0666		-0.00506		0.25244	
	CI LL	-0.28124	-0.28111	-0.0314		-0.06497		-0.08615		-0.22018	-0.22017	-0.12947		-0.05792		0.13004	
<i>BFR2 vs MEE</i>	% Diff	2.02%	2.02%	0.55%	-3.86%	14.82%	11.63%	3.15%	4.84%	1.04%	1.04%	7.19%	6.13%	-5.38%	-6.61%	-7.33%	-4.39%
	Avg Diff	0.2006	0.2005	0.0108	-0.9286	0.0477	0.7143	0.0543	0.8571	0.1232	0.1234	0.1199	1.3571	-0.0952	-1.6429	-0.1721	-1.0000
	[+ -] 20%	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	[+ -] 15%	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0
	[+ -] 10%	0	0	0	0	1	1	0	1	0	0	0	1	0	1	1	1
	[+ -] 05%	0	0	0	1	1	1	0	1	0	0	1	1	1	1	1	1
	[+ -] 01%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CI UL	-0.14435	-0.14417	0.00403		-0.03938		-0.0209		0.05859	0.058	-0.07895		0.13662		0.31353	
	CI LL	-0.25697	-0.25688	-0.02577		-0.05599		-0.08768		-0.30514	-0.30476	-0.16088		0.05385		0.03074	

Complex Model:

Table 4.10 shows percent difference, average difference, the results of the statistical analysis and the confidence intervals for the complex model when using two best fit distributions (*BFR1* and *BFR2*), and the less-fit two-parameters mixed empirical-exponential distribution.

Table 4.10 Two Best Fit Distributions vs Mixed Empirical-Exponential Distribution with 100 Observations, First Replicate in the Complex Model

<i>Two Best Fit Distributions vs Mixed Empirical Exponential Distribution with 100 Obs., 1st Replicate</i>															
PM	<i>Throughput</i>	<i>WIP A</i>	<i>ATS A</i>	<i>WIP B</i>	<i>ATS B</i>	<i>WIP C</i>	<i>ATS C</i>	<i>Throughput</i>	<i>WIP A</i>	<i>ATS A</i>	<i>WIP B</i>	<i>ATS B</i>	<i>WIP C</i>	<i>ATS C</i>	
CV	0.25							0.75							
<i>BFR1 vs MEE</i>	% Diff	0.25%	2.30%	-0.05%	1.61%	0.27%	-0.81%	0.21%	0.49%	2.29%	-0.03%	1.87%	0.46%	-1.02%	-0.39%
	Avg Diff	138.3800	0.2390	-0.0462	0.1941	0.0977	-0.0673	0.0378	247.5700	0.2425	-0.0300	0.2225	0.1731	-0.0880	-0.0808
	[+ -] 20%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 15%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 10%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 05%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 01%	1	1	0	1	0	1	0	1	1	0	1	1	1	0
	CI UL	375.579556	0.0629	1.06515	0.06347	0.17548	0.20126	0.04255	207.148863	0.0495	1.07093	0.03151	0.14123	0.21038	0.17628
	CI LL	-652.34146	-0.54089	-0.97281	-0.45181	-0.37074	-0.06666	-0.11817	-702.29172	-0.53465	-1.00362	-0.47657	-0.48751	-0.03441	-0.01472
<i>BFR2 vs MEE</i>	% Diff	0.15%	2.34%	0.09%	1.35%	0.04%	-0.90%	0.29%	1.33%	4.53%	0.70%	2.93%	0.86%	-0.63%	-0.80%
	Avg Diff	79.0900	0.2428	0.0864	0.1624	0.0155	-0.0748	0.0514	661.3300	0.4681	0.6916	0.3453	0.3234	-0.0542	-0.1656
	[+ -] 20%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 15%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 10%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	[+ -] 05%	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	[+ -] 01%	0	1	1	1	0	1	0	1	1	1	1	1	1	1
	CI UL	426.977495	426.977	0.934	0.09781	0.24779	0.20871	0.02303	-210.1764	-0.17526	0.24033	-0.08179	0.02106	0.18122	0.26463
	CI LL	-585.16797	-585.168	-1.10687	-0.42263	-0.27868	-0.05928	-0.12579	-1112.4903	-0.76101	-1.61988	-0.60879	-0.66794	-0.07288	0.06645

Table 4.8 and 4.9 shows a low difference in some performance measures between the two best fit distributions and mixed empirical-exponential distribution when the coefficient of variation of the manual workstation is 0.25. However, the difference increases between the approaches when the *CV* is 0.75. The difference in the mixed empirical-exponential distribution is higher than the differences in the case of lognormal since the variance of the Mixed Empirical-Exponential is higher than the sample variance of the collected data. Also, it can be seen from table 4.10 that the differences in the estimated performance measures disappear as the model become more complex.

4.2.3 Best Fit Distribution Rank 1 vs Best Fit Distribution Rank 2

Appendix G.5, H.5, and I.5 indicates that there is significant difference in the performance measures between best fit rank 1 and best fit rank 2 when the *CV* is high (0.75), low complexity (simple model), and low number of observations (30). While there is no significant difference in the performance measures between best fit rank 1 and best fit rank 2 when the *CV* is low (0.25), high complexity (complex model), and high number of observations (100).

4.3 Conclusion of the Results

This section summarizes the main results gained from conducting the paired t-test analyses in sections 4.2.1, 4.2.2, and 4.2.3. These results are summarized below.

- The differences in estimated performance measures when using the two best fit distributions and two-parameters lognormal become less frequent as the simulation models become more complex (i.e., the difference in estimated performance measures in the complex model is lower than the intermediate model, and the intermediate model is lower than the simple model).
- Significant differences exist between the estimated maximum number in the queue using the two best fit distributions and the two-parameters lognormal especially, when the *CV* gets higher since the lognormal generates extreme values.
- There is a significant difference in the estimated average number in queues and the maximum number in queue in the simple and intermediate model between using the two best fit distributions and the Mixed Empirical-Exponential (MEE) distribution since the variance of MEE does not match the sample variance.
- Significant differences exist in the estimated performance measures between best fit rank 1 and rank 2. Even though having two best fit distributions with a different way of selecting (either Anderson-Darling, Kolmogorov-Smirnov test, or Chi-square test) still shows a difference in the estimated performance measures.
- There is no significant difference in the estimated performance measures such as average work-in-process, average time in the system, maximum number in queue, etc. between less fit and best fit distributions when the selection of the distributions is based on 30 or 100 observations.

5 CONCLUSIONS AND FUTURE WORK

5.1 Conclusions

The study aims to compare the impact of utilizing best fit distributions versus a more simple approach utilizing "less fit distributions" on system performance measures generated from simulation models of different complexities.

These results of the experimentation clearly suggest that any differences between the estimated performance measures when using best fit distributions and less fit two-parameter lognormal distributions become less frequent as model complexity increases. Additionally, there are fewer differences when the random components modeled have low coefficients of variation. The less fit Mixed Empirical-Exponential distribution has more variability than the two-parameters lognormal since the variance of the Mixed Empirical-Exponential is higher than the sample variance of the collected observations, and does not perform as well as the two-parameter lognormal as a "default" distribution. Hence, when simulating a system with high complexity and low coefficients of variation (for the random components) using a two (or three) parameter lognormal that can match the first two or three moments of collected observations will perform similarly to simulations using best fit distributions as probability models for random components.

5.2 Future Work

Future work can extend this research in different ways. Some recommendations for future work follow:

- Test the less fit distributions in more complex models by adding other features.

- Test less fit distributions with different random components (for example, entity material/movement time).
- Examine the variability in the models with more levels of coefficient of variation.
- Use different levels of coefficient of variation in the same model.
- Investigate what is going on mathematically in the experiment.
- Investigating other distributions that serve as a less fit distributions.

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APPENDICES

A Simple Model Parameters

This appendix presents the parameters of the simulation runs conducted for the simple model. It includes the true distribution formulas, the 30 and 100 observations generated from the true distribution formula, the distribution of the best fits, the parameters of best fits and less fit distribution, the stream numbers that will be used within the simulation, and the Arena simulation model view.

A.1 True Distribution Formula

Table A.1 True Distribution Formulas (Simple Model)

#	Workstation/Process	CV	Mean P.T	Std Dev	True Distribution
1	WS	0.25	1.76	0.44	$0.3520 + (1/3) * \text{Lognormal}(1.4080, 0.7621) + (1/3) * \text{Gamma}(0.4125, 3.4133) + (1/3) * \text{Weibull}(1.5873, 1.9241)$
		0.75	1.76	1.32	$0.3520 + (1/3) * \text{Lognormal}(1.4080, 2.2863) + (1/3) * \text{Gamma}(3.7125, 0.3793) + (1/3) * \text{Weibull}(1.0132, 0.6403)$

A.2 Generated Observations

Table A.2: Generated 30 Observations for the Workstation (Simple Model)

Workstation				
30 Observations				
CV	0.25		0.75	
Seed #	7591	1802	50	4543
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	1.45	1.21	0.94	0.98
2	1.73	2.00	1.65	0.98
3	1.77	1.45	0.62	0.67
4	1.13	1.48	1.34	1.39
5	1.83	1.31	1.23	1.89
6	1.93	2.13	1.33	1.06
7	1.01	0.82	1.96	3.40
8	1.31	1.88	1.50	1.39
9	1.69	1.09	1.05	0.76
10	2.09	1.30	1.53	1.11
11	1.74	1.42	0.69	1.96
12	1.88	1.68	2.05	1.33
13	1.65	1.97	0.98	1.35
14	0.94	2.28	2.76	0.47
15	1.80	0.87	1.98	3.94
16	1.87	1.51	0.76	1.92
17	2.26	2.11	0.50	1.04
18	2.17	1.48	0.53	0.75
19	2.06	1.40	1.86	1.62
20	1.65	1.75	1.68	0.65
21	2.46	1.36	3.59	1.03
22	1.90	2.61	6.72	1.07
23	1.37	1.40	1.09	1.17
24	2.14	1.42	1.24	0.49
25	2.76	2.65	2.21	1.14
26	2.03	2.18	0.82	0.86
27	2.20	1.59	0.55	1.61
28	1.86	1.80	1.73	1.41
29	1.05	1.22	1.58	0.68
30	1.99	2.16	3.58	3.24

Table A.3: Generated 100 Observations for the Workstation (Simple Model)

Workstation				
100 Observations				
CV	0.25		0.75	
Seed #	5126	8904	9371	1995
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	1.83	1.54	1.00	0.98
2	1.75	1.51	3.52	0.88
3	1.36	2.57	1.19	1.54
4	1.47	1.71	1.36	1.19
5	3.13	1.80	0.80	1.63
6	0.92	1.68	1.46	0.54
7	2.11	1.49	3.84	1.45
8	2.07	2.54	0.96	2.65
9	1.97	1.09	1.88	4.49
10	1.84	1.46	0.90	3.47
11	2.64	1.63	1.00	3.37
12	1.50	1.81	0.45	1.46
13	1.70	1.82	1.15	0.65
14	1.99	1.49	2.62	1.84
15	1.55	1.50	3.44	1.29
16	1.45	2.53	1.13	2.70
17	2.60	0.96	1.51	2.01
18	2.45	1.80	1.45	1.49
19	1.61	1.50	0.59	0.80
20	1.48	1.37	1.12	3.29
21	2.47	1.51	2.11	0.70
22	1.33	1.29	0.54	0.64
23	1.82	1.78	1.01	1.26
24	1.72	1.26	0.74	1.13
25	1.79	2.08	0.89	0.75
26	1.93	2.08	2.60	2.45
27	1.66	1.63	2.73	1.63
28	2.07	2.13	1.33	1.44
29	1.74	1.31	1.03	0.74
30	2.05	0.99	0.78	0.71
31	2.03	2.97	3.68	2.70
32	1.81	2.04	5.31	0.76
33	1.76	1.86	1.81	3.31
34	1.20	1.49	1.01	0.88
35	1.58	1.63	1.32	1.45
36	2.11	1.12	1.35	2.68
37	1.46	1.12	3.72	3.43
38	1.66	2.28	0.57	2.63
39	1.43	1.52	5.85	2.30
40	1.47	1.46	6.76	0.87
41	2.52	1.78	1.12	1.16
42	1.69	1.76	1.53	2.32
43	1.47	1.59	2.99	1.15
44	1.61	1.55	1.29	3.33
45	1.87	1.43	2.34	2.74
46	2.07	1.18	0.79	1.01
47	2.19	1.35	0.70	1.58
48	1.92	1.60	1.14	7.13
49	1.26	1.99	3.37	2.69
50	1.05	2.29	4.50	1.13

51	1.85	1.28	0.54	1.48
52	3.61	1.92	0.96	1.16
53	1.64	1.76	0.67	2.61
54	1.20	2.31	0.67	2.21
55	2.14	1.90	2.06	4.30
56	2.18	1.64	0.98	0.66
57	1.57	1.82	2.29	3.39
58	1.46	1.75	2.33	1.58
59	1.59	2.84	1.09	1.08
60	1.79	2.04	2.79	1.94
61	1.81	2.00	1.05	1.36
62	1.67	2.10	1.39	10.67
63	1.97	1.42	1.46	0.71
64	1.48	1.24	1.78	2.32
65	2.06	1.17	4.62	0.54
66	2.36	2.57	1.16	1.40
67	1.63	1.45	0.99	0.43
68	1.84	1.78	0.96	0.85
69	1.75	1.82	1.00	5.13
70	2.11	3.21	3.26	1.01
71	1.81	2.09	0.78	0.73
72	1.51	1.89	1.74	2.05
73	1.79	3.39	1.12	1.69
74	1.73	1.91	0.82	1.70
75	1.48	1.53	1.07	0.48
76	3.00	3.10	0.81	0.81
77	1.14	1.81	0.73	0.93
78	2.04	1.66	0.57	0.91
79	1.57	1.45	0.99	0.83
80	1.59	2.09	1.75	2.61
81	1.89	1.56	1.71	1.36
82	1.97	1.55	0.62	0.89
83	2.05	2.79	1.54	0.57
84	1.81	2.14	1.33	0.64
85	1.96	1.50	1.00	1.10
86	1.70	1.16	0.70	0.83
87	1.88	1.65	4.66	2.49
88	2.11	1.23	0.81	1.24
89	1.92	1.53	1.65	1.58
90	0.92	1.52	0.65	0.74
91	1.57	1.80	2.50	2.63
92	1.34	2.13	1.40	4.36
93	1.56	1.27	0.57	0.82
94	1.95	1.57	1.01	0.45
95	1.71	1.57	1.48	3.92
96	0.93	2.36	1.03	2.42
97	1.58	1.56	2.84	2.05
98	2.12	2.40	1.03	0.76
99	1.63	1.45	0.84	0.97
100	2.05	1.48	0.72	0.52

A.3 Selecting the Best Fit Distributions

Table A.4: Selecting the Best Fit Distributions for the Workstation (Simple Model)

Best Fit	Workstation							
	CV = 0.25				CV = 0.75			
	30 Observations		100 Observations		30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2	Replicate 1	Replicate 2	Replicate 1	Replicate 2
First Rank	Weibull	Gamma	Weibull	Gamma	Weibull	Weibull	Weibull	Gamma
Second Rank	Gamma	Uniform	Gamma	Weibull	Exponential	Exponential	Gamma	Weibull

A.4 Best Fit and Less Fit Distributions Parameters

Table A.5: Best and Less Fit Parameters for the Workstation - CV = 0.25 (Simple Model)

Workstation / Parameters	Workstation			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	1.79089	1.65024	1.80139	1.77009
Std Dev	0.42527	0.46574	0.42931	0.48486
Variance	0.18086	0.21692	0.18430	0.23509
Skewness	-0.22417	0.41354	1.10797	1.14432
Minimum Value from The Ture Mixed Dist.	0.3520	0.3520	0.3520	0.3520
Mean - Minimum	1.43889	1.29824	1.44939	1.41809
Best Fit Distribution Rank 1	0.3520 + WEIB(1.5926,3.7757)	0.3520 + GAMM(0.1671,7.7699)	0.3520 + WEIB(1.6045,3.7667)	0.3520 + GAMM(0.1658,8.5539)
Best Fit Distribution Rank 2	0.3520 + GAMM(0.1257,11.4476)	0.3520 + UNIF(0.491547,2.104929)	0.3520 + GAMM(0.1272,11.3982)	0.3520 + WEIB(1.5830,3.2113)
Less Fit Distribution Two Paramaters Log Normal	0.3520 + LOGN(1.43889,0.42527)	0.3520 + LOGN(1.29824,0.46574)	0.3520 + LOGN(1.44939,0.42931)	0.3520 + LOGN(1.41809,0.48486)
Seed Number for Mixed Empirical Exponential	2948	9083	415	7003

Table A.6: Best and Less Fit Parameters - CV = 0.75 (Simple Model)

Workstation / Parameters	Workstation			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	1.66877	1.37887	1.66803	1.82338
Std Dev	1.24073	0.83504	1.24408	1.47874
Variance	1.53942	0.69729	1.54773	2.18668
Skewness	2.61976	1.81357	1.90174	2.93403
Minimum Value from The Ture Mixed Dist.	0.3520	0.3520	0.3520	0.3520
Mean - Minimum	1.31677	1.02687	1.31603	1.47138
Best Fit Distribution Rank 1	0.3520 + WEIB(1.3481,1.0618)	0.3520 + WEIB(1.0998,1.2367)	0.3520 + WEIB(1.3457,1.0583)	0.3520 + GAMM(1.4861,0.9901)
Best Fit Distribution Rank 2	0.3520 + EXPO(1.31677)	0.3520 + EXPO(1.02687)	0.3520 + GAMM(1.1761,1.1190)	0.3520 + WEIB(1.4683,0.9950)
Less Fit Distribution Two Paramaters Log Normal	0.3520 + LOGN(1.31677,1.24073)	0.3520 + LOGN(1.02687,0.83504)	0.3520 + LOGN(1.31603,1.24408)	0.3520 + LOGN(1.47138,1.47874)
Seed Number for Mixed Empirical Exponential	6468	1256	3583	5086

A.5 Stream Number

Table A.7: Stream Numbers Used in Arena Simulation Software (Simple Model)

Run #	Replicate	CV	Manual Workstations Distribution	# of Obs.	Stream Number	
					IAT	WS
1	-	0.25	True Mixed Distribution	-	-	-
2	1st	0.25	Best Fit Distribution Rank 1	30	24	62
3	1st	0.25	Best Fit Distribution Rank 2	30	24	62
4	1st	0.25	Less Fit - Two Parameters Log Normal	30	24	62
5	1st	0.25	Less Fit - Mixed Empirical Exponential	30	24	62
6	1st	0.25	Best Fit Distribution Rank 1	100	24	62
7	1st	0.25	Best Fit Distribution Rank 2	100	24	62
8	1st	0.25	Less Fit - Two Parameters Log Normal	100	24	62
9	1st	0.25	Less Fit - Mixed Empirical Exponential	100	24	62
10	2nd	0.25	Best Fit Distribution Rank 1	30	70	55
11	2nd	0.25	Best Fit Distribution Rank 2	30	70	55
12	2nd	0.25	Less Fit - Two Parameters Log Normal	30	70	55
13	2nd	0.25	Less Fit - Mixed Empirical Exponential	30	70	55
14	2nd	0.25	Best Fit Distribution Rank 1	100	70	55
15	2nd	0.25	Best Fit Distribution Rank 2	100	70	55
16	2nd	0.25	Less Fit - Two Parameters Log Normal	100	70	55
17	2nd	0.25	Less Fit - Mixed Empirical Exponential	100	70	55
18	-	0.75	True Mixed Distribution	-	-	-
19	1st	0.75	Best Fit Distribution Rank 1	30	24	62
20	1st	0.75	Best Fit Distribution Rank 2	30	24	62
21	1st	0.75	Less Fit - Two Parameters Log Normal	30	24	62
22	1st	0.75	Less Fit - Mixed Empirical Exponential	30	24	62
23	1st	0.75	Best Fit Distribution Rank 1	100	24	62
24	1st	0.75	Best Fit Distribution Rank 2	100	24	62
25	1st	0.75	Less Fit - Two Parameters Log Normal	100	24	62
26	1st	0.75	Less Fit - Mixed Empirical Exponential	100	24	62
27	2nd	0.75	Best Fit Distribution Rank 1	30	70	55
28	2nd	0.75	Best Fit Distribution Rank 2	30	70	55
29	2nd	0.75	Less Fit - Two Parameters Log Normal	30	70	55
30	2nd	0.75	Less Fit - Mixed Empirical Exponential	30	70	55
31	2nd	0.75	Best Fit Distribution Rank 1	100	70	55
32	2nd	0.75	Best Fit Distribution Rank 2	100	70	55
33	2nd	0.75	Less Fit - Two Parameters Log Normal	100	70	55
34	2nd	0.75	Less Fit - Mixed Empirical Exponential	100	70	55

A.6 Arena Simulation Model

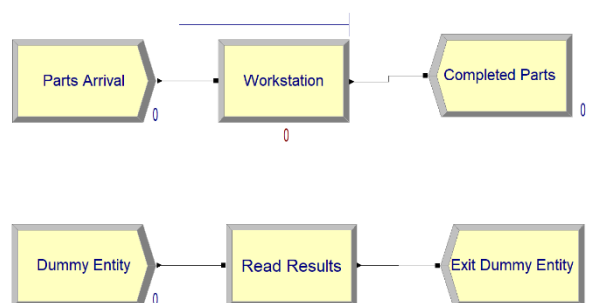


Figure A.1 Arena Simulation View (Simple Model)

B Intermediate Model Parameters

This appendix presents the parameters of the simulation runs conducted for the intermediate model. It includes the true distribution formulas, the 30 and 100 observations generated from the true distribution formula, the distribution of the best fits, the parameters of best fits and less fit distribution, the stream numbers that will be used within the simulation, and the Arena simulation model view.

B.1 True Distribution Formulas

Table B.1 True Distribution Formulas (Intermediate Model)

#	Workstation/Process	CV	Mean P.T	Std Dev	True Distribution
1	WS1	0.25	0.8	0.2	$0.16 + (1/3) * \text{LogNormal}(0.64,0.3464) + (1/3) * \text{Gamma}(0.1874,3.4135) + (1/3) * \text{Weibull}(0.7215,1.9243)$
		0.75	0.8	0.6	$0.16 + (1/3) * \text{LogNormal}(0.64,1.0392) + (1/3) * \text{Gamma}(1.6874,0.3792) + (1/3) * \text{Weibull}(0.4605,0.6403)$
2	WS2	0.25	0.84	0.21	$0.168 + (1/3) * \text{LogNormal}(0.6720,0.3637) + (1/3) * \text{Gamma}(0.1969,3.4133) + (1/3) * \text{Weibull}(0.7576,1.9243)$
		0.75	0.84	0.63	$0.168 + (1/3) * \text{LogNormal}(0.6720,1.0912) + (1/3) * \text{Gamma}(1.7719,0.3793) + (1/3) * \text{Weibull}(0.4835,0.6403)$
3	WS3	0.25	0.81	0.2025	$0.162 + (1/3) * \text{LogNormal}(0.6480,0.3507) + (1/3) * \text{Gamma}(0.1898,3.4133) + (1/3) * \text{Weibull}(0.7305,1.9243)$
		0.75	0.81	0.6075	$0.162 + (1/3) * \text{LogNormal}(0.6480,1.0522) + (1/3) * \text{Gamma}(1.7086,0.3793) + (1/3) * \text{Weibull}(0.4663,0.6403)$
4	Rework	0.25	8.2	2.05	$1.64 + (1/3) * \text{LogNormal}(6.56,3.5507) + (1/3) * \text{Gamma}(1.9219,3.4133) + (1/3) * \text{Weibull}(7.3955,1.9241)$
		0.75	8.2	6.15	$1.64 + (1/3) * \text{LogNormal}(6.56,10.6521) + (1/3) * \text{Gamma}(17.2968,0.3793) + (1/3) * \text{Weibull}(4.7204,0.6403)$

B.2 Generated Observations

Table B.2 Generated 30 Observations for Workstation 1 (Intermediate Model)

Workstation 1				
30 Observations				
CV	0.25		0.75	
Seed #	450	124	16245	110788
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.96	0.78	0.53	0.70
2	0.66	0.69	0.36	0.62
3	0.67	0.65	0.19	0.64
4	0.90	0.60	0.78	0.30
5	0.67	0.92	0.42	0.32
6	1.06	0.89	0.50	1.01
7	0.65	1.06	0.40	0.35
8	0.69	0.59	0.37	0.66
9	1.24	0.88	0.58	0.26
10	0.88	0.94	0.28	0.53
11	0.83	0.73	0.58	3.18
12	1.15	0.46	0.20	1.04
13	0.60	0.71	0.37	0.55
14	0.94	0.58	0.32	0.35
15	0.73	1.02	0.68	0.81
16	0.64	1.05	0.31	0.18
17	0.43	0.75	0.65	0.24
18	0.58	0.85	0.63	0.40
19	1.10	1.05	0.69	0.35
20	0.68	0.49	0.51	0.24
21	1.01	0.63	1.68	0.72
22	0.51	0.63	0.21	0.44
23	0.81	0.64	0.33	0.99
24	0.94	0.67	0.19	0.80
25	0.57	0.68	1.36	0.35
26	0.79	0.94	1.12	1.20
27	0.49	0.66	0.85	0.28
28	0.50	1.13	0.31	0.25
29	1.13	0.53	0.27	0.84
30	0.63	0.60	0.69	1.86

Table B.3 Generated 100 Observations for Workstation 1 (Intermediate Model)

Workstation 1				
100 Observations				
CV	0.25		0.75	
Seed #	534355	200699	882459	836262
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.60	0.59	0.95	0.81
2	0.39	0.56	1.02	0.63
3	1.66	0.76	0.86	0.75
4	0.59	0.96	0.96	0.67
5	1.47	0.67	0.79	0.95
6	0.27	1.82	1.24	0.67
7	0.37	0.64	0.76	0.78
8	0.77	0.32	0.68	0.80
9	0.62	0.20	0.68	0.69
10	0.62	0.53	1.01	0.63
11	0.60	0.50	0.73	1.04
12	0.38	3.65	0.68	0.83
13	0.64	1.21	0.71	0.72
14	0.38	0.72	0.89	0.72
15	0.36	0.34	1.01	0.96
16	0.23	0.24	0.80	0.83
17	2.10	0.76	0.63	1.42
18	1.33	0.30	0.80	1.16
19	0.58	0.35	1.00	0.82
20	0.53	0.43	0.85	0.84
21	0.34	0.22	0.75	1.05
22	0.50	0.66	0.99	0.72
23	1.16	0.89	0.71	0.81
24	0.62	0.61	0.90	0.88
25	0.38	1.18	0.56	0.86
26	2.29	0.34	0.65	0.86
27	1.43	1.14	0.87	0.62
28	0.41	0.21	1.07	1.48
29	0.35	0.65	0.84	0.62
30	0.58	0.91	0.71	0.72
31	0.60	0.75	0.62	0.67
32	0.44	0.56	0.99	0.72
33	2.08	1.34	0.87	1.18
34	1.32	0.57	0.66	0.94
35	0.28	1.39	0.58	1.01
36	1.12	0.92	1.09	1.16
37	0.56	1.62	0.91	0.82
38	1.87	0.86	1.15	0.64
39	1.26	0.55	0.86	0.76
40	0.75	0.52	0.64	1.01
41	2.01	0.18	0.90	0.68
42	0.39	0.33	0.90	0.89
43	0.28	0.92	0.57	0.66
44	0.64	0.78	0.76	1.00
45	0.34	0.50	1.34	0.62
46	0.80	1.44	0.46	0.91
47	0.62	0.52	1.08	0.72
48	0.59	1.13	0.53	0.84
49	2.38	1.25	0.65	0.68
50	0.39	1.70	1.05	0.75

51	0.88	0.66	0.42	1.20
52	0.91	3.45	0.46	0.80
53	1.68	1.19	1.17	0.69
54	0.43	0.87	0.59	0.77
55	0.27	0.42	0.56	0.63
56	0.79	1.21	0.57	0.59
57	0.79	2.08	1.24	0.96
58	0.44	0.19	0.89	0.88
59	0.69	0.30	0.65	0.77
60	0.28	1.27	0.84	0.83
61	0.68	0.41	0.80	0.80
62	0.70	0.77	0.73	0.87
63	0.50	1.38	0.71	0.70
64	0.82	0.27	0.53	0.87
65	0.38	1.27	0.88	1.03
66	0.28	1.54	1.02	0.86
67	0.39	0.35	0.94	0.71
68	0.53	1.22	0.99	1.01
69	0.78	0.25	0.71	0.86
70	0.39	0.78	0.66	0.72
71	0.66	0.45	1.08	0.82
72	1.14	0.52	0.85	0.74
73	0.35	0.42	0.89	0.54
74	1.33	1.66	0.81	0.76
75	0.85	1.59	0.83	0.49
76	1.93	0.58	0.54	0.81
77	0.21	1.82	0.79	0.70
78	0.71	0.49	0.75	0.71
79	0.36	0.43	0.47	0.73
80	0.58	0.23	1.20	1.00
81	0.57	0.31	0.69	0.55
82	0.31	0.61	0.70	0.74
83	1.18	2.23	1.28	0.78
84	0.53	0.49	0.87	0.77
85	0.81	2.23	0.80	0.85
86	0.82	1.03	0.63	0.72
87	1.00	0.33	0.66	1.05
88	0.26	0.88	1.25	0.65
89	1.23	1.09	0.70	0.79
90	0.76	2.32	0.41	0.59
91	0.24	0.32	1.47	0.70
92	0.54	1.32	0.96	0.76
93	0.86	0.94	0.49	0.81
94	1.62	0.64	0.60	1.15
95	0.30	0.22	0.54	1.19
96	0.61	0.60	0.84	0.50
97	0.75	0.43	0.95	0.80
98	0.39	1.47	1.10	1.03
99	0.54	1.66	0.76	1.27
100	0.46	0.86	0.83	0.80

Table B.4 Generated 30 Observations for Workstation 2 (Intermediate Model)

Workstation 2				
30 Observations				
CV	0.25		0.75	
Seed #	128893	364861	325765	959995
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.76	0.60	0.66	0.47
2	0.49	0.44	0.48	0.39
3	1.24	0.61	0.38	0.20
4	0.72	0.67	0.47	1.97
5	0.84	0.92	0.24	1.49
6	0.73	1.10	0.21	1.22
7	0.64	0.73	0.66	1.17
8	0.78	1.12	0.61	1.49
9	0.79	0.52	1.80	0.28
10	0.58	0.59	0.70	0.51
11	0.70	1.04	0.83	0.20
12	0.89	0.70	0.43	0.44
13	0.87	0.91	1.00	0.48
14	0.75	0.95	0.99	0.37
15	0.60	0.80	0.53	0.24
16	0.98	0.70	1.78	1.03
17	0.94	0.96	1.14	0.32
18	1.01	1.06	0.19	0.69
19	1.11	0.93	0.40	1.10
20	0.82	0.77	0.71	1.75
21	1.19	0.55	0.46	0.41
22	0.84	0.70	1.30	0.42
23	0.91	0.92	0.42	0.69
24	0.56	1.45	0.70	0.48
25	0.57	0.90	0.28	0.52
26	0.76	0.87	0.69	0.91
27	0.82	0.90	1.36	0.31
28	1.02	0.76	1.32	0.94
29	0.66	1.20	0.95	0.31
30	0.91	0.67	0.79	0.88

Table B.5 Generated 100 Observations for Workstation 2 (Intermediate Model)

Workstation 2				
100 Observations				
CV	0.25		0.75	
Seed #	<i>739879</i>	<i>944377</i>	<i>212932</i>	<i>765194</i>
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.55	0.64	1.71	3.10
2	0.76	0.74	0.95	1.70
3	0.64	0.62	0.35	0.69
4	1.04	0.95	0.44	0.58
5	0.80	0.74	0.28	0.66
6	0.86	0.88	0.65	0.28
7	1.17	0.65	1.65	0.43
8	1.20	0.59	2.20	1.18
9	0.58	0.70	0.52	1.23
10	0.67	0.90	0.47	0.69
11	0.87	0.79	0.89	0.51
12	0.53	1.01	0.34	0.54
13	0.91	1.04	0.33	0.30
14	1.07	1.00	0.70	0.52
15	0.49	0.75	0.99	0.59
16	1.32	1.03	0.52	0.79
17	1.07	1.04	1.00	0.62
18	1.02	0.74	0.56	1.72
19	0.74	0.79	0.22	0.23
20	0.96	0.57	0.55	0.29
21	0.78	0.76	0.60	0.96
22	0.91	1.31	1.71	1.03
23	0.54	0.69	0.35	1.10
24	0.44	0.61	0.62	0.35
25	0.79	0.77	0.58	1.67
26	1.19	1.27	0.50	0.24
27	1.31	1.13	0.34	1.71
28	0.77	0.70	0.43	0.98
29	0.84	0.55	1.00	0.36
30	0.76	0.86	0.34	0.35
31	0.86	1.13	0.44	1.04
32	1.34	1.22	0.55	0.36
33	0.98	0.64	2.68	0.23
34	0.78	0.67	1.51	2.13
35	0.74	0.83	0.22	1.89
36	1.03	0.95	1.38	0.90
37	0.65	0.71	0.71	0.68
38	1.10	0.79	0.27	1.15
39	0.66	1.03	0.45	0.47
40	0.84	0.95	1.35	0.76
41	0.76	1.07	0.57	1.75
42	0.87	0.90	0.72	0.79
43	0.69	0.76	1.26	0.31
44	0.79	0.77	0.67	0.54
45	0.74	0.78	0.50	0.70
46	1.02	0.79	0.23	1.51
47	0.74	0.72	0.90	0.81
48	0.60	0.70	1.79	0.36
49	0.88	1.24	2.75	0.37
50	0.95	0.92	0.69	1.02

51	0.87	1.04	0.44	0.33
52	0.98	0.81	0.23	0.65
53	1.36	0.94	1.40	0.56
54	0.89	0.66	0.54	1.18
55	0.70	1.17	0.31	0.50
56	0.70	0.54	0.45	0.61
57	1.05	1.29	0.18	1.96
58	1.07	1.07	0.53	0.55
59	0.77	0.78	0.79	0.29
60	0.64	0.88	0.63	0.59
61	0.76	0.73	0.91	0.49
62	0.74	0.93	0.32	1.34
63	0.58	0.83	0.43	0.82
64	0.86	0.85	0.90	0.29
65	0.91	1.07	0.67	0.56
66	0.61	0.60	0.84	0.65
67	1.05	0.72	0.38	1.40
68	1.18	0.56	1.69	1.87
69	0.94	0.49	0.57	1.29
70	0.90	0.66	1.24	0.47
71	1.06	0.86	1.01	2.28
72	0.76	0.64	1.77	0.38
73	1.20	0.87	0.59	1.54
74	1.18	0.90	1.76	0.63
75	0.62	0.63	0.57	0.87
76	0.73	0.42	0.74	0.79
77	1.23	0.99	0.22	1.24
78	0.64	0.73	0.49	0.61
79	0.83	1.02	2.44	0.56
80	0.67	1.27	0.49	0.32
81	1.15	1.08	0.81	1.75
82	1.36	0.99	0.23	0.62
83	0.72	0.95	0.73	0.83
84	0.51	0.90	0.91	0.97
85	0.80	0.80	0.30	0.27
86	0.91	1.10	0.65	1.68
87	0.84	1.06	0.33	0.57
88	0.85	1.19	0.38	0.72
89	1.02	1.23	1.13	0.59
90	0.59	1.02	1.23	1.37
91	1.11	0.90	1.21	1.24
92	0.88	0.81	1.39	0.56
93	1.19	1.10	1.17	0.72
94	0.92	0.63	0.43	0.40
95	1.08	1.19	0.28	0.34
96	0.90	0.83	0.34	0.35
97	0.74	0.83	1.22	0.21
98	1.38	0.73	1.93	0.77
99	1.10	0.71	0.49	0.57
100	0.66	0.73	1.33	0.56

Table B.6 Generated 30 Observations for Workstation 3 (Intermediate Model)

Workstation 3				
30 Observations				
CV	0.25		0.75	
Seed #	6376086	1441845	8406431	3617394
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.67	1.35	0.21	0.26
2	0.71	0.86	0.25	0.54
3	0.46	1.11	0.69	0.84
4	1.03	0.67	0.55	0.91
5	0.96	0.80	0.29	0.59
6	0.49	0.90	0.84	0.33
7	0.49	0.78	0.57	0.87
8	0.49	0.77	0.49	0.30
9	0.69	0.94	0.32	1.14
10	0.75	0.98	1.95	0.69
11	0.73	0.68	0.28	0.44
12	0.62	0.88	0.24	0.97
13	1.01	1.13	0.74	0.30
14	0.75	0.96	2.48	0.35
15	0.75	0.89	0.70	1.88
16	0.83	0.87	0.73	1.09
17	0.71	0.51	0.20	0.88
18	0.63	0.92	0.39	0.33
19	0.71	0.62	1.22	0.49
20	0.59	0.88	2.19	0.54
21	0.62	0.78	0.42	0.44
22	0.59	0.78	0.65	1.56
23	0.67	0.75	0.33	1.53
24	0.70	0.74	0.39	1.71
25	0.82	0.91	1.74	1.18
26	0.96	1.04	0.60	0.61
27	0.68	1.02	0.79	0.25
28	1.19	0.87	1.05	1.02
29	0.89	0.64	0.45	0.30
30	1.16	0.83	0.38	0.57

Table B.7 Generated 100 Observations for Workstation 3 (Intermediate Model)

Workstation 3				
100 Observations				
CV	0.25		0.75	
Seed #	7492694	9152021	8395356	3540667
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.71	0.67	0.67	1.07
2	0.73	0.73	0.99	0.44
3	0.73	0.73	0.59	0.85
4	1.32	0.65	1.42	1.08
5	0.98	0.77	2.21	0.47
6	0.72	0.76	0.40	1.32
7	0.50	0.85	0.45	0.36
8	0.81	0.92	0.94	0.38
9	1.18	1.01	0.69	0.54
10	0.92	0.83	0.88	1.50
11	0.58	0.96	0.85	0.30
12	0.51	0.72	0.28	1.94
13	1.27	0.95	0.44	0.75
14	0.85	0.78	0.58	2.91
15	0.83	0.90	1.14	0.42
16	0.66	1.73	0.36	0.42
17	1.15	0.67	0.36	0.63
18	0.55	0.80	0.37	0.45
19	0.78	1.15	0.74	0.32
20	0.86	0.77	1.05	0.34
21	0.89	0.70	0.81	0.94
22	0.65	0.55	0.30	0.18
23	0.54	1.21	0.39	0.22
24	0.90	0.72	0.88	0.43
25	0.67	0.64	0.42	1.26
26	0.87	0.59	0.49	0.41
27	0.63	1.30	0.23	1.24
28	1.33	0.58	1.70	0.73
29	0.99	0.78	0.45	0.29
30	0.84	0.91	0.77	0.97
31	0.74	0.89	1.09	1.67
32	0.70	0.74	0.40	0.67
33	0.73	0.81	0.22	0.72
34	0.88	0.71	0.42	0.56
35	0.83	0.63	0.91	1.17
36	0.60	0.82	0.61	0.90
37	0.57	0.90	0.53	1.23
38	0.59	0.80	0.68	0.63
39	1.03	0.88	2.06	0.53
40	0.56	0.57	1.47	2.90
41	0.59	0.67	0.70	0.91
42	0.73	0.85	1.03	1.42
43	0.83	0.91	0.59	0.32
44	1.00	1.10	0.85	0.29
45	0.72	0.83	0.60	0.55
46	1.07	0.49	0.46	0.54
47	0.59	0.69	0.34	0.84
48	0.48	1.07	1.07	0.23
49	0.63	0.70	0.93	0.75
50	0.73	0.52	0.81	1.52

51	0.83	0.88	1.91	0.74
52	1.08	0.73	1.32	0.48
53	0.57	0.84	1.14	0.70
54	1.06	1.11	0.32	0.92
55	0.84	0.70	0.83	1.14
56	0.51	0.68	0.41	1.07
57	0.99	1.14	0.21	0.65
58	0.80	0.78	0.91	0.77
59	0.78	0.67	1.05	0.30
60	0.76	0.71	0.43	0.51
61	0.51	0.84	0.73	0.57
62	0.77	0.81	0.36	0.40
63	1.71	0.84	4.80	0.31
64	0.78	0.75	0.30	1.22
65	0.81	0.51	0.38	0.64
66	0.84	0.67	0.33	0.33
67	0.86	0.87	1.52	1.48
68	1.03	0.89	0.90	0.33
69	0.92	0.80	0.59	0.27
70	0.86	0.93	0.79	0.63
71	0.89	0.77	1.87	2.17
72	1.08	0.84	0.38	0.64
73	1.07	0.60	0.54	0.18
74	0.81	0.83	0.31	0.22
75	0.73	0.99	0.32	0.83
76	0.65	0.78	1.79	0.42
77	0.61	0.61	0.24	0.37
78	0.60	0.58	0.22	0.59
79	0.57	0.89	0.19	2.95
80	0.78	0.59	1.38	0.88
81	0.93	0.48	0.38	0.42
82	0.60	0.65	1.01	1.33
83	0.66	0.82	0.37	0.47
84	0.73	0.90	0.59	0.38
85	0.61	0.75	0.81	0.30
86	0.72	0.85	0.62	0.42
87	0.73	0.61	0.75	0.36
88	0.81	0.75	0.63	0.36
89	0.99	0.56	0.29	0.30
90	0.99	1.13	0.61	0.54
91	0.76	0.87	1.28	0.25
92	0.98	0.76	0.53	0.43
93	0.85	0.60	0.47	0.41
94	0.49	0.76	0.67	2.00
95	0.69	1.02	0.62	0.53
96	1.17	0.87	0.52	1.28
97	1.21	0.72	0.78	0.57
98	0.87	0.75	1.06	0.36
99	0.80	0.65	1.48	1.02
100	1.05	1.01	1.16	1.24

Table B.8 Generated 30 Observations for the Rework (Intermediate Model)

Rework				
30 Observations				
CV	0.25		0.75	
Seed #	7992866	8127907	9211786	5046570
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	8.83	4.80	3.07	7.04
2	6.10	8.12	3.92	8.50
3	5.82	4.45	10.04	3.55
4	6.70	10.34	8.47	3.88
5	7.42	9.11	4.74	14.45
6	9.06	10.22	6.51	29.71
7	5.36	9.76	3.66	2.16
8	14.87	8.83	3.22	10.37
9	11.09	8.53	8.05	4.65
10	8.96	8.39	7.93	6.37
11	7.86	8.44	5.92	5.13
12	4.91	6.24	7.96	4.22
13	7.90	6.98	4.91	2.96
14	14.29	8.03	4.86	5.19
15	11.59	7.43	4.06	6.78
16	5.83	7.96	4.20	16.54
17	7.06	7.52	14.95	9.99
18	7.09	7.11	8.45	5.43
19	8.25	7.38	12.29	7.08
20	5.83	6.91	2.20	10.59
21	10.46	8.80	10.39	5.46
22	13.18	10.74	5.32	7.26
23	8.25	7.79	4.17	5.53
24	9.89	6.58	10.88	6.08
25	8.24	8.63	10.13	2.68
26	11.09	8.49	5.08	11.04
27	8.66	6.88	2.19	4.09
28	7.71	7.08	9.40	2.83
29	8.04	8.41	2.75	13.17
30	7.73	6.65	18.08	7.19

Table B.9 Generated 100 Observations for the Rework (Intermediate Model)

Rework				
100 Observations				
CV	0.25		0.75	
Seed #	9329538	8233451	297755	4163260
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	8.62	10.43	8.62	8.37
2	7.98	8.09	5.64	4.06
3	6.04	7.19	4.05	3.77
4	9.12	9.21	12.56	3.40
5	11.04	9.15	3.76	8.08
6	6.59	7.87	7.98	12.00
7	9.46	7.41	7.65	8.16
8	7.94	8.86	5.38	10.43
9	5.75	4.30	10.56	2.27
10	8.07	8.17	3.14	8.64
11	9.82	7.78	3.69	14.22
12	9.90	8.64	3.37	12.66
13	12.61	9.52	4.14	4.38
14	6.44	6.32	7.53	24.41
15	10.06	6.65	6.74	19.52
16	7.23	7.42	8.53	13.74
17	11.32	7.80	12.00	10.50
18	7.62	9.61	7.19	3.14
19	7.61	9.71	6.71	2.71
20	4.85	7.75	11.00	4.62
21	7.46	10.70	4.77	3.21
22	6.47	7.91	5.49	3.04
23	9.57	7.06	16.85	10.58
24	10.48	8.21	4.19	20.74
25	8.39	10.93	7.09	7.68
26	9.28	7.10	7.37	10.69
27	9.30	10.92	5.77	3.74
28	7.70	8.67	7.15	2.61
29	8.23	10.45	5.79	8.13
30	7.22	7.97	2.69	11.26
31	7.31	8.84	25.42	17.22
32	6.63	7.44	6.43	6.21
33	10.12	7.38	6.88	5.40
34	9.45	6.85	11.79	7.63
35	10.39	7.69	3.86	6.43
36	6.59	4.35	8.87	3.14
37	10.05	6.01	6.80	3.50
38	13.66	7.16	6.44	3.76
39	9.77	6.77	5.63	2.65
40	6.62	8.51	6.27	4.52
41	5.24	10.35	4.65	15.37
42	7.64	8.69	6.17	13.85
43	6.49	7.51	3.88	4.29
44	12.13	9.66	9.98	4.89
45	7.67	7.91	11.68	9.35
46	11.59	7.49	3.88	2.58
47	6.66	8.90	4.29	14.58
48	8.79	7.94	5.23	3.93
49	6.69	8.52	4.94	2.27
50	6.73	8.73	8.41	5.11

51	9.85	8.96	7.54	4.59
52	7.71	7.02	18.34	3.87
53	5.75	8.10	10.45	2.77
54	10.39	7.31	44.87	6.65
55	6.83	9.50	4.42	12.50
56	8.13	8.92	6.46	2.83
57	7.34	7.91	8.55	4.01
58	7.04	4.56	2.96	5.96
59	5.79	10.10	9.30	4.05
60	6.93	10.11	3.02	3.10
61	7.81	6.32	2.89	7.70
62	6.67	10.51	13.35	4.44
63	6.43	7.44	3.81	3.96
64	8.23	4.46	7.86	16.64
65	8.08	7.39	4.43	2.49
66	6.27	7.42	3.41	9.62
67	6.54	5.96	2.24	8.56
68	14.10	9.30	13.26	1.93
69	13.10	8.39	2.85	14.59
70	7.91	7.94	9.51	7.06
71	8.54	8.37	5.95	8.63
72	5.64	8.65	8.46	6.53
73	7.90	7.37	17.40	2.66
74	5.87	8.49	4.45	4.68
75	6.70	6.50	11.37	4.91
76	4.78	8.82	8.55	2.14
77	7.37	10.10	6.54	6.80
78	8.28	10.50	9.14	5.16
79	10.78	10.91	10.91	4.04
80	9.16	8.56	5.07	7.93
81	7.85	7.12	7.10	10.60
82	10.81	6.81	15.22	9.38
83	6.83	9.20	9.36	6.07
84	8.20	9.27	5.20	5.15
85	9.47	6.76	4.03	2.35
86	4.51	5.95	15.54	5.61
87	10.58	8.05	2.54	7.23
88	8.05	8.21	8.82	3.92
89	7.59	7.39	8.26	9.03
90	9.83	7.56	5.36	6.35
91	9.93	9.25	9.37	13.78
92	11.72	6.71	11.18	3.71
93	9.73	8.34	3.12	7.39
94	8.31	10.08	6.57	5.30
95	9.30	7.06	20.61	4.17
96	6.84	7.63	29.99	11.48
97	6.30	7.53	7.25	7.10
98	7.74	5.67	9.27	3.38
99	7.31	6.58	5.32	23.59
100	9.11	5.21	5.12	5.37

B.3 Selecting the Best Fit Distributions

Table B.10 Selecting the Best Fit Distributions for the Workstations (Intermediate Model)

Best Fit Distributions								
CV	0.25				0.75			
Number of Obs.	30 Observations		100 Observations		30 Observations		100 Observations	
Number of Rep.	Replicate 1	Replicate 2	Replicate 1	Replicate 2	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Workstation 1								
First Rank	Gamma	Gamma	Weibull	Gamma	Expo	Expo	Weibull	Weibull
Second Rank	Uniform	Uniform	Gamma	Beta	Weibull	Weibull	Gamma	Gamma
Workstation 2								
First Rank	Gamma	Gamma	Gamma	Weibull	Gamma	Expo	Weibull	Weibull
Second Rank	Weibull	Weibull	Weibull	Gamma	Weibull	Gamma	Gamma	Gamma
Workstation 3								
First Rank	Gamma	Gamma	Weibull	Gamma	Expo	Weibull	Gamma	Gamma
Second Rank	Weibull	Weibull	Gamma	Weibull	Gamma	Expo	Weibull	Weibull
Rework								
First Rank	Gamma	Gamma	Gamma	Gamma	Weibull	Gamma	Gamma	Gamma
Second Rank	Weibull	Weibull	Weibull	Weibull	Expo	Expo	Weibull	Weibull

B.4 Best Fit and Less Fit Distributions Parameters

Table B.12 Best and Less Fit Parameters for Workstation 1 - CV = 0.25 (Intermediate Model)

Workstation / Parameters	Workstation 1			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	0.78133	0.76000	0.81810	0.82350
Std Dev	0.22040	0.18703	0.21821	0.18517
Variance	0.04858	0.03498	0.04762	0.03429
Skewness	0.42261	0.43175	0.48868	1.11904
Minimum Value from The Ture Mixed Dist.	0.16	0.16	0.16	0.16
Mean - Minimum	0.62133	0.60000	0.65810	0.66350
Best Fit Distribution Rank 1	0.16 + GAMM(0.0782,7.9473)	0.16 + GAMM(0.0583,10.2915)	0.16 + WEIB(0.7334,3.3230)	0.16 + GAMM(0.0517,12.8393)
Best Fit Distribution Rank 2	0.16 + UNIF(0.239586,1.003074)	0.16 + UNIF(0.276055,0.923945)	0.16 + GAMM(0.0724,9.0957)	0.16 + BETA(0.321,1.434,2.060,4.634)
Less Fit Distribution Two Paramaters Log Normal	0.16 + LOGN(0.62133,0.22040)	0.16 + LOGN(0.6000,0.18703)	0.16 + LOGN(0.65810,0.21821)	0.16 + LOGN(0.66350,0.18517)
Seed Number for Mixed Empirical Exponential	2478	4475	3335	2224

Table B.13 Best and Less Fit Parameters for Workstation 1 - CV = 0.75 (Intermediate Model)

Workstation / Parameters	Workstation 1			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	0.54533	0.68200	0.75780	0.88240
Std Dev	0.34663	0.59756	0.50300	0.64208
Variance	0.12015	0.35708	0.25301	0.41227
Skewness	1.74305	2.88589	1.51309	1.82418
Minimum Value from The Ture Mixed Dist.	0.16	0.16	0.16	0.16
Mean - Minimum	0.38533	0.52200	0.59780	0.72240
Best Fit Distribution Rank 1	0.16 + EXPO(0.38533)	0.16 + EXPO(0.52200)	0.16 + WEIB(0.6346,1.1933)	0.16 + WEIB(0.7545,1.1273)
Best Fit Distribution Rank 2	0.16 + WEIB(0.4009,1.1134)	0.16 + WEIB(0.4886,0.8760)	0.16 + GAMM(0.4232,1.4125)	0.16 + GAMM(0.5707,1.2658)
Less Fit Distribution Two Paramaters Log Normal	0.16 + LOGN(0.38533,0.34663)	0.16 + LOGN(0.52200,0.59756)	0.16 + LOGN(0.59780,0.50300)	0.16 + LOGN(0.72240,0.64208)
Seed Number for Mixed Empirical Exponential	5362	9386	1156	9200

Table B.14 Best and Less Fit Parameters for Workstation 2 - CV = 0.25 (Intermediate Model)

Workstation / Parameters	Workstation 2			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	0.81673	0.83381	0.87755	0.86140
Std Dev	0.18435	0.22442	0.22066	0.20219
Variance	0.03398	0.05037	0.04869	0.04088
Skewness	0.44514	0.58119	0.38694	0.31850
Minimum Value from The Ture Mixed Dist.	0.168	0.168	0.168	0.168
Mean - Minimum	0.64873	0.66581	0.70955	0.69340
Best Fit Distribution Rank 1	0.168 + GAMM(0.0524,12.3835)	0.168 + GAMM(0.0756,8.8019)	0.168 + GAMM(0.0686,10.34)	0.168 + WEIB(0.7668,3.8326)
Best Fit Distribution Rank 2	0.168 + WEIB(0.7163,3.9436)	0.168 + WEIB(0.7427,3.2629)	0.168 + WEIB(0.7878,3.5685)	0.168 + GAMM(0.0590,11.7611)
Less Fit Distribution Two Paramaters Log Normal	0.168 + LOGN(0.64873,0.18435)	0.168 + LOGN(0.66581,0.22442)	0.168 + LOGN(0.70955,0.22066)	0.168 + LOGN(0.69340,0.20219)
Seed Number for Mixed Empirical Exponential	1114	7391	4475	8523

Table B.15 Best and Less Fit Parameters for Workstation 2 - CV = 0.75 (Intermediate Model)

Workstation / Parameters	Workstation 2			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	0.74964	0.72227	0.81415	0.83885
Std Dev	0.42994	0.48470	0.56213	0.54550
Variance	0.18484	0.23493	0.31599	0.29757
Skewness	0.99003	1.08102	1.43959	1.42200
Minimum Value from The Ture Mixed Dist.	0.168	0.168	0.168	0.168
Mean - Minimum	0.58164	0.55427	0.64615	0.67085
Best Fit Distribution Rank 1	0.168 + GAMM(0.3178,1.8302)	0.168 + EXPO(0.55427)	0.168 + WEIB(0.6794,1.1525)	0.168 + WEIB(0.7185,1.2368)
Best Fit Distribution Rank 2	0.168 + WEIB(0.6358,1.3687)	0.168 + GAMM(0.4239,1.3077)	0.168 + GAMM(0.4890,1.3213)	0.168 + GAMM(0.4436,1.5124)
Less Fit Distribution Two Paramaters Log Normal	0.168 + LOGN(0.58164,0.42994)	0.168 + LOGN(0.55427,0.48470)	0.168 + LOGN(0.64615,0.56213)	0.168 + LOGN(0.67085,0.54550)
Seed Number for Mixed Empirical Exponential	3848	5465	9021	6932

Table B.16 Best and Less Fit Parameters for Workstation 3 - CV = 0.25 (Intermediate Model)

Workstation / Parameters	Workstation 3			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	0.74561	0.86234	0.81275	0.80031
Std Dev	0.18976	0.16944	0.21509	0.18711
Variance	0.03601	0.02871	0.04626	0.03501
Skewness	0.75551	0.57200	1.07073	1.53441
Minimum Value from The Ture Mixed Dist.	0.162	0.162	0.162	0.162
Mean - Minimum	0.58361	0.70034	0.65075	0.63831
Best Fit Distribution Rank 1	0.162 + GAMM(0.0617,9.4588)	0.162 + GAMM(0.0410,17.0839)	0.162 + WEIB(0.7251,3.3348)	0.162 + GAMM(0.0548,11.6378)
Best Fit Distribution Rank 2	0.162 + WEIB(0.6497,3.3962)	0.162 + WEIB(0.7654,4.7088)	0.162 + GAMM(0.0711,9.1535)	0.162 + WEIB(0.7062,3.8103)
Less Fit Distribution Two Paramaters Log Normal	0.162 + LOGN(0.58361,0.18976)	0.162 + LOGN(0.70034,0.16944)	0.162 + LOGN(0.65075,0.21509)	0.162 + LOGN(0.63831,0.18711)
Seed Number for Mixed Empirical Exponential	2525	1025	6558	9032

Table B.17 Best and Less Fit Parameters for Workstation 3 - CV = 0.75 (Intermediate Model)

Workstation / Parameters	Workstation 3			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	0.73766	0.76412	0.78740	0.77173
Std Dev	0.60015	0.46026	0.59926	0.57276
Variance	0.36018	0.21184	0.35911	0.32806
Skewness	1.74189	0.94070	3.48346	1.95556
Minimum Value from The Ture Mixed Dist.	0.162	0.162	0.162	0.162
Mean - Minimum	0.57566	0.60212	0.62540	0.60973
Best Fit Distribution Rank 1	0.162 + EXPO(0.57566)	0.162 + WEIB(0.6540,1.3205)	0.162 + GAMM(0.5742,1.0891)	0.162 + GAMM(0.5380,1.1333)
Best Fit Distribution Rank 2	0.162 + GAMM(0.6257,0.9201)	0.162 + EXPO(0.60212)	0.162 + WEIB(0.6363,1.0439)	0.162 + WEIB(0.6249,1.0651)
Less Fit Distribution Two Paramaters Log Normal	0.162 + LOGN(0.57566,0.60015)	0.162 + LOGN(0.60212,0.46026)	0.162 + LOGN(0.62540,0.59926)	0.162 + LOGN(0.60973,0.57276)
Seed Number for Mixed Empirical Exponential	3861	8381	7694	3584

Table B.18 Best and Less Fit Parameters for the Rework - CV = 0.25 (Intermediate Model)

Workstation / Parameters	Rework			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	8.60233	7.88667	8.28320	8.04770
Std Dev	2.53182	1.44458	1.96372	1.48232
Variance	6.41013	2.08682	3.85619	2.19727
Skewness	0.93322	-0.25113	0.67003	-0.21194
Minimum Value from The Ture Mixed Dist.	1.64	1.64	1.64	1.64
Mean - Minimum	6.96233	6.24667	6.64320	6.40770
Best Fit Distribution Rank 1	1.64 + GAMM(0.9207,7.5621)	1.64 + GAMM(0.3341,18.6988)	1.64 + GAMM(0.5805,11.4445)	1.64 + GAMM(0.3429,18.6862)
Best Fit Distribution Rank 2	1.64 + WEIB(7.7970,2.9982)	1.64 + WEIB(6.8075,4.9479)	1.64 + WEIB(7.3531,3.7751)	1.64 + WEIB(6.9832,4.9460)
Less Fit Distribution Two Paramaters Log Normal	1.64 + LOGN(6.96233,2.53182)	1.64 + LOGN(6.24667,1.44458)	1.64 + LOGN(6.64320,1.96372)	1.64 + LOGN(6.40770,1.48232)
Seed Number for Mixed Empirical Exponential	5557	3252	8554	2030

Table B.19 Best and Less Fit Parameters for the Rework - CV = 0.75 (Intermediate Model)

Workstation / Parameters	Rework			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	6.92667	7.66400	8.15490	7.29200
Std Dev	3.86570	5.48724	5.96445	4.81476
Variance	14.94366	30.10983	35.57464	23.18189
Skewness	1.08187	2.49878	3.29862	1.46622
Minimum Value from The Ture Mixed Dist.	1.64	1.64	1.64	1.64
Mean - Minimum	5.28667	6.02400	6.51490	5.65200
Best Fit Distribution Rank 1	1.64 + WEIB(5.7902,1.3847)	1.64 + GAMM(4.9983,1.2052)	1.64 + GAMM(5.4605,1.1931)	1.64 + GAMM(4.1015,1.3780)
Best Fit Distribution Rank 2	1.64 + EXPO(5.28667)	1.64 + EXPO(6.024)	1.64 + WEIB(6.7385,1.0935)	1.64 + WEIB(5.9792,1.1780)
Less Fit Distribution Two Paramaters Log Normal	1.64 + LOGN(5.28667,3.86570)	1.64 + LOGN(6.02400,5.48724)	1.64 + LOGN(6.51490,5.96445)	1.64 + LOGN(5.65200,4.81476)
Seed Number for Mixed Empirical Exponential	8446	7692	8034	8094

B.5 Stream Number

Table B.20 Stream Numbers Used in Arena Simulation Software (Intermediate Model)

Run #	Replicate	CV	Manual Workstations Distribution	# of Obs.	Stream Number				
					IAT	WS1	WS2	WS3	Rework
1	-	0.25	True Distribution	-	-	-	-	-	-
2	1st	0.25	Best Fit Distribution Rank 1	30	7	12	77	52	34
3	1st	0.25	Best Fit Distribution Rank 2	30	7	12	77	52	34
4	1st	0.25	Less Fit - Two Parameters Log Normal	30	7	12	77	52	34
5	1st	0.25	Less Fit - Mixed Empirical Exponential	30	7	12	77	52	34
6	1st	0.25	Best Fit Distribution Rank 1	100	7	12	77	52	34
7	1st	0.25	Best Fit Distribution Rank 2	100	7	12	77	52	34
8	1st	0.25	Less Fit - Two Parameters Log Normal	100	7	12	77	52	34
9	1st	0.25	Less Fit - Mixed Empirical Exponential	100	7	12	77	52	34
10	2nd	0.25	Best Fit Distribution Rank 1	30	82	72	2	99	30
11	2nd	0.25	Best Fit Distribution Rank 2	30	82	72	2	99	30
12	2nd	0.25	Less Fit - Two Parameters Log Normal	30	82	72	2	99	30
13	2nd	0.25	Less Fit - Mixed Empirical Exponential	30	82	72	2	99	30
14	2nd	0.25	Best Fit Distribution Rank 1	100	82	72	2	99	30
15	2nd	0.25	Best Fit Distribution Rank 2	100	82	72	2	99	30
16	2nd	0.25	Less Fit - Two Parameters Log Normal	100	82	72	2	99	30
17	2nd	0.25	Less Fit - Mixed Empirical Exponential	100	82	72	2	99	30
18	-	0.75	True Distribution	-	-	-	-	-	-
19	1st	0.75	Best Fit Distribution Rank 1	30	7	12	77	52	34
20	1st	0.75	Best Fit Distribution Rank 2	30	7	12	77	52	34
21	1st	0.75	Less Fit - Two Parameters Log Normal	30	7	12	77	52	34
22	1st	0.75	Less Fit - Mixed Empirical Exponential	30	7	12	77	52	34
23	1st	0.75	Best Fit Distribution Rank 1	100	7	12	77	52	34
24	1st	0.75	Best Fit Distribution Rank 2	100	7	12	77	52	34
25	1st	0.75	Less Fit - Two Parameters Log Normal	100	7	12	77	52	34
26	1st	0.75	Less Fit - Mixed Empirical Exponential	100	7	12	77	52	34
27	2nd	0.75	Best Fit Distribution Rank 1	30	82	72	2	99	30
28	2nd	0.75	Best Fit Distribution Rank 2	30	82	72	2	99	30
29	2nd	0.75	Less Fit - Two Parameters Log Normal	30	82	72	2	99	30
30	2nd	0.75	Less Fit - Mixed Empirical Exponential	30	82	72	2	99	30
31	2nd	0.75	Best Fit Distribution Rank 1	100	82	72	2	99	30
32	2nd	0.75	Best Fit Distribution Rank 2	100	82	72	2	99	30
33	2nd	0.75	Less Fit - Two Parameters Log Normal	100	82	72	2	99	30
34	2nd	0.75	Less Fit - Mixed Empirical Exponential	100	82	72	2	99	30

B.6 Arena Simulation Model

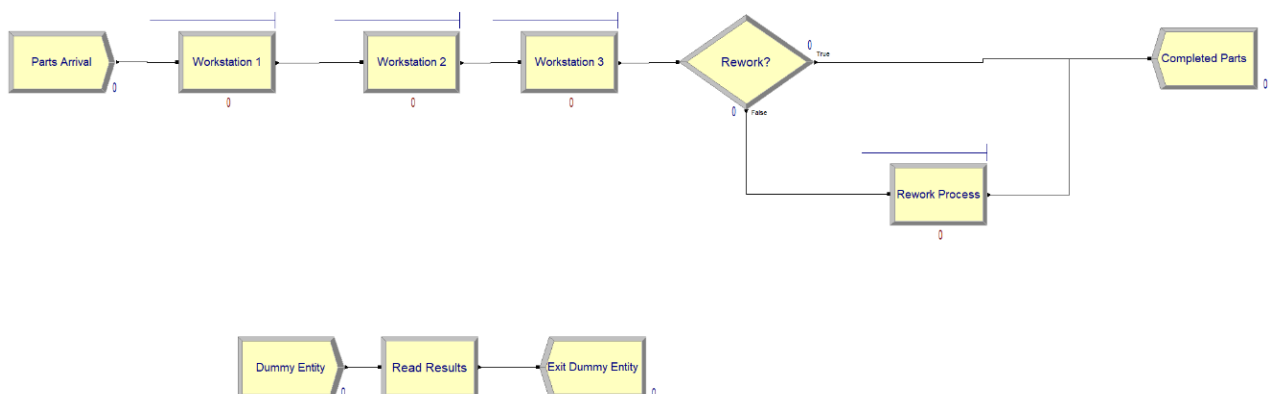


Figure B.1 Arena Simulation View (Intermediate Model)

C Complex Model Parameters

This appendix presents the parameters of the simulation runs conducted for the complex model. It includes the true distribution formulas, the 30 and 100 observations generated from the true distribution formula, the distribution of the best fits, the parameters of best fits and less fit distribution, the stream numbers that will be used within the simulation, and the Arena simulation model view.

C.1 True Distribution Formula

Table C.1 True Distribution Formulas (Complex Model)

#	Workstation/Process	CV	Mean P.T	Std Dev	True Distribution
1	WS2	0.25	1.0125	0.2531	$0.2025 + (1/3) * \text{Lognormal}(0.8100,0.4384) + (1/3) * \text{Gamma}(0.2373,3.4133) + (1/3) * \text{Weibull}(0.9132,1.8243)$
		0.75	1.0125	0.7594	$0.2025 + (1/3) * \text{Lognormal}(0.8100,1.3153) + (1/3) * \text{Gamma}(2.1357,0.3793) + (1/3) * \text{Weibull}(0.5828,0.6403)$
2	WS3 N A	0.25	6.6667	1.6667	$1.3333 + (1/3) * \text{Lognormal}(5.3333,2.8868) + (1/3) * \text{Gamma}(1.5625,3.4133) + (1/3) * \text{Weibull}(6.0126,1.9240)$
		0.75	6.6667	5.0000	$1.3333 + (1/3) * \text{Lognormal}(5.3333,8.6603) + (1/3) * \text{Gamma}(14.0625,0.3793) + (1/3) * \text{Weibull}(3.8376,0.6403)$
3	WS3 O A	0.25	10.0000	2.5000	$2.0000 + (1/3) * \text{Lognormal}(8.0000,4.3301) + (1/3) * \text{Gamma}(2.3438,3.4133) + (1/3) * \text{Weibull}(9.0189,1.9241)$
		0.75	10.0000	7.5000	$2.0000 + (1/3) * \text{Lognormal}(8.0000,12.9904) + (1/3) * \text{Gamma}(21.0938,0.3793) + (1/3) * \text{Weibull}(5.7566,0.6403)$
4	WS3 N B	0.25	2.4167	0.6042	$0.4833 + (1/3) * \text{Lognormal}(1.9333,1.0464) + (1/3) * \text{Gamma}(0.5664,3.4133) + (1/3) * \text{Weibull}(2.1796,1.9241)$
		0.75	2.4167	1.8125	$0.4833 + (1/3) * \text{Lognormal}(1.9333,3.1393) + (1/3) * \text{Gamma}(5.0977,0.3793) + (1/3) * \text{Weibull}(1.3912,0.6403)$
5	WS3 O B	0.25	3.6250	0.9063	$0.7250 + (1/3) * \text{Lognormal}(2.9,1.5697) + (1/3) * \text{Gamma}(0.8496,3.4133) + (1/3) * \text{Weibull}(3.2694,1.9241)$
		0.75	3.6250	2.7188	$0.7250 + (1/3) * \text{Lognormal}(2.9,4.7090) + (1/3) * \text{Gamma}(7.6465,0.3793) + (1/3) * \text{Weibull}(2.0868,0.6403)$
6	WS3 N C	0.25	1.7083	0.4271	$0.3417 + (1/3) * \text{Lognormal}(1.3667,0.7397) + (1/3) * \text{Gamma}(0.4004,3.4133) + (1/3) * \text{Weibull}(1.5408,1.9242)$
		0.75	1.7083	1.2813	$0.3417 + (1/3) * \text{Lognormal}(1.3667,2.2192) + (1/3) * \text{Gamma}(3.6035,0.3793) + (1/3) * \text{Weibull}(0.9835,0.6403)$
7	WS3 O C	0.25	2.5625	0.6406	$0.5125 + (1/3) * \text{Lognormal}(2.0500,1.1096) + (1/3) * \text{Gamma}(0.6006,3.4133) + (1/3) * \text{Weibull}(2.3111,1.9241)$
		0.75	2.5625	1.9219	$0.5125 + (1/3) * \text{Lognormal}(2.0500,3.3288) + (1/3) * \text{Gamma}(5.4053,0.3793) + (1/3) * \text{Weibull}(1.4751,0.6403)$
8	WS4A	0.25	12.7500	3.1875	$2.55 + (1/3) * \text{Lognormal}(10.2,5.5209) + (1/3) * \text{Gamma}(2.9883,3.4133) + (1/3) * \text{Weibull}(11.4991,1.9241)$
		0.75	12.7500	9.5625	$2.55 + (1/3) * \text{Lognormal}(10.2,16.5627) + (1/3) * \text{Gamma}(26.8945,0.3793) + (1/3) * \text{Weibull}(7.3396,0.6403)$
9	WS4B	0.25	4.4500	1.1125	$0.89 + (1/3) * \text{Lognormal}(3.56,1.9269) + (1/3) * \text{Gamma}(1.0430,3.4133) + (1/3) * \text{Weibull}(4.0132,1.9211)$
		0.75	4.4500	3.3375	$0.89 + (1/3) * \text{Lognormal}(3.56,5.7807) + (1/3) * \text{Gamma}(9.3867,0.3793) + (1/3) * \text{Weibull}(2.5617,0.6403)$
10	WS4C	0.25	3.2625	0.8156	$0.6525 + (1/3) * \text{Lognormal}(2.61,1.4127) + (1/3) * \text{Gamma}(0.7646,3.4133) + (1/3) * \text{Weibull}(2.9424,1.9241)$
		0.75	3.2625	2.4469	$0.6525 + (1/3) * \text{Lognormal}(2.61,4.2381) + (1/3) * \text{Gamma}(6.8818,0.3793) + (1/3) * \text{Weibull}(1.8781,0.6403)$
11	Rework	0.25	2.7813	0.6953	$0.5563 + (1/3) * \text{Lognormal}(2.225,1.2043) + (1/3) * \text{Gamma}(0.6519,3.4133) + (1/3) * \text{Weibull}(2.5084,1.9241)$
		0.75	2.7813	2.0859	$0.5563 + (1/3) * \text{Lognormal}(2.225,3.6129) + (1/3) * \text{Gamma}(5.8667,0.3793) + (1/3) * \text{Weibull}(1.6010,0.6403)$

C.2 Generated Observations

Table C.2 Generated 30 Observations for Workstation 2 (Complex Model)

Workstation 2				
30 Observations				
CV	0.25		0.75	
Seed #	91362	90419	15677	95509
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.83	0.61	1.68	0.67
2	1.04	0.89	0.61	0.91
3	1.16	1.12	2.32	0.52
4	1.23	0.76	0.73	1.48
5	0.94	1.10	0.39	1.65
6	0.92	1.15	0.73	0.69
7	0.87	0.64	0.87	1.01
8	0.94	0.73	2.09	1.84
9	0.52	1.14	0.55	0.79
10	1.11	1.34	0.49	0.31
11	1.13	1.04	1.74	0.27
12	0.79	1.11	0.51	0.51
13	0.76	0.84	0.95	1.74
14	1.19	0.56	1.67	0.61
15	0.66	0.92	0.64	0.35
16	0.97	1.00	1.33	0.64
17	0.70	0.75	1.36	0.27
18	1.14	1.06	0.52	1.91
19	0.63	1.04	1.07	2.17
20	0.87	0.76	0.67	0.47
21	0.72	1.19	0.91	2.62
22	0.95	0.83	1.70	0.40
23	0.85	0.74	1.25	4.73
24	0.87	0.98	1.12	0.52
25	0.53	1.03	0.34	1.65
26	1.00	1.03	0.32	1.56
27	0.89	1.19	0.64	0.87
28	0.59	0.70	2.01	0.26
29	0.91	1.17	1.37	0.57
30	0.78	1.15	0.78	0.38

Table C.3 Generated 100 Observations for Workstation 2 (Complex Model)

Workstation 2				
100 Observations				
CV	0.25		0.75	
Seed #	38706	55941	24737	11046
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	0.94	0.65	1.02	0.59
2	1.35	1.30	0.66	1.19
3	1.32	0.84	0.36	2.74
4	0.51	0.87	1.29	0.56
5	1.62	0.69	0.57	0.54
6	1.12	0.97	1.19	0.65
7	1.24	0.95	0.70	0.34
8	1.62	1.43	2.41	0.84
9	1.01	0.87	1.58	0.86
10	0.95	1.36	0.36	1.15
11	0.81	0.84	1.02	0.63
12	0.60	0.72	0.70	0.34
13	0.73	0.97	1.19	0.41
14	0.59	1.01	0.34	1.07
15	1.52	1.38	1.47	0.80
16	0.83	1.29	1.31	0.40
17	1.36	0.95	0.37	1.04
18	1.14	0.90	0.40	0.76
19	1.02	0.95	0.50	2.33
20	1.30	0.73	0.30	0.71
21	1.13	0.99	0.32	0.89
22	1.27	1.14	1.46	0.44
23	1.46	0.87	0.75	0.36
24	1.29	1.67	0.56	0.96
25	1.07	0.78	0.33	3.32
26	1.12	1.18	0.25	0.85
27	0.72	1.19	1.17	1.84
28	0.48	1.14	0.71	1.27
29	0.69	1.03	0.64	0.56
30	1.06	1.02	0.93	3.91
31	1.20	0.94	1.80	2.20
32	0.89	0.92	1.08	0.35
33	0.92	1.13	1.37	0.36
34	1.52	0.99	0.69	0.93
35	1.02	0.59	1.12	0.34
36	0.81	1.15	0.97	1.10
37	0.85	1.35	0.89	0.39
38	0.95	0.78	0.36	1.12
39	1.21	1.15	0.29	2.34
40	0.86	0.72	1.29	0.49
41	0.93	0.69	0.55	1.07
42	1.01	0.67	0.61	3.51
43	1.84	1.01	1.44	2.05
44	0.97	1.01	0.30	3.00
45	1.07	0.61	0.47	0.70
46	1.69	1.09	2.64	1.70
47	0.68	1.39	0.67	0.33
48	0.81	0.84	0.81	0.57
49	1.22	0.95	1.76	0.45
50	1.51	1.03	0.58	1.06

51	1.06	1.18	0.38	1.68
52	1.24	1.07	2.01	0.81
53	1.39	0.92	0.51	0.65
54	1.25	0.95	0.39	0.82
55	0.95	1.17	0.48	1.19
56	1.10	1.04	1.42	0.59
57	1.02	1.46	0.86	0.62
58	0.65	0.80	0.47	1.32
59	0.93	0.82	0.59	2.72
60	0.94	1.03	0.73	1.62
61	0.96	0.89	1.30	2.31
62	1.33	1.10	1.28	1.00
63	1.04	0.76	0.39	1.71
64	0.94	0.49	1.27	0.53
65	1.07	0.80	1.32	2.53
66	0.89	0.72	0.79	2.25
67	1.41	0.75	1.57	0.59
68	0.83	0.91	0.66	0.34
69	1.16	0.79	0.29	1.67
70	1.25	0.98	0.68	0.68
71	1.03	1.16	1.30	2.33
72	1.26	0.97	2.40	0.40
73	1.18	1.01	1.12	1.19
74	0.94	1.26	1.84	1.32
75	0.58	1.07	1.63	2.07
76	0.95	0.78	0.56	2.54
77	0.77	0.69	0.55	0.43
78	0.81	0.56	0.73	1.00
79	1.20	0.84	1.30	0.47
80	1.27	0.92	0.85	0.41
81	1.01	0.90	2.71	2.61
82	1.17	1.61	2.85	0.59
83	1.16	1.15	1.93	1.37
84	0.86	1.06	0.83	1.71
85	0.60	0.78	0.75	0.90
86	1.09	1.08	0.42	0.70
87	1.20	1.15	0.55	1.25
88	0.86	0.85	1.21	0.59
89	0.77	0.54	0.75	0.31
90	1.42	0.73	1.48	0.41
91	1.38	1.31	1.54	0.46
92	1.14	0.70	0.33	1.30
93	1.24	0.73	0.84	4.99
94	1.23	1.02	1.04	0.65
95	0.89	1.41	0.44	0.46
96	1.02	1.08	0.83	1.20
97	1.16	0.88	0.58	1.49
98	1.13	0.82	1.52	0.63
99	1.12	0.74	0.28	1.34
100	0.76	0.67	2.53	1.00

Table C.4 Generated 30 Observations for Workstation 3 New Part A (Complex Model)

Workstation 3 New Part A				
30 Observations				
CV	0.25		0.75	
Seed #	11305	73073	32701	80525
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	8.96	6.06	7.54	3.89
2	6.78	7.27	5.16	3.37
3	4.48	7.01	6.88	2.48
4	6.89	6.48	4.96	4.58
5	7.80	4.62	6.96	6.83
6	8.95	6.39	8.85	3.81
7	6.05	6.82	4.27	7.61
8	4.21	5.97	1.83	4.54
9	8.74	5.65	14.99	5.82
10	6.24	7.57	3.69	7.47
11	7.64	8.15	7.15	8.73
12	7.50	5.54	4.89	2.33
13	7.80	6.20	3.83	5.00
14	5.61	5.13	3.96	11.33
15	7.91	6.38	5.64	15.60
16	8.43	4.83	3.10	2.94
17	4.33	7.69	3.86	13.29
18	4.74	7.85	7.27	2.69
19	7.78	7.55	5.07	2.52
20	7.50	6.38	8.54	5.95
21	10.03	6.75	3.50	9.32
22	6.49	7.30	14.53	6.70
23	7.93	7.82	6.88	3.40
24	7.18	6.68	4.07	5.87
25	5.67	11.54	3.92	15.21
26	5.73	8.16	3.42	3.73
27	6.56	8.38	6.21	8.62
28	3.88	8.69	4.88	17.14
29	6.41	9.80	7.22	2.68
30	5.45	4.03	7.89	1.95

Table C.5 Generated 100 Observations for Workstation 3 New Part A (Complex Model)

Workstation 3 New Part A				
100 Observations				
CV	0.25		0.75	
Seed #	40830	17208	97054	75991
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	7.31	5.62	1.94	2.12
2	7.99	9.54	3.97	9.56
3	4.09	6.31	4.37	5.79
4	6.00	5.55	4.64	6.61
5	8.09	4.99	3.95	7.84
6	7.04	7.09	2.03	3.06
7	5.68	8.41	12.60	3.81
8	7.65	4.60	5.72	4.18
9	5.87	7.19	2.78	5.06
10	8.31	5.56	6.30	5.75
11	4.81	5.01	6.92	2.49
12	7.82	6.89	2.85	3.48
13	5.59	9.46	3.10	2.13
14	5.90	10.97	3.05	9.37
15	6.24	5.27	8.17	11.96
16	6.79	4.58	5.95	2.28
17	6.16	8.06	4.14	15.70
18	5.50	7.00	6.02	3.66
19	5.80	4.80	1.91	11.60
20	7.79	6.23	6.71	1.74
21	6.99	7.64	3.17	3.23
22	4.74	7.16	4.41	3.90
23	7.59	7.12	4.36	8.95
24	4.56	5.89	3.59	5.20
25	7.58	6.48	4.89	8.46
26	6.94	6.09	1.61	5.97
27	7.11	6.12	6.79	4.73
28	8.06	8.73	10.62	5.38
29	6.07	6.68	9.53	1.97
30	6.19	5.85	4.52	2.22
31	8.26	9.72	4.49	2.55
32	5.81	7.40	4.63	28.14
33	6.03	4.69	6.61	2.10
34	5.26	7.46	4.51	18.25
35	5.06	4.56	10.58	2.53
36	4.87	4.82	3.79	4.24
37	5.37	5.80	2.78	11.11
38	5.23	8.46	18.18	7.38
39	5.90	8.20	6.25	9.82
40	7.58	9.00	13.61	3.30
41	8.23	7.57	5.53	11.12
42	6.91	5.04	8.11	2.34
43	5.92	7.83	2.43	2.97
44	8.51	5.92	3.36	4.99
45	7.57	5.96	2.78	10.48
46	6.35	9.68	2.62	4.00
47	6.98	5.87	12.81	7.32
48	10.17	6.89	2.32	11.80
49	5.88	7.85	11.72	1.91
50	5.93	9.83	4.32	4.96

51	6.48	7.41	15.84	7.75
52	9.22	6.65	3.21	2.66
53	5.15	5.75	3.91	4.49
54	10.31	7.25	5.81	10.06
55	5.96	8.19	2.25	4.53
56	4.16	8.67	3.06	5.09
57	5.63	7.28	6.11	5.03
58	4.39	3.76	1.82	9.80
59	6.89	5.07	3.84	10.84
60	8.72	11.52	3.94	5.59
61	8.21	5.94	2.23	2.66
62	5.46	5.19	9.64	8.66
63	4.08	9.30	2.23	4.31
64	6.33	4.97	7.46	8.75
65	7.79	5.00	13.54	6.02
66	5.75	4.45	11.48	9.08
67	6.61	9.81	4.33	5.85
68	9.37	7.10	19.76	2.30
69	6.25	4.46	8.84	4.23
70	6.50	6.26	3.42	7.53
71	6.96	6.39	7.14	21.52
72	4.05	9.40	3.40	2.72
73	6.12	6.54	8.04	3.03
74	6.78	5.48	4.88	18.05
75	6.99	6.46	2.65	3.97
76	7.95	4.42	9.58	7.78
77	6.98	8.34	5.33	15.20
78	7.02	5.64	1.99	14.91
79	7.81	7.58	3.10	2.23
80	6.73	6.55	4.20	2.53
81	6.08	7.80	5.55	5.97
82	3.76	6.26	4.74	4.24
83	6.53	6.36	7.69	6.31
84	6.81	8.84	8.87	6.12
85	4.82	5.75	4.84	1.99
86	7.92	6.14	6.80	3.23
87	7.41	9.21	2.48	5.46
88	4.80	5.38	3.77	9.29
89	6.52	7.04	21.63	3.66
90	6.95	7.99	2.90	2.56
91	7.46	5.04	2.66	3.05
92	7.38	4.70	6.13	3.08
93	4.97	5.61	7.88	3.93
94	7.96	6.29	5.04	4.44
95	5.60	6.24	2.17	11.61
96	6.82	8.14	9.03	2.07
97	8.25	6.45	2.57	28.62
98	5.05	8.50	2.77	4.16
99	6.97	8.25	10.09	6.45
100	5.15	6.03	10.70	6.18

Table C.6 Generated 30 Observations for Workstation 3 Old Part A (Complex Model)

Workstation 3 Old Part A				
30 Observations				
CV	0.25		0.75	
Seed #	79556	480	62257	62335
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	7.58	14.31	3.81	3.02
2	7.65	6.88	5.10	4.51
3	10.05	12.19	7.08	19.77
4	15.14	6.89	3.75	11.61
5	13.68	10.96	4.36	9.76
6	7.20	9.94	7.56	2.84
7	10.80	10.08	5.23	30.12
8	11.06	6.09	36.99	3.67
9	8.23	9.84	4.94	4.65
10	10.13	6.23	9.11	11.65
11	11.34	10.00	23.00	4.39
12	9.71	10.05	3.43	6.07
13	14.43	12.61	6.65	6.69
14	6.73	9.43	4.73	10.25
15	10.64	13.66	10.85	20.86
16	7.41	9.41	17.36	3.78
17	8.63	11.80	9.53	4.82
18	12.45	5.32	3.94	4.18
19	8.71	9.44	2.71	9.61
20	7.98	10.71	5.80	2.50
21	9.04	11.51	3.72	7.14
22	10.93	10.47	9.28	4.90
23	5.41	6.53	10.52	3.52
24	12.53	6.41	21.83	24.37
25	7.97	8.41	8.11	6.91
26	16.78	9.92	8.43	13.19
27	9.67	10.94	3.97	9.57
28	8.38	6.94	17.47	16.76
29	12.46	9.51	7.46	25.16
30	10.25	8.16	16.21	3.36

Table C.7 Generated 100 Observations for Workstation 3 Old Part A (Complex Model)

Workstation 3 Old Part A				
100 Observations				
CV	0.25		0.75	
Seed #	29339	56357	98905	99706
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	10.95	9.69	7.21	10.37
2	8.52	12.28	23.69	9.93
3	6.99	10.89	23.73	38.02
4	9.58	7.73	6.72	8.61
5	14.37	9.97	17.56	15.27
6	11.38	8.23	9.70	15.91
7	8.18	9.72	4.93	6.51
8	8.74	11.85	15.31	21.84
9	11.04	13.34	4.94	10.08
10	10.88	10.02	7.79	19.04
11	12.33	9.20	6.30	7.05
12	13.27	11.78	7.42	5.24
13	8.59	9.90	11.20	5.96
14	10.53	9.42	12.75	9.64
15	8.32	10.10	15.95	11.60
16	8.46	11.22	4.59	15.68
17	11.09	10.99	31.93	6.96
18	9.76	11.67	9.07	2.75
19	10.35	10.49	5.70	6.75
20	5.23	10.13	22.75	6.97
21	8.46	7.53	3.01	4.43
22	15.20	12.17	6.55	14.78
23	17.57	13.93	14.77	5.42
24	9.51	12.73	5.11	6.16
25	9.99	11.96	8.66	19.23
26	10.10	9.63	6.79	6.84
27	4.57	16.62	13.94	7.59
28	9.51	11.25	22.36	6.06
29	6.64	9.59	8.99	25.85
30	17.89	10.62	11.81	25.17
31	9.89	10.47	5.20	8.66
32	13.35	9.36	4.41	11.91
33	11.29	7.68	7.27	6.27
34	7.18	13.37	26.39	13.73
35	11.19	8.21	9.87	19.83
36	13.45	8.75	4.57	7.80
37	10.99	12.72	8.89	8.01
38	6.31	6.94	20.31	4.29
39	5.89	9.82	17.63	4.28
40	8.95	9.01	7.71	10.48
41	14.06	8.52	4.54	18.21
42	5.47	9.27	5.22	5.59
43	12.61	11.45	4.46	6.76
44	12.48	11.18	10.09	13.42
45	12.38	9.39	24.22	17.97
46	6.12	9.03	12.00	8.41
47	9.37	6.56	22.96	5.36
48	9.47	7.81	7.04	10.79
49	11.68	12.80	5.49	9.86
50	8.46	11.27	3.81	5.04

51	11.32	11.76	14.77	2.73
52	9.86	9.57	10.41	5.10
53	6.97	7.99	6.81	20.28
54	7.75	9.70	3.45	6.28
55	11.50	8.67	9.10	6.26
56	7.26	10.70	5.53	9.21
57	9.10	8.93	8.28	5.24
58	10.66	6.30	12.92	3.85
59	10.18	11.16	10.99	6.49
60	8.71	8.10	8.30	15.37
61	9.73	9.15	6.37	5.42
62	6.80	11.49	5.25	23.48
63	9.35	6.70	11.44	24.01
64	8.05	10.23	9.84	7.73
65	7.68	9.54	8.31	13.38
66	5.91	8.61	5.19	4.07
67	10.60	14.94	3.03	2.92
68	15.16	12.28	9.31	5.71
69	10.75	7.77	12.19	11.56
70	7.16	9.88	5.82	3.32
71	7.16	12.32	12.91	3.76
72	7.36	12.77	2.21	15.57
73	9.07	11.18	5.93	12.86
74	8.75	11.75	7.82	6.63
75	12.15	9.72	5.82	5.39
76	11.20	8.18	11.60	4.46
77	11.63	9.77	60.04	16.05
78	11.82	15.50	22.03	2.71
79	13.34	10.05	7.85	13.86
80	7.00	12.57	8.20	29.33
81	9.30	9.63	7.04	3.34
82	10.51	16.57	10.11	9.12
83	11.74	8.52	8.62	21.83
84	10.82	10.73	4.92	12.71
85	8.06	10.61	18.42	3.21
86	9.27	8.66	10.46	4.94
87	9.66	7.80	14.17	6.08
88	7.57	4.33	2.25	10.32
89	8.13	12.74	8.57	9.78
90	7.94	8.98	20.22	20.37
91	12.07	10.38	10.09	8.46
92	7.16	11.01	6.67	10.48
93	12.35	9.39	4.11	7.81
94	6.61	10.78	3.30	5.12
95	8.31	11.34	7.55	9.04
96	9.58	10.13	6.26	13.35
97	7.70	13.14	5.50	5.60
98	6.77	9.84	9.51	9.25
99	8.91	7.13	26.15	14.30
100	7.37	5.81	25.44	4.23

Table C.8 Generated 30 Observations for Workstation 3 New Part B (Complex Model)

Workstation 3 New Part B				
30 Observations				
CV	0.25		0.75	
Seed #	23881	36186	57926	45198
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	1.93	2.28	2.14	1.88
2	2.88	2.35	1.73	0.65
3	1.91	3.55	3.15	1.39
4	2.03	2.18	1.73	1.28
5	2.03	2.16	5.83	0.58
6	2.40	2.87	1.68	1.21
7	2.73	2.35	1.40	1.46
8	1.55	1.91	1.54	1.80
9	1.80	2.61	1.42	0.95
10	2.66	2.51	1.45	2.81
11	2.84	2.42	3.07	1.97
12	2.25	1.80	2.25	0.92
13	2.27	1.97	0.87	0.61
14	1.95	2.00	2.29	1.93
15	1.57	2.05	3.20	6.36
16	1.88	2.01	2.00	1.73
17	2.35	1.81	1.14	0.80
18	2.87	2.95	2.18	1.26
19	2.51	2.59	1.67	3.06
20	2.35	1.95	1.45	3.13
21	1.97	3.17	2.16	1.09
22	2.41	1.40	3.69	0.75
23	2.93	3.05	1.10	0.76
24	3.39	1.94	3.58	4.08
25	2.03	1.99	2.21	1.01
26	2.12	2.93	3.17	1.23
27	2.57	2.64	1.66	1.25
28	3.00	3.68	2.18	1.27
29	3.29	2.28	0.82	1.26
30	1.86	2.45	0.99	0.74

Table C.9 Generated 100 Observations for Workstation 3 New Part B (Complex Model)

Workstation 3 New Part B				
100 Observations				
CV	0.25		0.75	
Seed #	12231	30200	62604	62901
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	1.89	1.95	0.61	3.16
2	2.01	2.60	1.77	1.12
3	1.84	1.93	0.93	0.88
4	3.56	2.40	2.46	4.81
5	2.12	2.15	2.16	1.44
6	3.17	3.12	1.70	0.87
7	2.32	1.66	2.78	1.26
8	3.34	3.44	3.87	4.09
9	2.49	2.98	1.23	2.14
10	2.24	2.07	1.73	2.51
11	2.20	2.49	1.57	1.19
12	2.11	3.33	1.09	1.10
13	2.93	2.21	2.53	1.92
14	2.82	2.08	1.00	1.14
15	2.44	1.89	1.33	1.40
16	4.57	1.39	4.20	0.61
17	2.97	2.23	2.91	1.01
18	2.44	3.00	2.49	2.43
19	1.57	2.62	3.57	1.26
20	1.94	3.39	9.60	3.28
21	3.76	3.17	2.57	1.86
22	2.46	2.26	1.72	1.70
23	1.66	2.96	2.09	3.35
24	1.73	1.94	3.02	7.58
25	1.58	2.07	0.79	2.14
26	3.20	1.98	2.56	3.89
27	2.62	1.68	1.16	0.88
28	3.09	2.29	1.69	4.55
29	2.92	3.35	2.06	1.45
30	2.46	3.57	1.61	3.63
31	1.96	3.11	1.08	3.19
32	2.32	2.60	0.71	3.38
33	2.02	2.72	3.27	2.58
34	1.92	1.71	2.14	2.02
35	2.21	2.25	2.71	1.08
36	2.26	1.82	3.22	1.20
37	2.00	1.42	0.89	0.71
38	2.06	1.64	1.19	2.63
39	2.32	2.97	1.07	2.20
40	2.93	2.75	4.63	1.08
41	1.80	2.05	1.56	0.70
42	0.99	2.20	1.50	0.94
43	3.24	2.45	1.27	0.56
44	1.77	1.85	4.91	3.68
45	1.71	1.73	5.58	2.22
46	2.21	2.12	1.10	1.59
47	2.56	1.96	4.92	1.02
48	3.42	2.35	1.29	2.74
49	2.27	1.54	4.89	0.77
50	1.97	2.57	1.14	1.56

51	3.60	3.01	3.22	2.68
52	2.16	2.57	1.81	5.16
53	2.80	2.87	2.99	2.06
54	1.42	2.30	1.45	9.17
55	3.23	2.28	2.21	4.77
56	1.54	3.04	0.70	1.78
57	3.67	2.45	3.35	2.03
58	1.96	2.25	1.82	9.07
59	1.94	3.45	0.60	1.29
60	1.69	1.84	3.30	4.76
61	2.81	1.83	1.34	2.67
62	1.66	1.97	1.63	1.25
63	2.63	1.63	2.96	2.27
64	2.73	1.86	0.92	1.97
65	2.24	2.18	3.44	1.93
66	2.42	2.82	1.09	4.49
67	3.20	1.90	1.74	0.75
68	3.42	3.25	6.35	2.53
69	2.29	2.12	1.48	3.73
70	1.56	2.32	2.56	3.23
71	2.93	1.71	0.73	3.11
72	2.92	3.00	0.89	1.00
73	1.70	2.08	1.13	0.67
74	2.02	1.58	6.35	5.75
75	2.41	2.67	5.07	1.98
76	2.62	2.47	3.55	1.46
77	3.43	2.68	1.88	1.35
78	1.83	1.73	1.74	5.56
79	2.66	1.48	2.29	2.03
80	2.19	1.77	3.91	0.97
81	1.83	2.73	2.42	0.85
82	1.95	1.90	0.82	1.83
83	2.66	2.11	2.05	1.96
84	3.69	2.16	1.17	2.35
85	1.70	1.03	1.15	4.07
86	2.23	2.98	2.70	2.35
87	2.19	1.67	4.26	1.87
88	2.04	2.09	1.93	1.94
89	3.37	2.16	1.88	0.54
90	2.54	1.58	1.56	1.13
91	1.98	1.99	2.08	1.35
92	2.70	3.13	1.80	1.91
93	2.82	2.68	4.00	0.56
94	1.36	2.87	2.55	1.36
95	1.68	2.09	0.95	0.77
96	2.00	3.29	1.11	0.63
97	3.07	1.57	0.97	1.18
98	2.18	2.89	1.92	1.17
99	3.68	1.96	3.05	2.39
100	3.36	2.14	6.72	4.58

Table C.10 Generated 30 Observations for Workstation 3 Old Part B (Complex Model)

Workstation 3 Old Part B				
30 Observations				
CV	0.25		0.75	
Seed #	70983	16566	34786	45529
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	2.96	2.85	5.74	3.76
2	3.82	3.46	2.46	1.04
3	3.41	4.87	4.97	1.42
4	2.20	2.35	2.52	2.41
5	4.06	4.32	1.06	8.67
6	4.74	5.04	2.15	2.80
7	3.10	5.49	2.10	2.72
8	1.86	3.24	2.15	4.87
9	2.54	3.84	1.81	2.55
10	2.82	5.26	3.34	1.39
11	2.76	4.46	16.19	1.00
12	2.65	3.68	1.18	1.40
13	4.16	4.61	1.27	1.25
14	3.06	4.39	1.17	2.92
15	2.30	4.58	2.87	1.87
16	2.18	3.31	3.12	3.75
17	2.79	3.24	1.31	6.14
18	2.61	2.81	1.74	5.09
19	3.86	4.07	5.54	1.62
20	3.21	3.61	1.11	3.89
21	3.28	4.23	4.24	1.03
22	3.48	3.70	2.49	1.07
23	4.46	3.45	2.65	2.31
24	2.56	5.24	4.50	4.70
25	3.69	2.82	2.96	5.19
26	4.64	3.98	2.67	1.07
27	5.47	4.92	1.65	2.57
28	3.55	2.82	3.73	7.30
29	3.24	2.83	7.81	2.53
30	4.78	3.39	1.60	0.87

Table C.11 Generated 100 Observations for Workstation 3 Old Part B (Complex Model)

Workstation 3 Old Part B				
100 Observations				
CV	0.25		0.75	
Seed #	14929	12608	61515	445
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	5.15	5.28	2.86	5.81
2	2.19	1.72	2.36	3.33
3	2.10	4.33	1.14	5.77
4	4.22	3.84	2.87	3.58
5	3.39	2.99	2.51	3.40
6	3.81	3.40	2.44	2.71
7	1.90	3.56	3.12	2.66
8	3.69	2.07	3.35	1.85
9	3.93	2.57	2.64	6.07
10	5.66	3.90	1.21	0.99
11	2.77	4.15	4.41	2.49
12	3.50	3.11	3.58	3.83
13	4.98	3.81	2.91	1.59
14	4.03	3.24	2.69	3.68
15	4.12	4.25	2.08	1.29
16	4.58	4.03	3.12	3.37
17	2.45	4.03	1.46	6.58
18	4.17	5.16	5.46	2.38
19	3.87	2.28	1.23	2.05
20	3.81	3.41	1.59	2.27
21	4.01	2.84	10.01	2.36
22	3.37	5.32	3.37	6.24
23	4.69	4.00	5.78	1.19
24	3.47	3.10	3.48	1.74
25	2.82	2.92	2.71	1.75
26	4.78	3.53	4.64	1.43
27	4.23	3.38	1.81	4.21
28	4.08	3.39	3.62	2.23
29	2.54	3.11	1.02	11.76
30	3.26	2.88	3.78	4.05
31	3.58	3.57	1.22	3.31
32	4.77	3.83	3.36	9.76
33	3.08	3.52	2.66	1.86
34	3.19	4.04	4.30	7.76
35	4.17	3.99	3.53	3.12
36	2.81	3.19	2.07	19.91
37	3.30	2.48	1.25	2.51
38	2.68	3.16	2.52	2.94
39	2.11	2.74	6.08	3.47
40	4.21	3.20	2.06	0.92
41	5.25	2.42	2.26	1.30
42	3.59	3.97	8.46	0.88
43	2.52	5.10	3.00	2.23
44	3.71	3.46	1.69	6.40
45	5.25	4.27	1.60	2.81
46	4.09	4.54	5.77	13.58
47	3.02	4.73	2.29	1.94
48	2.18	4.03	2.02	4.18
49	2.80	3.10	6.53	1.60
50	3.10	2.38	2.04	6.12

51	3.93	3.21	5.49	4.01
52	3.76	2.32	1.51	1.82
53	2.24	3.58	1.09	1.90
54	2.50	3.82	4.67	4.55
55	5.00	2.60	3.45	9.53
56	2.40	3.02	1.50	1.13
57	3.15	2.72	4.54	4.42
58	2.56	4.27	2.14	1.26
59	3.85	3.29	3.29	7.83
60	3.74	3.06	3.21	1.97
61	3.05	3.65	1.19	1.96
62	3.40	3.14	3.82	2.40
63	3.89	3.13	2.44	1.59
64	2.52	4.22	4.96	1.36
65	3.27	2.60	3.35	2.57
66	3.42	4.14	1.63	4.20
67	2.03	5.10	4.83	1.11
68	3.03	3.20	6.99	1.75
69	5.44	4.21	2.32	1.80
70	4.32	2.67	2.74	1.06
71	2.96	3.62	3.28	2.76
72	2.97	3.09	1.15	2.24
73	2.82	4.33	3.28	1.46
74	3.30	1.95	1.38	4.99
75	5.35	3.96	2.39	1.61
76	3.60	4.08	1.59	5.51
77	3.54	4.65	4.91	2.30
78	3.96	2.20	11.73	6.31
79	3.42	1.87	6.74	6.01
80	2.08	3.29	2.31	4.50
81	5.27	3.06	2.27	4.71
82	3.74	3.51	1.81	1.53
83	3.16	2.75	3.68	1.61
84	4.68	4.17	4.17	2.46
85	2.35	3.57	0.99	1.14
86	2.26	4.59	2.20	4.16
87	2.38	2.73	0.98	0.94
88	2.12	3.25	2.45	1.94
89	4.78	5.37	2.34	7.26
90	2.99	2.78	3.37	2.83
91	5.98	5.25	2.13	5.22
92	4.46	2.43	7.05	2.47
93	2.17	5.59	4.70	1.23
94	4.42	3.02	4.75	0.99
95	3.85	2.35	6.16	1.97
96	3.89	2.48	1.37	5.48
97	4.87	3.41	2.45	11.24
98	4.13	3.04	2.36	2.31
99	4.67	2.80	1.70	3.59
100	4.33	3.70	1.30	6.52

Table C.12 Generated 30 Observations for Workstation 3 New Part C (Complex Model)

Workstation 3 New Part C				
30 Observations				
CV	0.25		0.75	
Seed #	56544	36371	77835	59679
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	1.59	1.41	3.87	0.64
2	1.86	1.91	0.96	1.97
3	1.62	1.69	1.54	3.33
4	1.91	1.24	4.80	1.05
5	1.94	1.43	1.53	0.86
6	1.76	1.93	1.05	1.87
7	1.37	1.62	0.47	2.15
8	1.71	2.29	2.81	1.00
9	1.19	1.27	3.71	0.73
10	2.87	1.16	0.64	0.77
11	1.36	1.88	6.26	0.50
12	1.57	1.33	2.28	1.07
13	2.51	1.96	5.47	2.10
14	1.34	1.11	2.11	0.82
15	1.68	1.46	0.66	0.65
16	1.29	1.17	0.92	2.81
17	1.70	1.87	0.62	0.92
18	1.94	1.94	0.41	1.43
19	1.68	2.45	0.94	0.53
20	2.70	1.33	3.32	2.55
21	1.53	2.04	1.96	0.88
22	1.68	2.07	0.51	1.47
23	2.15	1.74	0.66	1.29
24	1.84	1.25	2.78	1.28
25	1.32	1.85	1.09	1.45
26	2.10	1.48	0.68	3.13
27	2.16	1.57	1.23	1.66
28	1.68	1.63	2.32	2.62
29	1.82	1.78	0.92	0.50
30	1.82	0.83	1.54	3.43

Table C.13 Generated 100 Observations for Workstation 3 New Part C (Complex Model)

Workstation 3 New Part C				
100 Observations				
CV	0.25		0.75	
Seed #	81365	89393	54069	11511
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	2.50	1.90	0.98	1.42
2	2.32	2.42	0.54	0.39
3	1.01	1.34	2.87	3.46
4	2.47	2.09	0.98	1.10
5	2.55	1.36	1.30	2.18
6	1.72	2.08	1.66	2.18
7	1.86	2.04	3.93	1.26
8	1.54	1.87	0.55	0.42
9	2.52	1.67	1.22	0.59
10	1.40	2.33	0.61	0.71
11	1.62	1.56	1.54	1.34
12	1.58	1.43	1.94	1.24
13	1.44	1.72	1.92	0.47
14	2.47	2.91	1.30	6.08
15	2.13	1.24	2.13	1.56
16	1.68	1.36	0.71	1.47
17	1.65	1.88	3.88	0.58
18	1.25	1.28	2.06	2.70
19	1.49	1.61	2.46	1.04
20	1.83	1.56	3.33	1.04
21	1.11	2.15	2.52	1.16
22	1.61	1.29	1.21	0.68
23	0.99	1.06	1.06	3.17
24	1.59	1.52	1.17	2.03
25	1.49	1.47	1.13	2.64
26	2.13	1.84	0.78	0.80
27	1.60	1.88	0.93	3.25
28	1.61	1.20	0.70	2.16
29	1.60	1.11	0.56	1.18
30	1.78	1.70	1.12	1.48
31	2.19	1.55	0.94	1.49
32	2.29	1.07	3.93	1.55
33	1.29	2.05	1.12	1.59
34	2.12	1.51	4.65	3.02
35	1.34	1.95	2.20	1.19
36	2.83	2.29	1.13	1.25
37	1.62	1.17	14.00	2.66
38	2.33	1.85	0.70	3.37
39	1.08	1.86	1.56	0.49
40	1.57	1.88	2.22	1.19
41	1.61	1.33	1.20	0.69
42	1.44	1.95	2.01	2.70
43	2.06	2.23	1.35	0.86
44	1.97	2.27	0.95	1.65
45	2.54	2.20	0.59	1.84
46	1.61	1.31	2.97	1.64
47	1.29	1.06	1.83	5.39
48	2.56	1.30	1.94	1.00
49	0.73	1.32	0.79	1.50
50	1.38	0.77	1.58	0.97

51	1.05	2.02	1.39	2.28
52	1.91	2.23	4.02	4.00
53	1.22	1.83	1.75	2.84
54	1.15	1.48	4.07	1.19
55	1.21	1.45	0.92	0.70
56	1.14	1.62	0.72	5.23
57	2.80	1.61	6.02	1.29
58	1.54	2.03	2.95	2.18
59	1.80	1.34	1.96	5.05
60	2.10	1.28	0.47	0.61
61	2.25	2.07	1.84	2.23
62	1.39	1.30	2.05	2.97
63	1.26	1.88	1.06	1.55
64	1.83	2.15	1.32	2.49
65	2.14	1.56	2.91	1.52
66	1.91	2.16	1.06	2.93
67	1.59	1.67	1.03	0.90
68	2.02	1.65	3.82	1.91
69	1.25	1.94	0.81	1.37
70	1.12	1.63	1.83	5.81
71	1.69	3.13	2.37	1.73
72	2.09	2.09	2.28	2.28
73	1.95	1.41	0.75	0.49
74	1.25	1.33	1.81	0.88
75	0.74	2.03	0.85	2.18
76	1.65	1.56	3.00	1.82
77	1.25	1.23	1.18	0.75
78	1.55	1.60	0.60	0.71
79	2.41	2.19	0.75	0.59
80	2.19	1.59	1.85	1.70
81	1.75	1.66	2.90	2.68
82	1.89	1.86	3.19	1.64
83	1.88	2.10	1.11	2.67
84	1.51	1.84	2.95	1.53
85	2.22	1.77	1.46	0.93
86	1.44	1.80	2.33	0.80
87	1.84	1.81	0.84	0.52
88	2.10	1.44	0.89	0.63
89	1.52	1.33	2.20	0.59
90	1.97	0.98	1.43	0.74
91	2.09	1.77	2.01	0.81
92	1.47	1.10	1.56	0.99
93	1.59	1.91	1.50	0.65
94	2.35	2.89	2.91	3.21
95	1.51	1.83	0.63	2.67
96	1.49	2.38	1.72	0.39
97	1.94	1.53	4.05	0.82
98	1.62	1.84	1.65	0.55
99	1.57	1.56	0.46	1.34
100	1.73	1.96	1.87	5.14

Table C.14 Generated 30 Observations for Workstation 3 Old Part C (Complex Model)

Workstation 3 Old Part C				
30 Observations				
CV	0.25		0.75	
Seed #	7923	39605	39992	22859
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	1.95	1.54	0.90	1.65
2	2.12	3.36	3.21	5.67
3	3.02	3.13	1.28	5.03
4	3.54	3.43	2.63	1.40
5	2.48	2.28	1.17	2.59
6	2.90	2.42	6.15	2.07
7	3.27	2.70	1.69	2.59
8	3.27	3.16	4.37	0.71
9	2.19	2.80	4.31	1.42
10	2.78	2.42	1.78	0.98
11	1.74	3.71	1.49	1.50
12	2.63	2.56	2.15	2.00
13	2.18	2.99	0.73	3.93
14	2.63	3.25	1.06	3.32
15	2.07	2.04	5.34	6.16
16	2.60	3.69	3.40	0.65
17	2.80	3.14	0.83	1.58
18	3.63	1.93	1.70	3.91
19	2.80	2.02	3.02	2.06
20	2.14	2.16	5.47	1.82
21	2.78	1.72	1.46	3.08
22	1.90	1.99	0.92	0.89
23	1.88	2.60	0.75	2.23
24	2.82	1.93	0.97	2.02
25	2.34	1.98	2.11	0.99
26	2.40	2.78	1.44	3.63
27	2.25	2.07	1.85	1.08
28	2.14	2.00	1.01	0.69
29	2.10	3.25	0.81	0.86
30	2.32	2.89	2.87	1.43

Table C.15 Generated 100 Observations for Workstation 3 Old Part C (Complex Model)

Workstation 3 Old Part C				
100 Observations				
CV	0.25		0.75	
Seed #	61796	15147	6637	73137
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	2.69	2.61	9.15	1.27
2	2.46	2.75	8.99	1.52
3	1.58	3.00	2.95	1.37
4	2.30	2.41	1.30	3.74
5	1.59	2.26	6.20	0.95
6	2.17	3.50	2.42	4.06
7	2.36	3.55	3.53	1.27
8	3.57	3.02	1.85	4.34
9	2.91	2.39	2.76	2.06
10	3.44	1.54	1.76	2.98
11	2.29	3.31	3.10	4.83
12	2.26	2.10	1.54	2.05
13	2.23	1.69	1.89	0.61
14	2.32	2.85	1.36	2.74
15	3.02	3.68	1.51	1.68
16	1.62	2.47	2.37	2.05
17	1.70	2.78	1.14	2.59
18	2.35	3.17	3.04	2.53
19	3.18	3.65	1.58	1.36
20	2.65	2.09	1.45	3.97
21	2.34	2.36	1.59	1.27
22	2.97	2.76	2.22	6.26
23	2.70	2.75	1.12	4.63
24	2.35	2.62	7.20	2.17
25	2.88	2.38	0.95	3.24
26	1.42	2.39	2.61	2.81
27	2.19	1.31	0.79	3.84
28	2.44	2.48	0.67	1.65
29	1.96	1.50	1.45	1.10
30	2.30	2.00	1.14	3.94
31	1.63	3.30	2.28	1.26
32	1.88	3.29	3.12	2.11
33	3.03	2.47	1.81	0.84
34	1.95	2.04	1.57	0.92
35	2.68	1.95	1.89	2.99
36	2.36	2.65	1.69	2.43
37	2.35	2.20	2.32	0.66
38	2.78	1.83	4.13	1.82
39	2.35	3.00	1.24	0.70
40	2.32	2.04	0.91	2.33
41	1.92	2.54	1.93	3.74
42	1.74	2.41	2.16	2.53
43	2.12	1.87	1.77	2.60
44	2.44	2.12	1.77	3.08
45	2.42	2.25	1.14	1.39
46	2.47	2.66	1.93	1.45
47	2.75	2.29	3.44	1.19
48	1.57	1.70	1.33	1.22
49	2.71	3.05	0.75	1.31
50	2.21	3.01	5.83	1.63

51	3.17	1.74	3.86	4.35
52	1.93	2.16	2.65	1.20
53	1.78	2.33	1.00	1.61
54	1.66	2.73	1.95	1.00
55	1.98	2.26	2.23	1.33
56	2.46	2.57	2.74	1.81
57	2.99	2.12	2.56	2.87
58	1.83	2.36	5.93	1.98
59	3.79	1.77	1.05	0.57
60	1.95	2.46	4.57	2.22
61	2.70	1.92	2.28	1.18
62	2.40	3.04	0.85	3.09
63	1.67	1.84	4.69	5.16
64	3.57	1.55	3.40	1.41
65	2.47	2.99	3.36	1.51
66	3.29	2.43	1.41	1.41
67	2.49	2.51	1.15	1.57
68	2.23	2.33	2.30	3.86
69	3.33	2.70	1.78	1.69
70	2.24	1.74	2.29	0.87
71	2.56	1.99	1.03	3.29
72	2.33	3.05	1.38	2.35
73	1.93	1.60	0.98	4.64
74	3.05	2.14	1.94	3.09
75	2.77	4.04	4.76	1.82
76	2.64	3.26	2.60	4.32
77	1.70	3.26	1.75	0.77
78	2.49	2.44	2.15	3.07
79	1.76	2.55	1.60	1.81
80	3.02	3.72	0.61	2.12
81	3.66	3.42	2.09	1.17
82	3.20	2.58	1.89	1.16
83	2.25	2.68	2.82	0.87
84	2.62	1.68	5.99	4.49
85	2.25	2.11	1.14	4.27
86	2.35	3.27	2.16	2.66
87	2.74	3.84	2.89	6.98
88	1.93	3.00	3.87	0.68
89	3.02	1.61	5.20	1.18
90	1.77	2.25	1.74	0.84
91	1.98	2.67	1.40	5.15
92	3.15	2.80	2.46	7.62
93	1.99	2.41	2.70	2.14
94	2.30	1.31	2.99	1.83
95	2.35	2.33	11.43	1.27
96	2.38	2.78	1.39	1.07
97	2.00	1.29	3.39	1.84
98	2.16	2.50	1.96	1.16
99	2.30	1.69	1.42	1.43
100	2.30	4.66	1.41	1.34

Table C.16 Generated 30 Observations for Workstation 4 Part A (Complex Model)

Workstation 4 Part A				
30 Observations				
CV	0.25		0.75	
Seed #	8939	7731	306	4116
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	11.94	12.79	28.20	3.66
2	13.23	14.39	5.70	2.85
3	7.28	15.05	17.74	15.91
4	15.66	14.64	4.81	11.63
5	16.96	13.77	11.99	11.32
6	12.36	7.27	8.80	6.60
7	13.36	11.24	9.14	6.16
8	8.95	10.64	3.68	6.72
9	7.80	18.22	22.65	5.36
10	13.99	14.07	5.86	9.59
11	11.59	17.75	5.42	13.22
12	11.56	8.77	12.83	6.78
13	10.68	8.46	16.21	7.72
14	13.90	12.40	12.63	7.02
15	10.55	10.40	7.53	5.26
16	13.73	12.80	18.10	5.08
17	13.00	12.89	10.91	12.29
18	10.91	12.87	6.84	11.25
19	11.23	19.03	9.51	16.53
20	12.87	14.12	14.51	10.40
21	16.53	20.08	22.29	8.16
22	10.14	11.79	8.27	5.75
23	12.44	11.52	5.05	17.78
24	16.85	9.49	8.96	10.23
25	10.28	13.60	10.47	3.84
26	6.27	13.01	4.42	29.87
27	13.49	8.60	10.59	16.70
28	15.93	13.21	8.23	6.36
29	22.71	13.33	9.16	24.39
30	9.59	11.30	7.68	5.52

Table C.17 Generated 100 Observations for Workstation 4 Part A (Complex Model)

Workstation 4 Part A				
100 Observations				
CV	0.25		0.75	
Seed #	1197	1207	511	5834
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	11.44	15.99	14.55	9.20
2	16.72	9.03	6.23	6.95
3	11.19	11.20	8.97	4.50
4	12.37	18.02	11.71	3.54
5	12.11	9.78	9.58	16.53
6	13.13	13.59	33.02	8.07
7	11.76	11.94	11.45	7.36
8	16.29	16.35	14.72	15.53
9	14.43	10.55	16.91	3.40
10	11.32	11.58	5.59	8.58
11	8.22	12.85	30.99	6.87
12	11.24	13.59	4.82	4.24
13	12.56	19.34	5.58	16.74
14	15.93	16.99	9.62	38.86
15	10.39	21.95	11.92	15.96
16	11.20	12.12	13.66	9.04
17	7.76	9.12	7.13	15.29
18	11.42	14.20	11.92	7.45
19	13.08	7.13	15.07	9.66
20	18.77	15.48	21.94	4.36
21	14.27	8.72	12.22	24.21
22	10.67	11.14	22.02	31.88
23	15.81	14.35	18.54	8.06
24	8.66	11.35	5.64	38.98
25	17.36	12.13	3.37	12.30
26	18.23	15.15	23.88	22.71
27	7.25	12.90	9.59	4.30
28	8.00	8.97	9.46	4.16
29	12.04	9.75	5.32	24.09
30	8.79	19.00	4.67	14.61
31	14.46	14.72	9.46	36.31
32	11.61	12.02	20.68	18.36
33	7.80	16.37	4.04	8.53
34	15.24	15.10	11.55	14.81
35	16.31	13.29	17.84	7.68
36	14.20	11.29	3.93	6.47
37	11.05	8.60	3.49	4.84
38	10.70	13.40	3.43	10.37
39	12.29	13.50	21.71	7.82
40	13.36	14.23	3.44	4.14
41	7.12	11.05	9.07	19.75
42	19.05	12.11	33.85	20.21
43	12.35	10.88	6.70	8.48
44	18.65	12.91	11.31	6.21
45	10.89	9.01	8.14	30.71
46	14.38	16.04	9.04	34.65
47	17.60	16.94	11.57	12.74
48	13.27	13.55	5.73	6.24
49	11.02	8.99	5.37	8.75
50	14.77	10.98	7.80	5.73

51	10.42	11.76	9.51	3.05
52	16.04	8.07	29.12	17.38
53	8.33	9.30	7.32	22.50
54	12.40	8.48	20.93	12.33
55	11.42	9.84	8.04	8.78
56	5.54	12.24	5.25	16.23
57	11.85	5.83	10.50	11.88
58	17.50	13.20	24.86	13.59
59	12.82	9.37	9.65	11.85
60	10.91	10.37	32.17	7.30
61	9.40	10.13	26.13	7.79
62	13.56	9.45	20.21	9.03
63	11.33	14.18	16.97	3.83
64	11.94	14.75	11.66	42.71
65	14.62	11.91	19.90	23.67
66	12.75	18.20	6.18	14.26
67	12.04	12.53	19.70	12.06
68	13.42	21.42	10.25	9.32
69	13.18	9.17	6.15	52.83
70	14.44	10.64	22.79	7.95
71	20.12	17.56	6.03	7.08
72	16.00	10.23	36.01	5.24
73	11.48	9.45	39.51	18.91
74	11.87	13.45	20.55	8.12
75	16.24	12.58	3.20	6.43
76	12.58	20.40	8.94	6.26
77	9.54	17.71	6.80	9.40
78	14.95	13.86	19.62	5.79
79	9.53	10.76	3.76	14.69
80	9.40	14.50	8.68	11.82
81	6.87	8.96	8.93	13.66
82	13.28	18.66	17.87	9.45
83	12.86	9.30	28.57	16.15
84	19.55	8.13	9.50	5.77
85	9.76	12.87	28.16	5.85
86	12.41	17.88	9.01	3.06
87	21.35	15.45	13.33	16.21
88	13.22	8.56	12.94	15.82
89	12.49	11.74	4.55	9.64
90	14.06	10.99	7.81	13.80
91	16.02	11.81	4.56	22.41
92	11.63	15.36	12.92	13.07
93	10.60	11.59	21.30	6.41
94	9.96	11.27	13.50	16.92
95	13.78	7.16	9.09	6.25
96	10.53	10.95	59.22	31.51
97	12.18	14.55	5.65	17.10
98	13.82	13.78	8.95	22.89
99	14.51	17.20	17.20	6.33
100	13.12	17.66	5.62	8.71

Table C.18 Generated 30 Observations for Workstation 4 Part B (Complex Model)

Workstation 4 Part B				
30 Observations				
CV	0.25		0.75	
Seed #	5348	8332	4053	8039
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	4.08	7.08	1.47	2.88
2	4.06	3.33	2.31	2.42
3	4.60	4.16	6.28	2.68
4	3.63	4.66	9.77	5.76
5	3.46	5.76	2.49	2.50
6	3.22	3.62	2.62	1.44
7	3.18	3.46	5.98	4.49
8	3.28	3.15	3.25	1.31
9	4.53	6.25	1.27	1.49
10	6.82	3.06	4.22	2.49
11	2.88	3.16	1.93	7.17
12	4.03	3.51	2.18	10.43
13	4.78	5.31	9.40	2.84
14	4.27	3.60	4.68	4.61
15	5.28	2.80	1.87	4.96
16	5.22	3.57	7.01	4.24
17	5.00	3.36	2.23	3.49
18	5.14	3.38	12.67	6.92
19	5.67	2.89	3.65	6.79
20	4.57	4.22	2.64	1.22
21	5.36	4.74	8.33	2.23
22	4.99	4.11	5.95	1.63
23	3.76	3.91	3.27	12.13
24	3.39	3.38	1.89	3.15
25	5.65	3.30	2.82	7.69
26	4.05	3.65	1.48	2.61
27	4.66	5.86	2.66	1.73
28	3.18	3.24	2.95	3.30
29	3.48	5.38	1.57	1.43
30	3.89	5.89	2.41	3.68

Table C.19 Generated 100 Observations for Workstation 4 Part B (Complex Model)

Workstation 4 Part B				
100 Observations				
CV	0.25		0.75	
Seed #	318	8202	3517	7274
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	4.47	3.47	5.94	2.05
2	4.55	3.82	9.03	3.66
3	5.18	6.76	2.88	4.32
4	4.74	3.40	1.60	3.89
5	3.34	4.41	5.44	2.52
6	3.21	4.97	2.03	6.74
7	4.18	5.56	5.70	2.37
8	3.82	4.00	2.05	2.31
9	4.27	4.40	2.24	10.86
10	4.04	3.66	6.66	3.10
11	3.81	3.10	3.49	5.00
12	4.12	2.83	4.50	1.78
13	2.96	3.85	8.74	1.92
14	3.57	4.38	4.15	4.86
15	5.23	4.82	6.95	2.62
16	4.15	4.37	7.96	12.19
17	3.99	4.85	3.06	1.23
18	3.95	6.72	2.78	1.38
19	4.46	4.85	2.80	4.85
20	3.44	3.17	1.21	3.19
21	4.90	5.10	3.87	9.01
22	3.73	2.56	10.94	2.99
23	4.37	4.21	5.21	2.83
24	5.24	5.19	3.19	3.44
25	4.56	4.16	1.42	2.87
26	3.92	2.39	6.91	4.57
27	4.25	2.80	3.99	21.00
28	5.88	5.11	3.58	4.67
29	5.97	2.75	2.31	4.00
30	5.02	3.25	4.83	1.40
31	4.62	2.84	3.25	15.28
32	5.45	5.14	5.84	3.41
33	3.91	4.28	2.69	1.73
34	5.25	7.08	1.53	2.31
35	3.21	5.07	5.40	1.50
36	4.38	5.93	3.18	3.29
37	4.15	3.70	4.22	4.67
38	2.99	4.79	1.82	1.89
39	4.71	4.06	9.12	1.88
40	6.57	4.07	1.88	1.36
41	4.81	4.96	3.12	9.53
42	7.10	4.38	6.15	8.30
43	4.68	3.43	5.02	11.80
44	2.60	3.97	2.19	6.73
45	3.26	3.75	5.27	9.76
46	7.34	3.60	4.46	2.87
47	5.64	2.85	1.65	2.11
48	2.41	4.29	3.47	4.58
49	4.35	5.95	2.46	2.38
50	4.73	4.01	6.08	2.11

51	4.60	4.62	7.99	2.78
52	4.67	6.17	2.96	20.25
53	3.44	5.56	4.28	3.46
54	3.64	4.13	3.02	1.89
55	3.96	6.53	1.92	3.82
56	3.15	3.93	4.89	17.66
57	3.81	2.85	9.95	6.14
58	5.61	4.04	11.21	2.12
59	7.09	6.38	15.42	10.04
60	4.22	4.77	4.02	1.91
61	4.54	5.64	2.93	5.58
62	4.49	5.05	2.57	4.44
63	3.66	5.75	5.94	14.01
64	4.93	5.21	2.56	10.34
65	5.05	6.05	2.16	8.10
66	5.81	4.15	4.02	25.27
67	3.74	4.31	1.57	4.14
68	4.51	6.22	11.87	3.04
69	4.36	3.79	1.80	2.45
70	4.95	4.19	12.49	2.57
71	4.41	6.20	4.12	1.47
72	3.33	3.31	1.53	1.08
73	2.92	5.36	1.28	2.27
74	3.65	6.12	1.55	2.01
75	5.74	5.07	4.39	9.81
76	5.13	6.07	3.62	3.53
77	2.84	6.31	7.88	9.56
78	5.69	4.81	4.93	4.15
79	6.48	5.16	6.55	4.20
80	5.19	2.27	3.91	2.89
81	3.53	2.81	2.49	1.58
82	3.32	7.11	2.32	2.32
83	2.45	5.41	1.79	2.73
84	3.57	4.96	10.32	6.14
85	4.52	3.48	2.87	5.30
86	4.52	3.26	1.44	3.96
87	4.07	2.91	1.61	2.09
88	5.01	4.10	17.75	4.96
89	5.57	3.28	14.05	2.27
90	2.72	5.62	1.67	2.92
91	4.58	5.61	1.27	6.07
92	2.38	5.83	2.51	1.03
93	4.53	2.52	4.78	2.00
94	3.98	5.42	1.77	10.96
95	3.21	4.09	2.35	4.33
96	7.88	5.21	2.40	2.44
97	5.20	3.70	3.81	2.04
98	5.87	2.78	10.72	1.89
99	6.25	2.58	7.37	9.22
100	3.47	3.64	4.72	11.11

Table C.20 Generated 30 Observations for Workstation 4 Part C (Complex Model)

Workstation 4 Part C				
30 Observations				
CV	0.25		0.75	
Seed #	9131	9845	3405	4642
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	2.23	3.78	3.49	2.49
2	3.89	2.64	5.46	2.40
3	2.20	4.10	3.21	1.36
4	1.58	1.96	2.36	1.73
5	3.62	2.12	3.88	3.76
6	2.55	3.93	3.96	4.35
7	4.37	5.03	2.13	0.98
8	2.21	2.93	1.42	1.17
9	2.13	3.90	3.24	4.18
10	4.28	3.66	1.33	5.46
11	2.21	2.89	9.73	4.43
12	2.53	2.28	1.88	1.02
13	3.79	4.17	1.50	6.44
14	2.49	3.93	5.46	3.52
15	2.68	3.68	5.92	1.63
16	4.14	2.28	0.90	3.76
17	4.60	2.10	1.78	3.05
18	2.40	3.90	3.72	4.46
19	1.58	3.41	1.98	1.10
20	2.86	3.07	2.89	1.30
21	3.08	3.26	2.35	4.85
22	3.71	3.18	1.95	11.18
23	2.71	2.28	3.37	2.18
24	3.64	2.68	2.16	5.90
25	4.20	2.33	1.78	1.85
26	4.44	2.80	4.87	2.68
27	2.63	2.15	1.20	2.19
28	4.29	2.58	2.52	3.12
29	2.75	3.39	3.67	2.08
30	3.84	4.46	1.51	1.39

Table C.21 Generated 100 Observations for Workstation 4 Part C (Complex Model)

Workstation 4 Part C				
100 Observations				
CV	0.25		0.75	
Seed #	2929	6807	7205	3343
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	4.06	3.42	1.25	1.70
2	3.89	2.91	2.08	1.54
3	3.42	3.42	3.70	3.27
4	2.81	2.97	1.07	1.54
5	4.11	2.33	5.15	0.90
6	2.56	2.75	2.46	1.68
7	3.29	2.66	5.76	0.92
8	3.70	3.74	7.92	6.21
9	3.69	2.89	7.06	7.20
10	2.11	2.17	1.73	1.23
11	2.72	2.83	5.15	1.62
12	3.96	2.19	2.25	19.18
13	3.15	2.50	5.92	4.59
14	3.31	3.88	0.89	6.54
15	2.99	4.21	4.32	4.09
16	3.84	2.04	3.63	1.77
17	4.08	2.75	6.22	1.34
18	2.18	3.40	5.91	8.98
19	3.58	2.92	7.26	18.54
20	2.64	4.22	4.87	4.89
21	3.68	2.71	4.30	3.33
22	3.48	3.41	6.23	1.29
23	4.88	2.67	1.00	1.29
24	2.12	2.46	1.61	1.16
25	2.92	5.14	3.60	2.24
26	2.94	3.90	3.13	3.73
27	2.41	4.74	1.55	4.30
28	3.62	3.70	2.00	1.87
29	2.85	2.96	1.09	3.05
30	4.04	2.77	3.02	5.91
31	2.11	4.36	1.33	5.22
32	1.95	3.24	1.96	1.91
33	4.85	3.06	1.83	7.00
34	3.20	2.20	1.71	1.06
35	3.37	5.36	6.63	2.04
36	3.59	1.41	2.07	1.03
37	4.12	4.05	0.82	1.61
38	3.95	2.65	1.17	7.80
39	3.97	2.90	7.25	3.95
40	4.02	2.70	1.69	1.74
41	4.40	3.02	2.76	3.72
42	3.46	3.00	2.33	3.86
43	2.84	3.46	3.06	1.50
44	3.02	2.65	2.23	1.45
45	3.29	2.04	1.80	4.71
46	2.97	3.52	2.29	2.53
47	3.23	2.87	1.37	4.82
48	5.45	3.23	7.78	4.72
49	4.03	3.25	0.82	5.11
50	3.30	3.95	3.81	3.11

51	2.43	4.84	0.96	1.50
52	3.27	2.59	3.23	1.80
53	2.89	2.83	6.18	2.31
54	2.09	1.95	1.32	3.53
55	2.57	2.21	1.25	3.24
56	2.69	1.98	3.34	2.42
57	3.37	4.05	4.48	2.32
58	2.56	3.35	3.37	2.74
59	3.38	3.51	3.23	1.41
60	5.04	2.27	5.78	1.37
61	2.67	3.53	1.40	2.05
62	3.24	2.89	1.66	1.27
63	1.99	3.30	4.97	2.93
64	3.52	3.00	2.20	1.66
65	2.37	2.85	6.01	2.36
66	4.02	2.18	3.89	1.48
67	2.68	2.10	2.01	1.62
68	4.26	2.35	1.42	1.44
69	2.16	2.99	9.54	1.75
70	3.07	2.87	3.41	2.60
71	3.58	5.79	5.19	4.90
72	2.70	3.18	2.74	2.46
73	3.77	2.29	2.39	3.70
74	4.18	3.49	1.58	1.57
75	3.21	4.27	3.28	1.48
76	3.39	3.51	1.23	1.40
77	4.89	3.57	1.59	1.01
78	2.04	2.76	1.80	3.02
79	3.76	3.85	2.90	1.65
80	2.58	2.63	3.71	4.36
81	2.65	2.61	3.47	1.35
82	3.18	3.61	2.01	1.26
83	2.55	2.94	4.46	1.46
84	2.13	3.71	1.04	3.82
85	3.68	2.77	3.04	2.24
86	3.15	3.11	8.37	3.15
87	1.90	5.61	4.13	0.95
88	1.78	4.93	2.62	2.65
89	2.83	2.65	1.16	1.55
90	3.94	2.85	2.46	2.53
91	3.65	3.04	2.02	1.50
92	2.14	3.98	4.88	4.77
93	3.03	2.92	1.61	1.16
94	3.07	3.37	3.67	3.54
95	1.99	2.81	5.62	1.20
96	3.18	2.85	3.51	2.70
97	4.31	2.69	2.94	3.36
98	3.06	3.10	0.90	7.15
99	3.05	4.73	6.90	1.96
100	2.89	3.64	17.65	2.00

Table C.22 Generated 30 Observations for the Rework (Complex Model)

Rework				
30 Observations				
CV	0.25		0.75	
Seed #	3396	25433	74127	23299
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	1.96	2.86	3.46	2.79
2	2.62	1.99	3.17	4.24
3	2.76	2.68	1.01	1.30
4	3.75	3.88	4.44	2.60
5	3.30	2.74	1.61	1.79
6	2.41	2.79	1.57	1.17
7	3.98	3.42	3.35	0.86
8	3.43	2.63	2.49	0.98
9	2.46	2.19	4.81	4.00
10	3.23	2.35	3.56	2.22
11	2.35	2.35	2.90	7.61
12	2.68	3.20	0.89	1.96
13	2.92	3.63	2.21	5.20
14	2.44	2.53	3.14	2.05
15	4.29	2.40	1.12	1.72
16	2.16	4.48	2.19	1.24
17	2.69	2.26	2.41	4.45
18	2.12	2.06	3.57	3.57
19	2.25	3.07	2.38	2.01
20	2.74	2.10	3.35	2.22
21	2.88	2.75	2.64	6.24
22	2.91	2.27	6.26	1.61
23	3.39	1.87	1.56	2.70
24	2.73	1.62	2.44	1.58
25	2.50	2.95	1.56	11.24
26	3.19	2.79	0.75	1.94
27	3.62	3.74	2.46	2.07
28	1.71	3.07	2.54	4.72
29	2.53	1.71	1.58	3.37
30	2.61	1.64	2.90	3.28

Table C.23 Generated 100 Observations for the Rework (Complex Model)

Rework				
100 Observations				
CV	0.25		0.75	
Seed #	73632	28587	88780	82587
#	Replicate 1	Replicate 2	Replicate 1	Replicate 2
1	4.50	2.85	5.20	8.43
2	3.03	3.17	5.59	1.55
3	2.63	3.52	3.52	1.26
4	2.86	2.83	1.38	4.62
5	3.12	1.82	4.20	2.09
6	3.48	2.23	1.02	4.12
7	2.46	3.16	0.82	9.30
8	2.53	2.61	2.08	2.93
9	2.15	3.50	1.52	2.67
10	2.34	2.24	3.90	0.89
11	2.49	4.28	2.31	2.15
12	2.50	1.96	1.23	1.48
13	1.97	1.81	1.27	1.20
14	3.96	3.74	1.27	1.27
15	2.94	3.61	1.92	3.23
16	2.56	2.68	1.44	1.50
17	2.85	3.14	2.58	1.36
18	3.06	3.63	2.21	4.60
19	2.10	2.62	2.94	3.01
20	2.06	4.29	1.62	3.63
21	2.69	2.17	1.58	1.06
22	4.66	2.59	1.77	1.54
23	3.06	3.86	1.14	1.06
24	2.13	2.95	2.18	2.47
25	1.53	3.46	3.21	1.09
26	2.69	2.34	2.97	3.82
27	2.32	2.29	10.08	1.20
28	3.48	4.12	3.09	4.31
29	2.35	1.45	2.29	1.31
30	2.63	3.59	6.55	1.74
31	2.27	1.87	0.78	3.14
32	3.06	2.20	3.12	2.53
33	5.59	2.98	5.25	1.53
34	2.54	2.41	5.96	4.46
35	2.45	2.69	12.09	3.71
36	2.66	3.65	1.85	1.28
37	1.98	2.44	0.74	2.18
38	4.87	2.35	6.05	1.93
39	2.80	2.67	2.60	5.48
40	2.65	3.56	1.57	3.23
41	2.20	1.79	2.50	2.03
42	3.30	2.38	0.89	3.39
43	2.11	2.25	3.08	10.34
44	3.27	2.42	5.82	1.90
45	1.98	2.53	1.82	4.33
46	2.20	3.91	6.95	4.16
47	2.65	4.41	3.09	5.40
48	2.54	4.23	13.53	2.39
49	2.59	1.74	1.24	1.16
50	3.37	3.16	1.14	7.61

51	2.96	1.79	3.73	1.01
52	3.53	3.59	3.39	1.46
53	2.50	2.67	0.96	1.14
54	1.79	1.64	1.52	0.66
55	2.32	2.14	1.21	6.05
56	3.46	2.56	5.07	1.96
57	2.54	2.27	2.76	1.00
58	3.08	2.40	2.26	1.06
59	3.57	1.53	1.29	6.63
60	2.51	3.78	5.49	2.20
61	2.95	3.03	0.92	1.63
62	2.28	3.10	0.75	1.11
63	3.14	2.24	1.96	4.71
64	2.68	2.60	2.36	7.63
65	4.35	3.54	2.71	3.27
66	2.82	2.20	1.74	4.08
67	3.44	3.46	1.07	7.13
68	2.50	2.42	1.99	1.49
69	3.92	2.35	1.94	4.23
70	2.49	2.77	1.83	1.47
71	4.37	2.08	1.09	1.35
72	2.60	3.02	0.95	1.21
73	2.17	2.70	3.50	1.88
74	1.99	2.81	1.43	1.03
75	2.44	1.84	0.98	3.96
76	3.96	2.45	1.87	3.22
77	1.76	3.75	1.44	4.33
78	2.88	1.73	0.99	2.00
79	3.23	2.98	5.08	1.07
80	1.83	4.87	1.41	3.68
81	2.51	3.59	5.62	1.07
82	2.97	2.14	2.61	1.70
83	3.47	2.52	1.30	7.35
84	2.51	2.68	2.31	1.57
85	1.86	3.76	2.79	2.50
86	2.02	2.51	1.35	0.97
87	2.69	4.05	1.39	1.95
88	2.85	4.22	2.50	3.12
89	2.98	2.16	1.77	1.18
90	2.97	1.86	1.07	0.89
91	2.32	2.47	0.87	2.91
92	3.91	1.96	4.83	2.60
93	2.03	2.60	5.37	1.87
94	3.18	3.76	0.70	2.90
95	4.24	2.55	4.83	0.73
96	3.79	2.09	3.48	1.55
97	3.10	1.71	3.02	3.95
98	2.71	2.39	5.26	0.84
99	2.44	2.66	1.43	7.41
100	3.29	2.77	3.63	2.79

C.3 Selecting the Best Fit Distribution

Table C.24 Selecting the Best Fit Distributions for the Workstations (Complex Model)

Best Fit Distributions								
Workstation 2								
CV	0.25				0.75			
Number of Obs.	30 Observations		100 Observations		30 Observations		100 Observations	
Number of Rep.	Replicate 1	Replicate 2	Replicate 1	Replicate 2	Replicate 1	Replicate 2	Replicate 1	Replicate 2
First Rank	Gamma	Unifrom	Gamma	Gamma	Gamma	Expo	Gamma	Weibull
Second Rank	Weibull	Weibull	Weibull	Weibull	Weibull	Gamma	Weibull	Gamma
Workstation 3 New Part A								
First Rank	Weibull	Gamma	Weibull	Gamma	Gamma	Weibull	Gamma	Weibull
Second Rank	Gamma	Weibull	Gamma	Weibull	Weibull	Expo	Weibull	Gamma
Workstation 3 Old Part A								
First Rank	Gamma	Uniform	Gamma	Gamma	Weibull	Expo	Gamma	Weibull
Second Rank	Weibull	Weibull	Weibull	Beta	Expo	Gamma	Beta	Gamma
Workstation 3 New Part B								
First Rank	Gamma	Gamma	Gamma	Weibull	Gamma	Weibull	Gamma	Weibull
Second Rank	Weibull	Weibull	Beta	Gamma	Weibull	Expo	Weibull	Gamma
Workstation Old Part B								
First Rank	Gamma	Unifrom	Weibull	Gamma	Weibull	Expo	Weibull	Weibull
Second Rank	Weibull	Weibull	Gamma	Weibull	Gamma	Gamma	Gamma	Expo
Workstation 3 New Part C								
First Rank	Gamma	Weibull	Weibull	Gamma	Expo	Weibull	Gamma	Weibull
Second Rank	Weibull	Gamma	Gamma	Weibull	Gamma	Expo	Expo	Gamma
Workstation 3 Old Part C								
First Rank	Gamma	Uniform	Weibull	Gamma	Expo	Weibull	Gamma	Gamma
Second Rank	Weibull	Gamma	Gamma	Weibull	Gamma	Expo	Weibull	Weibull
Workstation 4 Part A								
First Rank	Gamma	Gamma	Gamma	Gamma	Gamma	Gamma	Weibull	Weibull
Second Rank	Weibull	Weibull	Weibull	Weibull	Weibull	Weibull	Gamma	Gamma
Workstation 4 Part B								
First Rank	Gamma	Gamma	Gamma	Weibull	Weibull	Weibull	Weibull	Weibull
Second Rank	Weibull	Pareto	Weibull	Gamma	Expo	Expo	Gamma	Expo
Workstation 4 Part C								
First Rank	Unifrom	Gamma	Weibull	Weibull	Gamma	Weibull	Weibull	Weibull
Second Rank	Gamma	Weibull	Gamma	-	Weibull	Expo	Expo	-
Rework								
First Rank	Gamma	Gamma	Gamma	Weibull	Weibull	Weibull	Weibull	Weibull
Second Rank	Weibull	Weibull	Weibull	-	Gamma	Expo	Expo	Gamma

C.4 Best Fit and Less Fit Distributions Parameters

Table C.25 Best and Less Fit Parameters for Workstation 2 - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 2			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	0.88300	0.95233	1.06440	0.96790
Std Dev	0.19332	0.20470	0.26734	0.23607
Variance	0.03737	0.04190	0.07147	0.05573
Skewness	-0.08224	-0.26126	0.23698	0.55041
Minimum Value from The Ture Distribution	0.2025	0.2025	0.2025	0.2025
Mean - Minimum	0.68050	0.74983	0.86190	0.76540
Best Fit Distribution Rank 1	0.2025 + GAMM(0.0549,12.3909)	0.2025 + UNIF(0.395279,1.104381)	0.2025 + GAMM(0.0829,10.3941)	0.2025 + GAMM(0.0728,10.5122)
Best Fit Distribution Rank 2	0.2025 + WEIB(0.7514,3.9456)	0.2025 + WEIB(0.8258,4.1224)	0.2025 + WEIB(0.9568,3.5788)	0.2025 + WEIB(0.8494,3.6014)
Less Fit Distribution Two Paramaters Log Normal	0.2025 + LOGN(0.68050,0.19332)	0.2025 + LOGN(0.74983,0.2047)	0.2025 + LOGN(0.8619,0.26734)	0.2025 + LOGN(0.76540,0.23607)
Seed Number for Mixed Empirical Exponential	361	920	885	2628

Table C.26 Best and Less Fit Parameters for Workstation 2 - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 2			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	1.04533	1.07900	0.97630	1.18160
Std Dev	0.56447	0.94992	0.60412	0.88970
Variance	0.31863	0.90235	0.36496	0.79157
Skewness	0.68973	2.20368	1.16466	1.68333
Minimum Value from The Ture Distribution	0.2025	0.2025	0.2025	0.2025
Mean - Minimum	0.84283	0.87650	0.77380	0.97910
Best Fit Distribution Rank 1	0.2025 + GAMM(0.3780,2.2295)	0.2025 + EXPO(0.87650)	0.2025 + GAMM(0.4716,1.6406)	0.2025 + WEIB(1.0153,1.1019)
Best Fit Distribution Rank 2	0.2025 + WEIB(0.9353,1.5225)	0.2025 + GAMM(1.0295,0.8514)	0.2025 + WEIB(0.8367,1.2912)	0.2025 + GAMM(0.8085,1.2111)
Less Fit Distribution Two Paramaters Log Normal	0.2025 + LOGN(0.84283,0.56447)	0.2025 + LOGN(0.87650,0.94992)	0.2025 + LOGN(0.77380,0.60412)	0.2025 + LOGN(0.97910,0.88970)
Seed Number for Mixed Empirical Exponential	4939	2784	6232	7632

Table C.27 Best and Less Fit Parameters for Workstation 3 New Part A - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 3 New Part A			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	6.78927	6.95673	6.55925	6.80312
Std Dev	1.56830	1.54674	1.34386	1.62502
Variance	2.45957	2.39241	1.80597	2.64069
Skewness	-0.10727	0.71578	0.24531	0.55330
Minimum Value from The Ture Distribution	1.3333	1.3333	1.3333	1.3333
Mean - Minimum	5.45597	5.62343	5.22595	5.46982
Best Fit Distribution Rank 1	1.3333 + WEIB(6.0285,3.8939)	1.3333 + GAMM(0.4254,13.2181)	1.3333 + WEIB(5.7338,4.4034)	1.3333 + GAMM(0.4828,11.33)
Best Fit Distribution Rank 2	1.3333 + GAMM(0.4508,12.1028)	1.3333 + WEIB(6.1964,4.0884)	1.3333 + GAMM(0.3456,15.1225)	1.3333 + WEIB(6.0562,3.7541)
Less Fit Distribution Two Paramaters Log Normal	1.3333 + LOGN(5.45597,1.56830)	1.3333 + LOGN(5.62343,1.54674)	1.3333 + LOGN(5.22595,1.34386)	1.3333 + LOGN(5.46982,1.62502)
Seed Number for Mixed Empirical Exponential	5301	9182	6543	8110

Table C.28 Best and Less Fit Parameters for Workstation 3 New Part A - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 3 New Part A			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	6.03127	6.51248	5.93373	6.59106
Std Dev	2.96381	4.25468	3.97870	5.07950
Variance	8.78418	18.10227	15.83008	25.80129
Skewness	1.67993	1.18990	1.71580	2.19020
Minimum Value from The Ture Distribution	1.3333	1.3333	1.3333	1.3333
Mean - Minimum	4.69797	5.17918	4.60043	5.25776
Best Fit Distribution Rank 1	1.3333 + GAMM(2.5126,1.8698)	1.3333 + WEIB(5.5328,1.2236)	1.3333 + GAMM(3.441,1.3369)	1.3333 + WEIB(5.332,1.0353)
Best Fit Distribution Rank 2	1.3333 + WEIB(5.2472,1.6251)	1.3333 + EXPO(5.17918)	1.3333 + WEIB(5.5328,1.2236)	1.3333 + GAMM(4.9073,1.0714)
Less Fit Distribution Two Paramaters Log Normal	1.3333 + LOGN(4.69797,2.96381)	1.3333 + LOGN(5.17918,4.25468)	1.3333 + LOGN(4.60043,3.97870)	1.3333 + LOGN(5.25776,5.07950)
Seed Number for Mixed Empirical Exponential	3233	5932	7151	4216

Table C.29 Best and Less Fit Parameters for Workstation 3 Old Part A - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 3 Old Part A			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	10.09890	9.48809	9.72391	10.23064
Std Dev	2.65814	2.31920	2.54891	2.15996
Variance	7.06569	5.37868	6.49696	4.66543
Skewness	0.67719	0.02466	0.66257	0.37967
Minimum Value from The Ture Distribution	2.0000	2.0000	2.0000	2.0000
Mean - Minimum	8.09890	7.48809	7.72391	8.23064
Best Fit Distribution Rank 1	2 + GAMM(0.8724,9.2832)	2 + UNIF(3.471118,11.50506)	2 + GAMM(0.8411,9.1826)	2 + GAMM(0.5668,14.5203)
Best Fit Distribution Rank 2	2 + WEIB(9.0203,3.3610)	2 + WEIB(8.3118,3.5847)	2 + WEIB(8.6053,3.3407)	2 + BETA(0.017314,11.00598,2.904458,0.981438)
Less Fit Distribution Two Paramaters Log Normal	2.000 + LOGN(8.09890,2.65814)	2.000 + LOGN(7.48809,2.31920)	2.000 + LOGN(7.72391,2.54891)	2.000 + LOGN(8.23064,2.15996)
Seed Number for Mixed Empirical Exponential	184	5397	7682	9676

Table C.30 Best and Less Fit Parameters for Workstation 3 Old Part A - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 3 Old Part A			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	9.43075	9.65467	10.84390	10.34806
Std Dev	7.54871	7.55398	8.10668	6.62878
Variance	56.98297	57.06264	65.71819	43.94069
Skewness	2.12033	1.33476	2.83372	1.48023
Minimum Value from The Ture Distribution	2.0000	2.0000	2.0000	2.0000
Mean - Minimum	7.43075	7.65467	8.84390	8.34806
Best Fit Distribution Rank 1	2 + WEIB(7.3806,0.9844)	2 + EXPO(7.65467)	2 + GAMM(7.4309,1.1901)	2 + WEIB(8.9920,1.2682)
Best Fit Distribution Rank 2	2 + EXPO(7.43075)	2 + GAMM(7.4546,1.0268)	2 + BETA(0.017288,29.50032,0.531207,1.243154)	2 + GAMM(5.2636,1.5860)
Less Fit Distribution Two Paramaters Log Normal	2.000 + LOGN(7.43075,7.54871)	2.000 + LOGN(7.65467,7.55398)	2.000 + LOGN(8.84390,8.10668)	2.000 + LOGN(8.34806,6.62878)
Seed Number for Mixed Empirical Exponential	9756	8728	740	8268

Table C.31 Best and Less Fit Parameters for Workstation 3 New Part B - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 3 New Part B			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	2.34470	2.39423	2.43137	2.32144
Std Dev	0.48787	0.53254	0.66113	0.56546
Variance	0.23802	0.28360	0.43709	0.31974
Skewness	0.40895	0.70014	0.57881	0.32144
Minimum Value from The Ture Distribution	0.4833	0.4833	0.4833	0.4833
Mean - Minimum	1.86140	1.91093	1.94807	1.83814
Best Fit Distribution Rank 1	0.4833 + GAMM(0.1279,14.5570)	0.4833 + GAMM(0.1484,12.8761)	0.4833 + GAMM(0.2244,8.6823)	0.4833 + WEIB(2.0395,3.6118)
Best Fit Distribution Rank 2	0.4833 + WEIB(2.0448,4.3123)	0.4833 + WEIB(2.1074,4.0296)	0.4833 + BETA(0.017692,2.568767,1.317589,0.42366)	0.4833 + GAMM(0.1740,10.5670)
Less Fit Distribution Two Paramaters Log Normal	0.4833 + LOGN(1.86140,0.48787)	0.4833 + LOGN(1.91093,0.53254)	0.4833 + LOGN(1.94807,0.66113)	0.4833 + LOGN(1.83814,0.56546)
Seed Number for Mixed Empirical Exponential	2418	6712	5476	445

Table C.32 Best and Less Fit Parameters for Workstation 3 New Part B - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 3 New Part B			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	2.12557	1.64103	2.35464	2.30761
Std Dev	1.05524	1.22071	1.55266	1.68149
Variance	1.11354	1.49014	2.41075	2.82741
Skewness	1.64593	2.43207	1.80426	1.91658
Minimum Value from The Ture Distribution	0.4833	0.4833	0.4833	0.4833
Mean - Minimum	1.64227	1.15773	1.87134	1.82431
Best Fit Distribution Rank 1	0.4833 + GAMM(0.6780,2.4221)	0.4833 + WEIB(1.1306,0.9488)	0.4833 + GAMM(1.2882,1.4526)	0.4833 + WEIB(1.8825,1.0859)
Best Fit Distribution Rank 2	0.4833 + WEIB(1.8309,1.5928)	0.4833 + EXPO(1.15773)	0.4833 + WEIB(1.9940,1.2109)	0.4833 + GAMM(1.5499,1.1771)
Less Fit Distribution Two Paramaters Log Normal	0.4833 + LOGN(1.64227,1.05524)	0.4833 + LOGN(1.15773,1.22071)	0.4833 + LOGN(1.87134,1.55266)	0.4833 + LOGN(1.82431,1.68149)
Seed Number for Mixed Empirical Exponential	5804	6893	6077	5845

Table C.33 Best and Less Fit Parameters for Workstation 3 Old Part B - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 3 Old Part B			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	3.34119	3.89443	3.58980	3.48183
Std Dev	0.88626	0.86073	0.95901	0.84964
Variance	0.78546	0.74085	0.91970	0.72188
Skewness	0.55141	0.15659	0.24307	0.39673
Minimum Value from The Ture Distribution	0.7250	0.7250	0.7250	0.7250
Mean - Minimum	2.61619	3.16943	2.86480	2.75683
Best Fit Distribution Rank 1	0.7250 + GAMM(0.3002,8.7140)	0.7250 + UNIF(1.678602,4.660258)	0.7250 + WEIB(3.1943,3.2879)	0.7250 + GAMM(0.2619,10.5281)
Best Fit Distribution Rank 2	0.7250 + WEIB(2.9190,3.2447)	0.7250 + WEIB(3.4895,4.1463)	0.7250 + GAMM(0.3210,8.9236)	0.7250 + WEIB(3.0592,3.6044)
Less Fit Distribution Two Paramaters Log Normal	0.7250 + LOGN(2.61619,0.88626)	0.7250 + LOGN(3.16943,0.86073)	0.7250 + LOGN(2.86480,0.95901)	0.7250 + LOGN(2.75683,0.84964)
Seed Number for Mixed Empirical Exponential	4615	404	2138	206

Table C.34 Best and Less Fit Parameters for Workstation 3 Old Part B - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 3 Old Part B			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	3.27082	2.97319	3.20117	3.64777
Std Dev	2.91868	2.01031	1.93636	2.99818
Variance	8.51868	4.04135	3.74948	8.98908
Skewness	3.27939	1.20626	1.75283	2.53545
Minimum Value from The Ture Distribution	0.7250	0.7250	0.7250	0.7250
Mean - Minimum	2.54582	2.24819	2.47617	2.92277
Best Fit Distribution Rank 1	0.7250 + WEIB(2.3809,0.8747)	0.7250 + EXPO(2.24819)	0.7250 + WEIB(2.6764,1.2889)	0.7250 + WEIB(2.8906,0.9749)
Best Fit Distribution Rank 2	0.7250 + GAMM(3.3461,0.7608)	0.7250 + GAMM(1.7976,1.2507)	0.7250 + GAMM(1.5142,1.6353)	0.7250 + EXPO(2.92277)
Less Fit Distribution Two Paramaters Log Normal	0.7250 + LOGN(2.54582,2.91868)	0.7250 + LOGN(2.24819,2.01031)	0.7250 + LOGN(2.47617,1.93636)	0.7250 + LOGN(2.92277,2.99818)
Seed Number for Mixed Empirical Exponential	8596	4058	1383	5327

Table C.35 Best and Less Fit Parameters for Workstation 3 New Part C - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 3 New Part C			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	1.78977	1.62307	1.73338	1.72227
Std Dev	0.39769	0.37736	0.45114	0.42119
Variance	0.15815	0.14240	0.20352	0.17741
Skewness	1.05690	0.09849	0.26757	0.57673
Minimum Value from The Ture Distribution	0.3417	0.3417	0.3417	0.3417
Mean - Minimum	1.44807	1.28137	1.39168	1.38057
Best Fit Distribution Rank 1	0.3417 + GAMM(0.1092,13.2584)	0.3417 + WEIB(1.4180,3.7908)	0.3417 + WEIB(1.5489,3.4076)	0.3417 + GAMM(0.1285,10.7439)
Best Fit Distribution Rank 2	0.3417 + WEIB(1.5955,4.0953)	0.3417 + GAMM(0.1111,11.5302)	0.3417 + GAMM(0.1462,9.5160)	0.3417 + WEIB(1.5310,3.6452)
Less Fit Distribution Two Paramaters Log Normal	0.3417 + LOGN(1.44807,0.39769)	0.3417 + LOGN(1.28137,0.37736)	0.3417 + LOGN(1.39168,0.45114)	0.3417 + LOGN(1.38057,0.42119)
Seed Number for Mixed Empirical Exponential	4527	2493	5188	9589

Table C.36 Best and Less Fit Parameters for Workstation 3 New Part C - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 3 New Part C			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	1.93582	1.51636	1.89924	1.77251
Std Dev	1.56737	0.88740	1.62860	1.26077
Variance	2.45664	0.78747	2.65232	1.58955
Skewness	1.33986	0.83278	4.49712	1.54774
Minimum Value from The Ture Distribution	0.3417	0.3417	0.3417	0.3417
Mean - Minimum	1.59412	1.17466	1.55754	1.43081
Best Fit Distribution Rank 1	0.3417 + EXPO(1.59412)	0.3417 + WEIB(1.2788,1.3372)	0.3417 + GAMM(1.7029,0.9146)	0.3417 + WEIB(1.4985,1.1374)
Best Fit Distribution Rank 2	0.3417 + GAMM(1.5411,1.0344)	0.3417 + EXPO(1.17466)	0.3417 + EXPO(1.55754)	0.3417 + GAMM(1.1109,1.2879)
Less Fit Distribution Two Paramaters Log Normal	0.3417 + LOGN(1.59412,1.56737)	0.3417 + LOGN(1.17466,0.88740)	0.3417 + LOGN(1.55754,1.62860)	0.3417 + LOGN(1.43081,1.26077)
Seed Number for Mixed Empirical Exponential	1178	2051	8556	7863

Table C.37 Best and Less Fit Parameters for Workstation 3 Old Part C - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 3 Old Part C			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	2.52199	2.59825	2.40761	2.50566
Std Dev	0.49634	0.61491	0.52123	0.64201
Variance	0.24635	0.37811	0.27168	0.41217
Skewness	0.57817	0.16597	0.47699	0.51537
Minimum Value from The Ture Distribution	0.5125	0.5125	0.5125	0.5125
Mean - Minimum	2.00949	2.08575	1.89511	1.99316
Best Fit Distribution Rank 1	0.5125 + GAMM(0.1226,16.3913)	0.5125 + UNIF(1.020695,3.150805)	0.5125 + WEIB(2.0882,4.0886)	0.5125 + GAMM(0.2068,9.6383)
Best Fit Distribution Rank 2	0.5125 + WEIB(2.1991,4.6030)	0.5125 + GAMM(0.1813,11.5054)	0.5125 + GAMM(0.1434,13.2193)	0.5125 + WEIB(2.2175,3.4319)
Less Fit Distribution Two Paramaters Log Normal	0.5125 + LOGN(2.00949,0.49634)	0.5125 + LOGN(2.08575,0.61491)	0.5125 + LOGN(1.89511,0.52123)	0.5125 + LOGN(1.99316,0.64201)
Seed Number for Mixed Empirical Exponential	9263	8467	1780	1241

Table C.38 Best and Less Fit Parameters for Workstation 3 Old Part C - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 3 Old Part C			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	2.22936	2.26473	2.53809	2.32161
Std Dev	1.54310	1.48290	1.85335	1.44542
Variance	2.38117	2.19900	3.43490	2.08925
Skewness	1.21409	1.21249	2.40749	1.32612
Minimum Value from The Ture Distribution	0.5125	0.5125	0.5125	0.5125
Mean - Minimum	1.71686	1.75223	2.02559	1.80911
Best Fit Distribution Rank 1	0.5125 + EXPO(1.71686)	0.5125 + WEIB(1.8571,1.1861)	0.5125 + GAMM(1.6958,1.1945)	0.5125 + GAMM(1.1548,1.5665)
Best Fit Distribution Rank 2	0.5125 + GAMM(1.3869,1.2379)	0.5125 + EXPO(1.75223)	0.5125 + WEIB(2.0955,1.0941)	0.5125 + WEIB(1.9459,1.26)
Less Fit Distribution Two Paramaters Log Normal	0.5125 + LOGN(1.71686,1.54310)	0.5125 + LOGN(1.75223,1.48290)	0.5125 + LOGN(2.02559,1.85335)	0.5125 + LOGN(1.80911,1.44542)
Seed Number for Mixed Empirical Exponential	3578	3178	1792	4079

Table C.39 Best and Less Fit Parameters for Workstation 4 Part A - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 4 Part A			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	12.52627	12.91717	12.76177	12.74418
Std Dev	3.33437	3.07243	3.10198	3.37491
Variance	11.11805	9.43986	9.62230	11.39004
Skewness	0.75195	0.48178	0.35151	0.54371
Minimum Value from The Ture Distribution	2.5500	2.5500	2.5500	2.5500
Mean - Minimum	9.97627	10.36717	10.21177	10.19418
Best Fit Distribution Rank 1	2.55 + GAMM(1.1144,8.9518)	2.55 + GAMM(0.9105,11.3856)	2.55 + GAMM(0.9423,10.8374)	2.55 + GAMM(1.1173,9.1239)
Best Fit Distribution Rank 2	2.55 + WEIB(11.1227,3.2937)	2.55 + WEIB(11.4768,3.7644)	2.55 + WEIB(11.3218,3.6628)	2.55 + WEIB(11.3596,3.3288)
Less Fit Distribution Two Paramaters Log Normal	2.55 + LOGN(9.97627,3.33437)	2.55 + LOGN(10.36717,3.07243)	2.55 + LOGN(10.21177,3.10198)	2.55 + LOGN(10.19418,3.37491)
Seed Number for Mixed Empirical Exponential	7913	6495	4059	524

Table C.40 Best and Less Fit Parameters for Workstation 4 Part A - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 4 Part A			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	10.94001	10.13219	13.57329	13.33344
Std Dev	5.96272	6.21575	9.60326	9.58761
Variance	35.55407	38.63556	92.22269	91.92222
Skewness	1.27986	1.55309	1.75619	1.74647
Minimum Value from The Ture Distribution	2.5500	2.5500	2.5500	2.5500
Mean - Minimum	8.39001	7.58219	11.02329	10.78344
Best Fit Distribution Rank 1	2.55 + GAMM(4.2377,1.9799)	2.55 + GAMM(5.0956,1.4880)	2.55 + WEIB(11.5853,1.1509)	2.55 + WEIB(11.2619,1.1269)
Best Fit Distribution Rank 2	2.55 + WEIB(9.2328,1.4277)	2.55 + WEIB(8.1043,1.2263)	2.55 + GAMM(8.3662,1.3176)	2.55 + GAMM(8.5244,1.2650)
Less Fit Distribution Two Paramaters Log Normal	2.55 + LOGN(8.39001,5.96272)	2.55 + LOGN(7.58219,6.21575)	2.55 + LOGN(11.02329,9.60326)	2.55 + LOGN(10.78344,9.58761)
Seed Number for Mixed Empirical Exponential	4558	9685	47	5197

Table C.41 Best and Less Fit Parameters for Workstation 4 Part B - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 4 Part B			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	4.33750	4.12509	4.43674	4.47465
Std Dev	0.93413	1.14136	1.10144	1.18977
Variance	0.87261	1.30270	1.21317	1.41554
Skewness	0.55277	1.07332	0.62587	0.18399
Minimum Value from The Ture Distribution	0.8900	0.8900	0.8900	0.8900
Mean - Minimum	3.44750	3.23509	3.54674	3.58465
Best Fit Distribution Rank 1	0.89 + GAMM(0.2531,13.6205)	0.89 + GAMM(0.4027,8.0339)	0.89 + GAMM(0.3421,10.3690)	0.89 + WEIB(3.9950,3.3193)
Best Fit Distribution Rank 2	0.89 + WEIB(3.7952,4.1566)	0.89 + Pareto(2.427458,4.005648)	0.89 + WEIB(3.9375,3.5740)	0.89 + GAMM(0.3949,9.0775)
Less Fit Distribution Two Paramaters Log Normal	0.89 + LOGN(3.44750,0.93413)	0.89 + LOGN(3.23509,1.14136)	0.89 + LOGN(3.54674,1.10144)	0.89 + LOGN(3.58465,1.18977)
Seed Number for Mixed Empirical Exponential	2298	5058	7286	4577

Table C.42 Best and Less Fit Parameters for Workstation 4 Part B - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 4 Part B			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	4.04192	3.99047	4.65597	5.11433
Std Dev	2.88685	2.72562	3.32583	4.57944
Variance	8.33391	7.42900	11.06113	20.97132
Skewness	1.50173	1.46846	1.64786	2.15753
Minimum Value from The Ture Distribution	0.8900	0.8900	0.8900	0.8900
Mean - Minimum	3.15192	3.10047	3.76597	4.22433
Best Fit Distribution Rank 1	0.89 + WEIB(3.2596,1.0930)	0.89 + WEIB(3.2495,1.1401)	0.89 + WEIB(3.9414,1.1348)	0.89 + WEIB(4.0697,0.9234)
Best Fit Distribution Rank 2	0.89 + EXPO(3.15192)	0.89 + EXPO(3.10047)	0.89 + GAMM(2.9371,1.2822)	0.89 + EXPO(4.22433)
Less Fit Distribution Two Paramaters Log Normal	0.89 + LOGN(3.15192,2.88685)	0.89 + LOGN(3.10047,2.72562)	0.89 + LOGN(3.76597,3.32583)	0.89 + LOGN(4.22433,4.57944)
Seed Number for Mixed Empirical Exponential	2810	8670	3604	4379

Table C.43 Best and Less Fit Parameters for Workstation 4 Part C - CV = 0.25 (Complex Model)

Workstation / Parameters	Workstation 4 Part C			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	3.11973	3.16259	3.22680	3.18420
Std Dev	0.91430	0.81259	0.77347	0.82591
Variance	0.83595	0.66030	0.59825	0.68213
Skewness	0.09375	0.30844	0.32968	0.94718
Minimum Value from The Ture Distribution	0.6525	0.6525	0.6525	0.6525
Mean - Minimum	2.46723	2.51009	2.57430	2.53170
Best Fit Distribution Rank 1	0.6525 + UNIF(0.883616,4.050844)	0.6525 + GAMM(0.2631,9.5419)	0.6525 + WEIB(2.8522,3.7075)	0.6525 + WEIB(2.8188,3.3837)
Best Fit Distribution Rank 2	0.6525 + GAMM(0.3388,7.2819)	0.6525 + WEIB(2.7935,3.4127)	0.6525 + GAMM(0.2324,11.0772)	
Less Fit Distribution Two Paramaters Log Normal	0.6525 + LOGN(2.46723,0.91430)	0.6525 + LOGN(2.51009,0.81259)	0.6525 + LOGN(2.57430,0.77347)	0.6525 + LOGN(2.53170,0.82591)
Seed Number for Mixed Empirical Exponential	9721	4134	3388	4919

Table C.44 Best and Less Fit Parameters for Workstation 4 Part C - CV = 0.75 (Complex Model)

Workstation / Parameters	Workstation 4 Part C			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	3.05408	3.20101	3.45389	3.12450
Std Dev	1.84613	2.15835	2.48374	2.84789
Variance	3.40820	4.65846	6.16899	8.11049
Skewness	1.84004	1.88490	2.31142	3.66308
Minimum Value from The Ture Distribution	0.6525	0.6525	0.6525	0.6525
Mean - Minimum	2.40158	2.54851	2.80139	2.47200
Best Fit Distribution Rank 1	0.6525 + GAMM(1.4191,1.6923)	0.6525 + WEIB(2.7005,1.1852)	0.6525 + WEIB(2.9283,1.1302)	0.6525 + WEIB(2.3055,0.8707)
Best Fit Distribution Rank 2	0.6525 + WEIB(2.6053,1.3126)	0.6525 + EXPO(2.54851)	0.6525 + EXPO(2.80139)	
Less Fit Distribution Two Paramaters Log Normal	0.6525 + LOGN(2.40158,1.84613)	0.6525 + LOGN(2.54851,2.15835)	0.6525 + LOGN(2.80139,2.48374)	0.6525 + LOGN(2.47200,2.84789)
Seed Number for Mixed Empirical Exponential	7662	8292	6412	5197

Table C.45 Best and Less Fit Parameters for the Rework - CV = 0.25 (Complex Model)

Workstation / Parameters	Rework			
	CV = 0.25			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	2.81980	2.66734	2.84101	2.78961
Std Dev	0.60121	0.69154	0.73365	0.76121
Variance	0.36145	0.47823	0.53824	0.57945
Skewness	0.59870	0.66186	1.13044	0.52595
Minimum Value from The Ture Distribution	0.5563	0.5563	0.5563	0.5563
Mean - Minimum	2.26350	2.11104	2.28471	2.23331
Best Fit Distribution Rank 1	0.5563 + GAMM(0.1597,14.1745)	0.5563 + GAMM(0.2265,9.3188)	0.5563 + GAMM(0.2356,9.6980)	0.5563 + WEIB(2.4926,3.2226)
Best Fit Distribution Rank 2	0.5563 + WEIB(2.4886,4.2491)	0.5563 + WEIB(2.3510,3.3681)	0.5563 + WEIB(2.5415,3.4437)	
Less Fit Distribution Two Paramaters Log Normal	0.5563 + LOGN(2.26350,0.60121)	0.5563 + LOGN(2.11104,0.69154)	0.5563 + LOGN(2.28471,0.73365)	0.5563 + LOGN(2.2331,0.76121)
Seed Number for Mixed Empirical Exponential	8108	4193	265	6618

Table C.46 Best and Less Fit Parameters for the Rework - CV = 0.75 (Complex Model)

Workstation / Parameters	Rework			
	CV = 0.75			
	30 Observations		100 Observations	
	Replicate 1	Replicate 2	Replicate 1	Replicate 2
Mean	2.61029	3.09200	2.82761	2.86578
Std Dev	1.21728	2.22719	2.25555	2.06556
Variance	1.48177	4.96035	5.08752	4.26655
Skewness	0.90814	2.08474	2.32021	1.51586
Minimum Value from The Ture Distribution	0.5563	0.5563	0.5563	0.5563
Mean - Minimum	2.05399	2.53570	2.27131	2.30948
Best Fit Distribution Rank 1	0.5563 + WEIB(2.3055,1.7406)	0.5563 + WEIB(2.6583,1.1412)	0.5563 + WEIB(2.2780,1.0070)	0.5563 + WEIB(2.4074,1.1200)
Best Fit Distribution Rank 2	0.5563 + GAMM(0.7214,2.8472)	0.5563 + EXPO(2.53570)	0.5563 + EXPO(2.27131)	0.5563 + GAMM(1.8474,1.2501)
Less Fit Distribution Two Paramaters Log Normal	0.5563 + LOGN(2.05399,1.21728)	0.5563 + LOGN(2.53570,2.22719)	0.5563 + LOGN(2.27131,2.25555)	0.5563 + LOGN(2.30948,2.06556)
Seed Number for Mixed Empirical Exponential	1896	4866	2798	5609

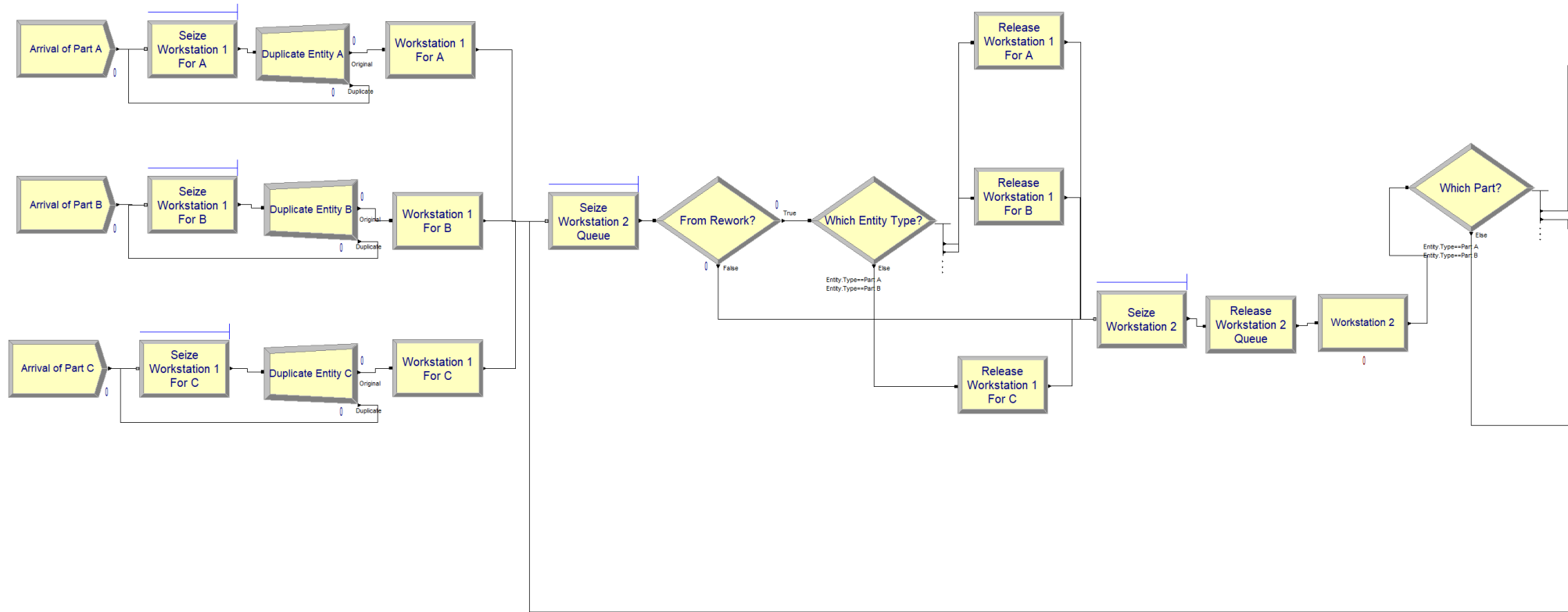
C.5 Stream Number

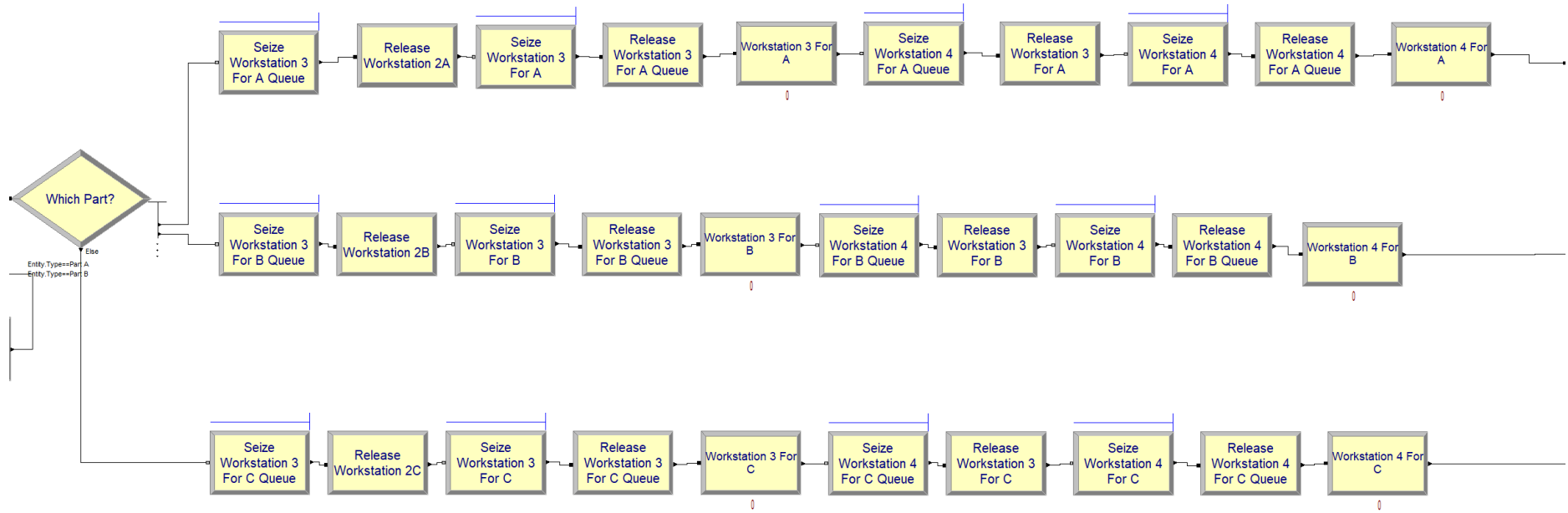
Table C.47 Stream Numbers Used in Arena Simulation Software (Complex Model)

Run #	Replicate	CV	Manual Workstation Distribution	# of Obs.	Stream Number								
					TBF 1A	TTR 1A	TBF 1B	TTR 1B	TBF 1C	TTR 1C	WS2	WS3 N A	WS3 O A
1	-	0.25	True Distribution	-	-	-	-	-	-	-	-	-	-
2	1st	0.25	Best Fit Distribution Rank 1	30	89	35	19	71	74	87	94	49	41
3	1st	0.25	Best Fit Distribution Rank 2	30	89	35	19	71	74	87	94	49	41
4	1st	0.25	Less Fit - Two Parameters Log Normal	30	89	35	19	71	74	87	94	49	41
5	1st	0.25	Less Fit - Mixed Empirical Exponential	30	89	35	19	71	74	87	94	49	41
6	1st	0.25	Best Fit Distribution Rank 1	100	89	35	19	71	74	87	94	49	41
7	1st	0.25	Best Fit Distribution Rank 2	100	89	35	19	71	74	87	94	49	41
8	1st	0.25	Less Fit - Two Parameters Log Normal	100	89	35	19	71	74	87	94	49	41
9	1st	0.25	Less Fit - Mixed Empirical Exponential	100	89	35	19	71	74	87	94	49	41
10	2nd	0.25	Best Fit Distribution Rank 1	30	1	24	8	16	90	32	100	58	7
11	2nd	0.25	Best Fit Distribution Rank 2	30	1	24	8	16	90	32	100	58	7
12	2nd	0.25	Less Fit - Two Parameters Log Normal	30	1	24	8	16	90	32	100	58	7
13	2nd	0.25	Less Fit - Mixed Empirical Exponential	30	1	24	8	16	90	32	100	58	7
14	2nd	0.25	Best Fit Distribution Rank 1	100	1	24	8	16	90	32	100	58	7
15	2nd	0.25	Best Fit Distribution Rank 2	100	1	24	8	16	90	32	100	58	7
16	2nd	0.25	Less Fit - Two Parameters Log Normal	100	1	24	8	16	90	32	100	58	7
17	2nd	0.25	Less Fit - Mixed Empirical Exponential	100	1	24	8	16	90	32	100	58	7
18	-	0.75	True Distribution	-	-	-	-	-	-	-	-	-	-
19	1st	0.75	Best Fit Distribution Rank 1	30	89	35	19	71	74	87	94	49	41
20	1st	0.75	Best Fit Distribution Rank 2	30	89	35	19	71	74	87	94	49	41
21	1st	0.75	Less Fit - Two Parameters Log Normal	30	89	35	19	71	74	87	94	49	41
22	1st	0.75	Less Fit - Mixed Empirical Exponential	30	89	35	19	71	74	87	94	49	41
23	1st	0.75	Best Fit Distribution Rank 1	100	89	35	19	71	74	87	94	49	41
24	1st	0.75	Best Fit Distribution Rank 2	100	89	35	19	71	74	87	94	49	41
25	1st	0.75	Less Fit - Two Parameters Log Normal	100	89	35	19	71	74	87	94	49	41
26	1st	0.75	Less Fit - Mixed Empirical Exponential	100	89	35	19	71	74	87	94	49	41
27	2nd	0.75	Best Fit Distribution Rank 1	30	1	24	8	16	90	32	100	58	7
28	2nd	0.75	Best Fit Distribution Rank 2	30	1	24	8	16	90	32	100	58	7
29	2nd	0.75	Less Fit - Two Parameters Log Normal	30	1	24	8	16	90	32	100	58	7
30	2nd	0.75	Less Fit - Mixed Empirical Exponential	30	1	24	8	16	90	32	100	58	7
31	2nd	0.75	Best Fit Distribution Rank 1	100	1	24	8	16	90	32	100	58	7
32	2nd	0.75	Best Fit Distribution Rank 2	100	1	24	8	16	90	32	100	58	7
33	2nd	0.75	Less Fit - Two Parameters Log Normal	100	1	24	8	16	90	32	100	58	7
34	2nd	0.75	Less Fit - Mixed Empirical Exponential	100	1	24	8	16	90	32	100	58	7

Run #	Replicate	CV	Manual Workstation Distribution	# of Obs.	Stream Number							
					WS3 N B	WS3 O B	WS3 N C	WS3 O C	WS4A	WS4B	WS4C	Rework
1	-	0.25	True Distribution	-	-	-	-	-	-	-	-	-
2	1st	0.25	Best Fit Distribution Rank 1	30	77	66	79	47	27	32	9	69
3	1st	0.25	Best Fit Distribution Rank 2	30	77	66	79	47	27	32	9	69
4	1st	0.25	Less Fit - Two Parameters Log Normal	30	77	66	79	47	27	32	9	69
5	1st	0.25	Less Fit - Mixed Empirical Exponential	30	77	66	79	47	27	32	9	69
6	1st	0.25	Best Fit Distribution Rank 1	100	77	66	79	47	27	32	9	69
7	1st	0.25	Best Fit Distribution Rank 2	100	77	66	79	47	27	32	9	69
8	1st	0.25	Less Fit - Two Parameters Log Normal	100	77	66	79	47	27	32	9	69
9	1st	0.25	Less Fit - Mixed Empirical Exponential	100	77	66	79	47	27	32	9	69
10	2nd	0.25	Best Fit Distribution Rank 1	30	85	81	17	3	92	86	11	19
11	2nd	0.25	Best Fit Distribution Rank 2	30	85	81	17	3	92	86	11	19
12	2nd	0.25	Less Fit - Two Parameters Log Normal	30	85	81	17	3	92	86	11	19
13	2nd	0.25	Less Fit - Mixed Empirical Exponential	30	85	81	17	3	92	86	11	19
14	2nd	0.25	Best Fit Distribution Rank 1	100	85	81	17	3	92	86	11	19
15	2nd	0.25	Best Fit Distribution Rank 2	100	85	81	17	3	92	86	11	19
16	2nd	0.25	Less Fit - Two Parameters Log Normal	100	85	81	17	3	92	86	11	19
17	2nd	0.25	Less Fit - Mixed Empirical Exponential	100	85	81	17	3	92	86	11	19
18	-	0.75	True Distribution	-	-	-	-	-	-	-	-	-
19	1st	0.75	Best Fit Distribution Rank 1	30	77	66	79	47	27	32	9	69
20	1st	0.75	Best Fit Distribution Rank 2	30	77	66	79	47	27	32	9	69
21	1st	0.75	Less Fit - Two Parameters Log Normal	30	77	66	79	47	27	32	9	69
22	1st	0.75	Less Fit - Mixed Empirical Exponential	30	77	66	79	47	27	32	9	69
23	1st	0.75	Best Fit Distribution Rank 1	100	77	66	79	47	27	32	9	69
24	1st	0.75	Best Fit Distribution Rank 2	100	77	66	79	47	27	32	9	69
25	1st	0.75	Less Fit - Two Parameters Log Normal	100	77	66	79	47	27	32	9	69
26	1st	0.75	Less Fit - Mixed Empirical Exponential	100	77	66	79	47	27	32	9	69
27	2nd	0.75	Best Fit Distribution Rank 1	30	85	81	17	3	92	86	11	19
28	2nd	0.75	Best Fit Distribution Rank 2	30	85	81	17	3	92	86	11	19
29	2nd	0.75	Less Fit - Two Parameters Log Normal	30	85	81	17	3	92	86	11	19
30	2nd	0.75	Less Fit - Mixed Empirical Exponential	30	85	81	17	3	92	86	11	19
31	2nd	0.75	Best Fit Distribution Rank 1	100	85	81	17	3	92	86	11	19
32	2nd	0.75	Best Fit Distribution Rank 2	100	85	81	17	3	92	86	11	19
33	2nd	0.75	Less Fit - Two Parameters Log Normal	100	85	81	17	3	92	86	11	19
34	2nd	0.75	Less Fit - Mixed Empirical Exponential	100	85	81	17	3	92	86	11	19

C.6 Arena Simulation Model





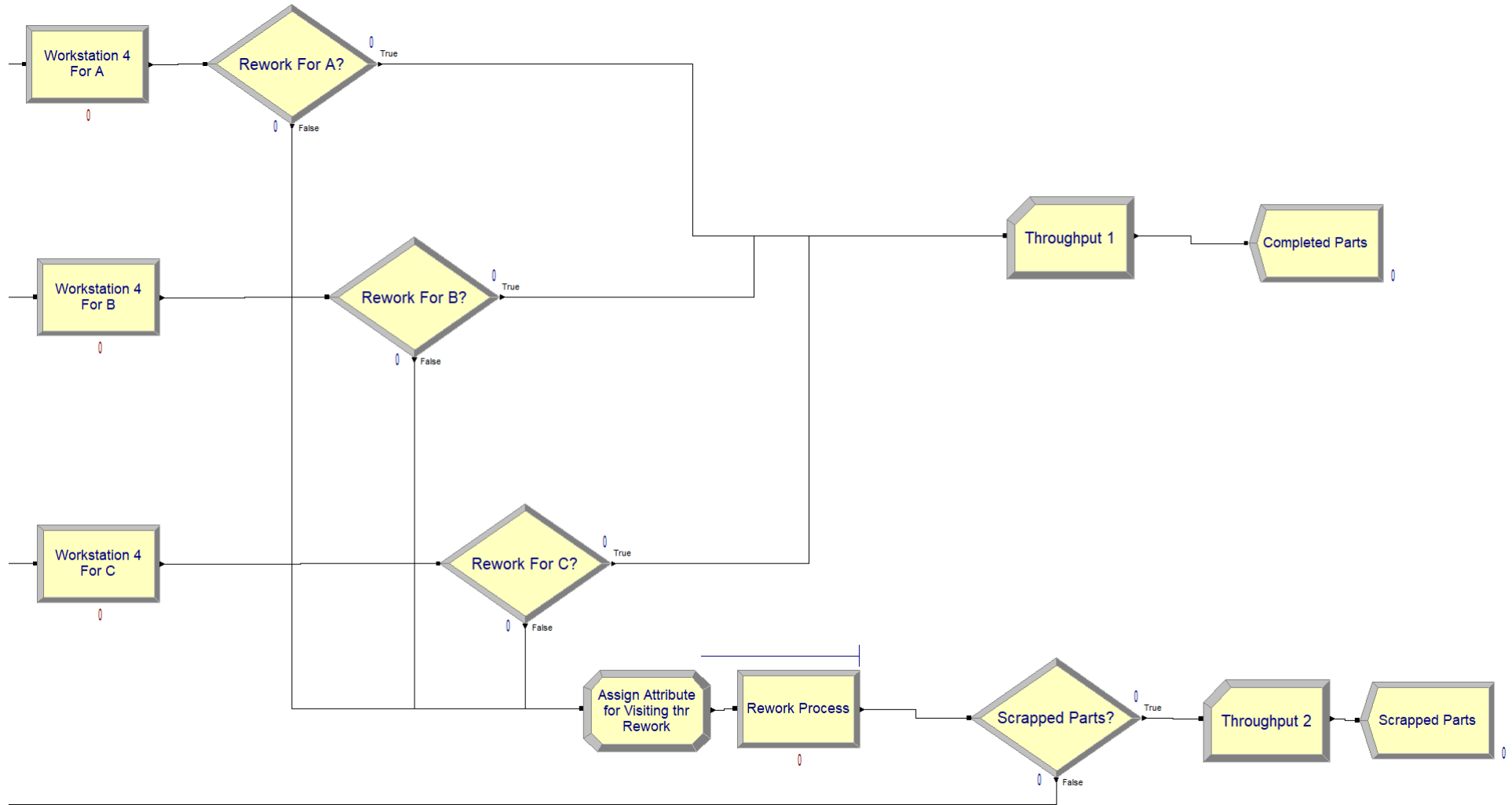


Figure C.1 Arena Simulation View (Complex Model)

D Simple Model Results

Table D.1 Simple Model with CV 0.25 and First Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures			
				WIP	Avg Time	Avg # in Q WS	Avg Max # in Q WS
1	0.25	True Mixed Distribution	-	1.1898	2.3782	0.3092	4.9000
2	0.25	Best Fit Distribution Rank 1	30	1.2471	2.4943	0.3517	5.6000
3	0.25	Best Fit Distribution Rank 2	30	1.2543	2.5087	0.3588	6.0000
4	0.25	Less Fit - Two Parameters Log Normal	30	1.2571	2.5142	0.3615	6.1000
5	0.25	Less Fit - Mixed Empirical Exponential	30	1.3179	2.6359	0.4225	6.9000
6	0.25	Best Fit Distribution Rank 1	100	1.2821	2.5642	0.3814	6.1000
7	0.25	Best Fit Distribution Rank 2	100	1.2907	2.5815	0.3897	6.3000
8	0.25	Less Fit - Two Parameters Log Normal	100	1.2923	2.5847	0.3915	6.2000
9	0.25	Less Fit - Mixed Empirical Exponential	100	1.2949	2.5898	0.3943	6.0000

Table D.2 Simple Model with CV 0.25 and Second Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures			
				WIP	Avg Time	Avg # in Q WS	Avg Max # in Q WS
10	0.25	Best Fit Distribution Rank 1	30	1.0081	2.0168	0.1835	4.2000
11	0.25	Best Fit Distribution Rank 2	30	1.0009	2.0024	0.1765	4.0000
12	0.25	Less Fit - Two Parameters Log Normal	30	1.0112	2.0230	0.1867	4.5000
13	0.25	Less Fit - Mixed Empirical Exponential	30	1.0646	2.1299	0.2392	4.9000
14	0.25	Best Fit Distribution Rank 1	100	1.2473	2.4955	0.3629	5.8000
15	0.25	Best Fit Distribution Rank 2	100	1.2392	2.4792	0.3549	5.8000
16	0.25	Less Fit - Two Parameters Log Normal	100	1.2509	2.5025	0.3665	5.9000
17	0.25	Less Fit - Mixed Empirical Exponential	100	1.3001	2.6011	0.4148	7.4000

Table D.3 Simple Model with CV 0.75 and First Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures			
				WIP	Avg Time	Avg # in Q WS	Avg Max # in Q WS
18	0.75	True Mixed Distribution	-	2.7687	5.5342	1.8879	29.6000
19	0.75	Best Fit Distribution Rank 1	30	1.9525	3.9050	1.1175	16.1000
20	0.75	Best Fit Distribution Rank 2	30	2.0980	4.1959	1.2629	17.7000
21	0.75	Less Fit - Two Parameters Log Normal	30	1.9913	3.9825	1.1559	19.5000
22	0.75	Less Fit - Mixed Empirical Exponential	30	1.8736	3.7472	1.0401	14.2000
23	0.75	Best Fit Distribution Rank 1	100	1.9552	3.9105	1.1206	16.1000
24	0.75	Best Fit Distribution Rank 2	100	1.9060	3.8121	1.0756	15.4000
25	0.75	Less Fit - Two Parameters Log Normal	100	1.9942	3.9885	1.1592	19.7000
26	0.75	Less Fit - Mixed Empirical Exponential	100	2.1366	4.2731	1.3023	19.1000

Table D.4 Simple Model with CV 0.75 and Second Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures			
				WIP	Avg Time	Avg # in Q WS	Avg Max # in Q WS
27	0.75	Best Fit Distribution Rank 1	30	0.8969	1.7944	0.2082	5.8000
28	0.75	Best Fit Distribution Rank 2	30	1.0252	2.0511	0.3365	8.5000
29	0.75	Less Fit - Two Parameters Log Normal	30	0.9127	1.8260	0.2239	8.9000
30	0.75	Less Fit - Mixed Empirical Exponential	30	0.9454	1.8913	0.2557	7.8000
31	0.75	Best Fit Distribution Rank 1	100	3.8759	7.7541	2.9671	27.5000
32	0.75	Best Fit Distribution Rank 2	100	4.0203	8.0431	3.1097	27.9000
33	0.75	Less Fit - Two Parameters Log Normal	100	4.0805	8.1634	3.1697	33.8000
34	0.75	Less Fit - Mixed Empirical Exponential	100	3.5561	7.1139	2.6465	27.0000

E Intermediate Model Results

Table E.1 Intermediate Model with CV 0.25 and First Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures							
				WIP	Avg Time	Avg # Q WS1	AvgMax # Q WS1	Avg # Q WS3	AvgMax # Q WS3	Avg # Q Rework	AvgMax # Q Rework
1	0.25	True Mixed Distribution	-	8.9362	8.9205	1.7011	22.3571	0.3907	7.7143	1.7226	18.2143
2	0.25	Best Fit Distribution Rank 1	30	9.0187	9.0176	1.4956	20.1429	0.1698	4.4286	2.4958	20.9286
3	0.25	Best Fit Distribution Rank 2	30	9.0108	9.0096	1.4948	20.3571	0.1657	4.5714	2.4961	20.8571
4	0.25	Less Fit - Two Parameters Log Normal	30	9.0162	9.0151	1.4936	20.0000	0.1711	4.6429	2.4955	21.0000
5	0.25	Less Fit - Mixed Empirical Exponential	30	9.3755	9.3741	1.5328	20.3571	0.2635	7.3571	2.6027	22.5714
6	0.25	Best Fit Distribution Rank 1	100	9.8997	9.8988	1.9499	24.1429	0.3125	5.9286	1.7222	17.5714
7	0.25	Best Fit Distribution Rank 2	100	9.9275	9.9265	1.9557	24.0714	0.3219	6.1429	1.7211	17.7143
8	0.25	Less Fit - Two Parameters Log Normal	100	9.9196	9.9186	1.9498	24.0000	0.3182	6.0000	1.7221	17.4286
9	0.25	Less Fit - Mixed Empirical Exponential	100	10.1281	10.1270	1.9665	23.1429	0.3696	6.8571	1.7754	18.5714

Table E.2 Intermediate Model with CV 0.25 and Second Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures							
				WIP	Avg Time	Avg # Q WS1	AvgMax # Q WS1	Avg # Q WS3	AvgMax # Q WS3	Avg # Q Rework	AvgMax # Q Rework
10	0.25	Best Fit Distribution Rank 1	30	8.9642	8.9667	2.0345	24.2143	0.2439	5.2857	1.4019	16.4286
11	0.25	Best Fit Distribution Rank 2	30	8.9670	8.9693	2.0087	24.4286	0.2382	5.3571	1.4027	16.2857
12	0.25	Less Fit - Two Parameters Log Normal	30	8.9627	8.9651	2.0296	24.2857	0.2438	5.3571	1.4020	16.2857
13	0.25	Less Fit - Mixed Empirical Exponential	30	9.1119	9.1145	2.0521	24.5714	0.2720	5.9286	1.3977	16.2857
14	0.25	Best Fit Distribution Rank 1	100	8.7740	8.7766	1.2817	18.9286	1.0358	15.2143	1.2222	15.1429
15	0.25	Best Fit Distribution Rank 2	100	8.7587	8.7612	1.2818	18.5714	1.0153	15.0714	1.2221	15.1429
16	0.25	Less Fit - Two Parameters Log Normal	100	8.7793	8.7819	1.2816	19.0714	1.0355	15.2857	1.2212	15.0000
17	0.25	Less Fit - Mixed Empirical Exponential	100	9.0668	9.0693	1.3169	18.5714	1.1765	18.1429	1.2339	14.9286

Table E.3 Intermediate Model with CV 0.75 and First Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures							
				WIP	Avg Time	Avg # Q WS1	AvgMax # Q WS1	Avg # Q WS3	AvgMax # Q WS3	Avg # Q Rework	AvgMax # Q Rework
18	0.75	True Mixed Distribution	-	14.1272	14.1123	2.4651	30.2143	2.1000	26.7143	2.5297	26.0714
19	0.75	Best Fit Distribution Rank 1	30	7.2992	7.2987	0.4877	12.7143	1.2465	22.0000	0.7994	14.0000
23	0.75	Best Fit Distribution Rank 2	30	7.4219	7.4214	0.4570	12.2143	1.2638	20.0000	0.9658	16.5714
27	0.75	Less Fit - Two Parameters Log Normal	30	7.3130	7.3126	0.4564	12.9286	1.3124	27.7143	0.8024	14.0000
31	0.75	Less Fit - Mixed Empirical Exponential	30	7.6554	7.6549	0.4632	13.0000	1.4797	23.8571	0.8502	13.8571
21	0.75	Best Fit Distribution Rank 1	100	11.8468	11.8450	1.6885	23.3571	1.6442	22.8571	2.3670	25.7143
25	0.75	Best Fit Distribution Rank 2	100	11.8528	11.8516	1.6667	22.1429	1.7709	24.8571	2.3479	22.7857
29	0.75	Less Fit - Two Parameters Log Normal	100	11.9760	11.9753	1.6897	24.0714	1.7679	28.4286	2.3513	23.1429
33	0.75	Less Fit - Mixed Empirical Exponential	100	11.9760	11.9750	1.7866	23.5000	1.6757	23.2143	2.1758	21.7857

Table E.4 Intermediate Model with CV 0.75 and Second Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures							
				WIP	Avg Time	Avg # Q WS1	AvgMax # Q WS1	Avg # Q WS3	AvgMax # Q WS3	Avg # Q Rework	AvgMax # Q Rework
20	0.75	Best Fit Distribution Rank 1	30	9.0726	9.0748	1.1658	20.6429	1.3846	20.5000	1.5211	19.0714
24	0.75	Best Fit Distribution Rank 2	30	9.6326	9.6354	1.2997	22.9286	1.6802	23.8571	1.7234	19.9286
28	0.75	Less Fit - Two Parameters Log Normal	30	9.2080	9.2109	1.2959	25.2857	1.3547	21.0000	1.6113	20.2143
32	0.75	Less Fit - Mixed Empirical Exponential	30	9.3281	9.3302	1.2148	20.2143	1.4653	21.2857	1.6545	20.1429
22	0.75	Best Fit Distribution Rank 1	100	13.7455	13.7499	5.0847	45.7143	1.3087	19.5000	1.0719	16.1429
26	0.75	Best Fit Distribution Rank 2	100	13.6531	13.6572	4.8462	47.5000	1.3618	20.7857	1.1190	16.2143
30	0.75	Less Fit - Two Parameters Log Normal	100	13.8568	13.8614	5.0912	46.5714	1.3611	22.0000	1.1376	17.5714
34	0.75	Less Fit - Mixed Empirical Exponential	100	14.0293	14.0329	5.0240	45.7857	1.4154	22.0714	1.1640	16.9286

F Complex Model Results

Table F.1 Complex Model with CV 0.25 and First Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures						
				Throughput	WIP Part A	Avg Time Part A	WIP Part B	Avg Time Part B	WIP Part C	Avg Time Part C
1	0.25	True Mixed Distribution	-	54,368.24	10.4858	90.7855	12.0837	35.6110	8.2666	18.1672
2	0.25	Best Fit Distribution Rank 1	30	55,421.57	9.9244	88.5080	12.2558	35.2617	8.2828	17.7098
3	0.25	Best Fit Distribution Rank 2	30	55,476.52	9.9297	88.4405	12.2494	35.2269	8.3002	17.7207
4	0.25	Less Fit - Two Parameters Log Normal	30	55,419.10	9.9278	88.2882	12.2766	35.3471	8.2772	17.7011
5	0.25	Less Fit - Mixed Empirical Exponential	30	55,373.81	10.1885	88.9695	12.3675	35.2395	8.2387	17.8562
6	0.25	Best Fit Distribution Rank 1	100	54,438.57	10.3863	91.9997	12.0392	35.6352	8.2671	17.9609
7	0.25	Best Fit Distribution Rank 2	100	54,497.86	10.3825	91.8671	12.0709	35.7174	8.2746	17.9473
8	0.25	Less Fit - Two Parameters Log Normal	100	54,448.62	10.3918	91.9928	12.0428	35.6558	8.2711	17.9631
9	0.25	Less Fit - Mixed Empirical Exponential	100	54,576.95	10.6253	91.9535	12.2333	35.7329	8.1998	17.9987

Table F.2 Complex Model with CV 0.25 and Second Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures						
				Throughput	WIP Part A	Avg Time Part A	WIP Part B	Avg Time Part B	WIP Part C	Avg Time Part C
10	0.25	Best Fit Distribution Rank 1	30	54,773.00	10.5907	92.4748	11.5264	33.6007	8.0044	17.4334
11	0.25	Best Fit Distribution Rank 2	30	54,648.14	10.6111	92.8696	11.4978	33.6125	7.9899	17.4316
12	0.25	Less Fit - Two Parameters Log Normal	30	54,635.76	10.6130	92.7507	11.4991	33.6425	7.9811	17.4189
13	0.25	Less Fit - Mixed Empirical Exponential	30	54,530.05	10.6275	93.0674	11.5916	33.9188	8.0131	17.5443
14	0.25	Best Fit Distribution Rank 1	100	54,718.67	10.2708	90.6240	12.5961	36.5463	8.1553	17.8322
15	0.25	Best Fit Distribution Rank 2	100	54,786.33	10.2526	90.0323	12.6376	36.6113	8.1634	17.8282
16	0.25	Less Fit - Two Parameters Log Normal	100	54,760.14	10.2549	90.0163	12.6317	36.6104	8.1671	17.8454
17	0.25	Less Fit - Mixed Empirical Exponential	100	54,694.76	10.2691	90.3088	12.6316	36.6595	8.1781	17.8869

Table F.3 Complex Model with CV 0.75 and First Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures						
				Throughput	WIP Part A	Avg Time Part A	WIP Part B	Avg Time Part B	WIP Part C	Avg Time Part C
27	0.75	Best Fit Distribution Rank 1	30	56,000.81	9.0614	77.5151	10.9724	30.6394	8.9478	19.3551
28	0.75	Best Fit Distribution Rank 2	30	55,282.00	9.0658	78.0356	10.6887	30.2092	8.9741	19.7121
29	0.75	Less Fit - Two Parameters Log Normal	30	56,135.24	9.0260	77.0946	10.9099	30.4214	8.9594	19.3180
30	0.75	Less Fit - Mixed Empirical Exponential	30	54,315.76	9.0283	77.8485	10.4009	29.7253	8.8862	20.0479
31	0.75	Best Fit Distribution Rank 1	100	48,969.57	10.3793	96.4012	12.6900	41.7785	7.7530	18.9952
32	0.75	Best Fit Distribution Rank 2	100	48,974.14	10.3742	96.5853	12.7166	41.7710	7.7534	19.0116
33	0.75	Less Fit - Two Parameters Log Normal	100	49,165.90	10.3954	96.4970	12.7285	41.6969	7.7468	18.9009
34	0.75	Less Fit - Mixed Empirical Exponential	100	48,870.29	10.3235	96.3893	12.7309	42.0183	7.7441	18.9902

Table F.4 Complex Model with CV 0.75 and Second Sample from True Distribution

Run #	CV	Service Time Distribution	# of Obs.	Performance Measures						
				Throughput	WIP Part A	Avg Time Part A	WIP Part B	Avg Time Part B	WIP Part C	Avg Time Part C
18	0.75	True Mixed Distribution	-	51,007.10	10.2196	93.2064	11.8181	36.9787	8.2146	19.3631
19	0.75	Best Fit Distribution Rank 1	30	54,990.90	9.2072	78.8899	10.9498	31.5953	8.2222	17.9933
20	0.75	Best Fit Distribution Rank 2	30	55,037.29	9.1996	78.7349	11.0051	31.8025	8.2015	17.9047
21	0.75	Less Fit - Two Parameters Log Normal	30	55,336.81	9.1993	78.5052	10.9753	31.5164	8.2108	17.8280
22	0.75	Less Fit - Mixed Empirical Exponential	30	54,874.90	9.3988	78.7625	11.0400	31.6218	8.1236	18.0535
23	0.75	Best Fit Distribution Rank 1	100	50,262.57	10.5679	99.2500	11.9177	37.5844	8.6146	20.6326
24	0.75	Best Fit Distribution Rank 2	100	49,848.81	10.3423	98.5284	11.7949	37.4341	8.5808	20.7174
25	0.75	Less Fit - Two Parameters Log Normal	100	50,493.14	10.5946	99.2800	11.9680	37.5824	8.6196	20.5319
26	0.75	Less Fit - Mixed Empirical Exponential	100	50,510.14	10.8104	99.2200	12.1402	37.7575	8.5266	20.5518

G Simple Model Statistical Comparisons

G.1 Best Fit Rank 1 vs Less Fit Lognormal

Table G.1 Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Observations, 1st Replicate

Ist	Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2446	1.2506	2.4911	2.5033	0.3508	0.3569	6.0000	7.0000
2	1.2684	1.2777	2.5307	2.5494	0.3695	0.3786	5.0000	6.0000
3	1.2464	1.2612	2.4927	2.5222	0.3512	0.3656	6.0000	6.0000
4	1.2536	1.2643	2.5067	2.5282	0.3574	0.3679	5.0000	6.0000
5	1.2255	1.2357	2.4556	2.4760	0.3315	0.3417	5.0000	5.0000
6	1.2554	1.2645	2.5074	2.5255	0.3583	0.3672	5.0000	6.0000
7	1.2418	1.2493	2.4825	2.4974	0.3478	0.3553	6.0000	6.0000
8	1.2660	1.2776	2.5296	2.5528	0.3682	0.3795	6.0000	6.0000
9	1.2395	1.2521	2.4797	2.5050	0.3450	0.3576	7.0000	7.0000
10	1.2300	1.2379	2.4665	2.4823	0.3372	0.3451	5.0000	6.0000
Avg	1.2471	1.2571	2.4943	2.5142	0.3517	0.3615	5.6000	6.1000
[+ -] 20% PE	-0.2394		-0.4789		-0.0605		-0.6200	
[+ -] 15% PE	-0.1771		-0.3542		-0.0429		-0.3400	
[+ -] 10% PE	-0.1147		-0.2295		-0.0253		-0.0600	
[+ -] 05% PE	-0.0524		-0.1048		-0.0077		0.2200	
[+ -] 01% PE	-0.0025		-0.0050		0.0063		0.4440	
[+ -] 20% TS	-213.3198		-226.0812		-57.3633		-3.1548	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0058235374	
Reject?	0		0		0		0	
[+ -] 15% TS	-180.3416		-187.3954		-45.8364		-1.8034	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0524121372	
Reject?	0		0		0		1	
[+ -] 10% TS	-130.9826		-133.2580		-29.9449		-0.3317	
P-Value	0.0000000000		0.0000000000		0.0000000001		0.3738385409	
Reject?	0		0		0		1	
[+ -] 05% TS	-64.0371		-64.1564		-9.7598		1.2676	
P-Value	0.0000000000		0.0000000000		0.0000021896		0.8816218581	
Reject?	0		0		0		1	
[+ -] 01% TS	-3.0650		-3.0641		8.0851		2.6427	
P-Value	0.0067309065		0.0067411998		0.9999898308		0.9866027934	
Reject?	0		0		1		1	
CI UL	-0.0081		-0.0163		-0.0081			
CI LL	-0.0118		-0.0237		-0.0116			
Avg Diff	0.0100		0.0200		0.0098		0.5000	
% Diff	0.80%		0.80%		2.80%		8.93%	

Table G.2 Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Observations, 2nd Replicate

2nd	<i>Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.0040	1.0074	2.0104	2.0172	0.1806	0.1839	4.0000	4.0000
2	1.0146	1.0177	2.0269	2.0332	0.1882	0.1914	4.0000	4.0000
3	1.0073	1.0102	2.0154	2.0211	0.1827	0.1856	4.0000	4.0000
4	0.9996	1.0027	2.0023	2.0085	0.1763	0.1795	4.0000	4.0000
5	1.0073	1.0095	2.0166	2.0210	0.1824	0.1847	4.0000	4.0000
6	1.0046	1.0078	2.0099	2.0163	0.1811	0.1843	4.0000	4.0000
7	1.0080	1.0117	2.0144	2.0220	0.1842	0.1879	5.0000	6.0000
8	1.0133	1.0168	2.0285	2.0356	0.1873	0.1908	4.0000	5.0000
9	1.0072	1.0101	2.0143	2.0201	0.1835	0.1864	4.0000	5.0000
10	1.0149	1.0180	2.0291	2.0354	0.1891	0.1923	5.0000	5.0000
Avg	1.0081	1.0112	2.0168	2.0230	0.1835	0.1867	4.2000	4.5000
[+ -] 20% PE	-0.1985		-0.3971		-0.0336		-0.5400	
[+ -] 15% PE	-0.1481		-0.2963		-0.0244		-0.3300	
[+ -] 10% PE	-0.0977		-0.1954		-0.0152		-0.1200	
[+ -] 05% PE	-0.0473		-0.0946		-0.0060		0.0900	
[+ -] 01% PE	-0.0070		-0.0139		0.0013		0.2580	
[+ -] 20% TS	-610.8764		-660.5303		-132.8396		-3.6188	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0027910357	
Reject?	0		0		0		0	
[+ -] 15% TS	-578.6270		-616.7691		-121.2111		-2.2049	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0274498054	
Reject?	0		0		0		0	
[+ -] 10% TS	-503.8283		-524.0255		-96.7866		-0.7978	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.2227526424	
Reject?	0		0		0		1	
[+ -] 05% TS	-319.8386		-321.6836		-46.9966		0.5943	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.7165271072	
Reject?	0		0		0		1	
[+ -] 01% TS	-51.7996		-51.6806		10.4924		1.6922	
P-Value	0.0000000000		0.0000000000		0.9999988025		0.9375667682	
Reject?	0		0		1		1	
CI UL	-0.0028		-0.0056		-0.0029			
CI LL	-0.0034		-0.0069		-0.0034			
Avg Diff	0.0031		0.0063		0.0031		0.3000	
% Diff	0.31%		0.31%		1.71%		7.14%	

Table G.3 Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Observations, 1st Replicate

3rd	<i>Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2784	1.2849	2.5588	2.5719	0.3793	0.3860	7.0000	7.0000
2	1.3065	1.3154	2.6067	2.6246	0.4023	0.4110	5.0000	6.0000
3	1.2809	1.2964	2.5615	2.5926	0.3804	0.3956	7.0000	6.0000
4	1.2895	1.3011	2.5785	2.6018	0.3880	0.3994	6.0000	6.0000
5	1.2581	1.2686	2.5209	2.5420	0.3588	0.3694	5.0000	5.0000
6	1.2918	1.3010	2.5800	2.5983	0.3894	0.3985	6.0000	6.0000
7	1.2761	1.2832	2.5509	2.5652	0.3768	0.3840	6.0000	6.0000
8	1.3034	1.3148	2.6043	2.6271	0.4003	0.4114	6.0000	7.0000
9	1.2733	1.2861	2.5474	2.5729	0.3736	0.3863	7.0000	7.0000
10	1.2633	1.2718	2.5333	2.5505	0.3653	0.3738	6.0000	6.0000
Avg	1.2821	1.2923	2.5642	2.5847	0.3814	0.3915	6.1000	6.2000
[+ -] 20% PE	-0.2462		-0.4924		-0.0662		-1.1200	
[+ -] 15% PE	-0.1821		-0.3642		-0.0471		-0.8150	
[+ -] 10% PE	-0.1180		-0.2360		-0.0280		-0.5100	
[+ -] 05% PE	-0.0539		-0.1077		-0.0089		-0.2050	
[+ -] 01% PE	-0.0026		-0.0052		0.0063		0.0390	
[+ -] 20% TS	-191.6825		-203.5071		-54.7348		-5.3556	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0002294664	
Reject?	0		0		0		0	
[+ -] 15% TS	-163.8736		-171.0586		-44.4700		-4.0524	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0014372558	
Reject?	0		0		0		0	
[+ -] 10% TS	-121.3654		-124.1791		-29.8825		-2.6360	
P-Value	0.0000000000		0.0000000000		0.0000000001		0.0135460272	
Reject?	0		0		0		0	
[+ -] 05% TS	-60.9723		-61.3083		-10.4356		-1.1006	
P-Value	0.0000000000		0.0000000000		0.0000012532		0.1498113551	
Reject?	0		0		0		1	
[+ -] 01% TS	-3.0097		-3.0094		7.6116		0.2157	
P-Value	0.0073609679		0.0073655070		0.9999835660		0.5829805391	
Reject?	0		0		1		1	
CI UL	-0.0083		-0.0166		-0.0083			
CI LL	-0.0122		-0.0244		-0.0120			
Avg Diff	0.0102		0.0205		0.0101		0.1000	
% Diff	0.80%		0.80%		2.66%		1.64%	

Table G.4 Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Observations, 2nd Replicate

4th	<i>Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2394	1.2434	2.4819	2.4898	0.3562	0.3601	6.0000	6.0000
2	1.2613	1.2649	2.5199	2.5270	0.3750	0.3786	6.0000	6.0000
3	1.2425	1.2455	2.4858	2.4918	0.3580	0.3610	6.0000	5.0000
4	1.2297	1.2329	2.4633	2.4697	0.3466	0.3499	6.0000	6.0000
5	1.2445	1.2466	2.4915	2.4956	0.3597	0.3619	5.0000	5.0000
6	1.2463	1.2502	2.4935	2.5014	0.3629	0.3669	5.0000	6.0000
7	1.2524	1.2568	2.5029	2.5117	0.3687	0.3731	6.0000	6.0000
8	1.2535	1.2578	2.5093	2.5178	0.3676	0.3718	6.0000	7.0000
9	1.2427	1.2457	2.4852	2.4913	0.3591	0.3622	6.0000	6.0000
10	1.2611	1.2648	2.5213	2.5287	0.3753	0.3791	6.0000	6.0000
Avg	1.2473	1.2509	2.4955	2.5025	0.3629	0.3665	5.8000	5.9000
[+ -] 20% PE	-0.2459		-0.4921		-0.0690		-1.0600	
[+ -] 15% PE	-0.1836		-0.3673		-0.0509		-0.7700	
[+ -] 10% PE	-0.1212		-0.2425		-0.0327		-0.4800	
[+ -] 05% PE	-0.0588		-0.1177		-0.0146		-0.1900	
[+ -] 01% PE	-0.0090		-0.0179		-0.0001		0.0420	
[+ -] 20% TS	-421.2979		-458.2889		-134.1860		-5.5491	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0001784125	
Reject?	0		0		0		0	
[+ -] 15% TS	-415.9156		-449.4690		-131.2919		-4.0989	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0013404721	
Reject?	0		0		0		0	
[+ -] 10% TS	-388.1770		-411.9175		-119.1758		-2.5964	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0144545290	
Reject?	0		0		0		0	
[+ -] 05% TS	-266.2261		-270.5173		-72.5940		-1.0435	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.1619760622	
Reject?	0		0		0		1	
[+ -] 01% TS	-42.2141		-42.0242		-0.3923		0.2333	
P-Value	0.0000000000		0.0000000000		0.3519862016		0.5896360427	
Reject?	0		0		1		1	
CI UL	-0.0030		-0.0060		-0.0031			
CI LL	-0.0040		-0.0080		-0.0040			
Avg Diff	0.0035		0.0070		0.0035		0.1000	
% Diff	0.28%		0.28%		0.98%		1.72%	

Table G.5 Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.8719	1.8457	3.7468	3.6944	1.0411	1.0163	15.0000	16.0000
2	2.0383	2.0387	4.0668	4.0676	1.1969	1.1977	18.0000	18.0000
3	1.9896	2.0635	3.9788	4.1266	1.1544	1.2268	19.0000	21.0000
4	1.9786	2.0243	3.9567	4.0480	1.1411	1.1866	14.0000	19.0000
5	1.9136	1.9599	3.8344	3.9272	1.0802	1.1258	13.0000	18.0000
6	1.9466	2.0070	3.8878	4.0084	1.1093	1.1685	11.0000	18.0000
7	1.8996	1.9258	3.7974	3.8499	1.0702	1.0962	21.0000	23.0000
8	2.0182	2.0642	4.0326	4.1244	1.1772	1.2223	15.0000	20.0000
9	1.9493	2.0157	3.8997	4.0325	1.1169	1.1826	17.0000	21.0000
10	1.9196	1.9680	3.8495	3.9465	1.0880	1.1361	18.0000	21.0000
Avg	1.9525	1.9913	3.9050	3.9825	1.1175	1.1559	16.1000	19.5000
[+ -] 20% PE	-0.3518		-0.7035		-0.1851		0.1800	
[+ -] 15% PE	-0.2541		-0.5083		-0.1293		0.9850	
[+ -] 10% PE	-0.1565		-0.3130		-0.0734		1.7900	
[+ -] 05% PE	-0.0589		-0.1178		-0.0175		2.5950	
[+ -] 01% PE	0.0192		0.0384		0.0272		3.2390	
[+ -] 20% TS	-37.0890		-37.3550		-20.1095		0.2150	
P-Value	0.0000000000		0.0000000000		0.0000000043		0.5827242461	
Reject?	0		0		0		1	
[+ -] 15% TS	-26.9228		-27.0446		-14.0749		1.2346	
P-Value	0.0000000003		0.0000000003		0.0000000979		0.8758843502	
Reject?	0		0		0		1	
[+ -] 10% TS	-16.5271		-16.5661		-7.9526		2.3570	
P-Value	0.0000000242		0.0000000237		0.0000116052		0.9785930941	
Reject?	0		0		0		1	
[+ -] 05% TS	-6.1501		-6.1542		-1.8757		3.5930	
P-Value	0.0000843504		0.0000839337		0.0467215116		0.9970941189	
Reject?	0		0		0		1	
[+ -] 01% TS	1.9779		1.9794		2.8692		4.6710	
P-Value	0.9603370805		0.9604299013		0.9907495862		0.9994165059	
Reject?	1		1		1		1	
CI UL	-0.0167		-0.0334		-0.0168			
CI LL	-0.0608		-0.1216		-0.0599			
Avg Diff	0.0387		0.0775		0.0384		3.4000	
% Diff	1.98%		1.98%		3.43%		21.12%	

Table G.6 Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	0.8922	0.9121	1.7865	1.8264	0.2047	0.2241	6.0000	9.0000
2	0.9010	0.9144	1.8001	1.8268	0.2102	0.2238	5.0000	8.0000
3	0.8978	0.9154	1.7961	1.8315	0.2088	0.2261	6.0000	12.0000
4	0.8880	0.9046	1.7789	1.8121	0.2008	0.2174	5.0000	8.0000
5	0.8963	0.9068	1.7943	1.8151	0.2064	0.2172	6.0000	7.0000
6	0.8933	0.9076	1.7873	1.8160	0.2062	0.2204	6.0000	9.0000
7	0.8973	0.9124	1.7932	1.8234	0.2105	0.2251	7.0000	10.0000
8	0.9070	0.9232	1.8156	1.8480	0.2153	0.2313	6.0000	8.0000
9	0.8934	0.9078	1.7866	1.8155	0.2064	0.2205	5.0000	10.0000
10	0.9028	0.9231	1.8049	1.8456	0.2125	0.2329	6.0000	8.0000
Avg	0.8969	0.9127	1.7944	1.8260	0.2082	0.2239	5.8000	8.9000
[+ -] 20% PE	-0.1635		-0.3272		-0.0259		1.9400	
[+ -] 15% PE	-0.1187		-0.2375		-0.0155		2.2300	
[+ -] 10% PE	-0.0738		-0.1477		-0.0051		2.5200	
[+ -] 05% PE	-0.0290		-0.0580		0.0053		2.8100	
[+ -] 01% PE	0.0069		0.0137		0.0136		3.0420	
[+ -] 20% TS	-164.9919		-166.1235		-28.3371		4.1399	
P-Value	0.0000000000		0.0000000000		0.0000000002		0.9987389164	
Reject?	0		0		0		1	
[+ -] 15% TS	-122.5976		-122.9462		-17.1466		4.7882	
P-Value	0.0000000000		0.0000000000		0.0000000176		0.9995050825	
Reject?	0		0		0		1	
[+ -] 10% TS	-77.5084		-77.4583		-5.6830		5.4424	
P-Value	0.0000000000		0.0000000000		0.0001503673		0.9997951427	
Reject?	0		0		0		1	
[+ -] 05% TS	-30.6758		-30.5731		5.8781		6.1015	
P-Value	0.0000000001		0.0000000001		0.9998823089		0.9999105397	
Reject?	0		0		1		1	
[+ -] 01% TS	7.2734		7.2323		15.0736		6.6318	
P-Value	0.9999765168		0.9999754551		0.9999999459		0.9999521437	
Reject?	1		1		1		1	
CI UL	-0.0137		-0.0274		-0.0137			
CI LL	-0.0180		-0.0360		-0.0177			
Avg Diff	0.0158		0.0317		0.0157		3.1000	
% Diff	1.77%		1.77%		7.54%		53.45%	

Table G.7 Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Observations, 1st Replicate

7th	<i>Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.8741	1.8477	3.7512	3.6984	1.0437	1.0187	15.0000	16.0000
2	2.0412	2.0414	4.0726	4.0731	1.2002	1.2008	18.0000	18.0000
3	1.9927	2.0669	3.9850	4.1334	1.1579	1.2306	19.0000	21.0000
4	1.9813	2.0274	3.9621	4.0542	1.1442	1.1901	14.0000	19.0000
5	1.9163	1.9629	3.8399	3.9332	1.0832	1.1291	13.0000	18.0000
6	1.9492	2.0102	3.8930	4.0148	1.1123	1.1721	11.0000	19.0000
7	1.9021	1.9285	3.8025	3.8552	1.0731	1.0992	21.0000	23.0000
8	2.0211	2.0673	4.0384	4.1306	1.1804	1.2258	15.0000	20.0000
9	1.9521	2.0190	3.9053	4.0392	1.1201	1.1862	17.0000	22.0000
10	1.9223	1.9710	3.8548	3.9526	1.0911	1.1395	18.0000	21.0000
Avg	1.9552	1.9942	3.9105	3.9885	1.1206	1.1592	16.1000	19.7000
[+ -] 20% PE	-0.3521		-0.7041		-0.1855		0.3800	
[+ -] 15% PE	-0.2543		-0.5086		-0.1295		1.1850	
[+ -] 10% PE	-0.1565		-0.3131		-0.0735		1.9900	
[+ -] 05% PE	-0.0588		-0.1175		-0.0174		2.7950	
[+ -] 01% PE	0.0194		0.0389		0.0274		3.4390	
[+ -] 20% TS	-36.8368		-37.0995		-19.9948		0.4169	
P-Value	0.0000000000		0.0000000000		0.0000000046		0.6567571737	
Reject?	0		0		0		1	
[+ -] 15% TS	-26.7305		-26.8510		-13.9890		1.3578	
P-Value	0.0000000003		0.0000000003		0.0000001032		0.8962119959	
Reject?	0		0		0		1	
[+ -] 10% TS	-16.4003		-16.4389		-7.8980		2.3833	
P-Value	0.0000000259		0.0000000254		0.0000122606		0.9794959202	
Reject?	0		0		0		1	
[+ -] 05% TS	-6.0908		-6.0949		-1.8531		3.5008	
P-Value	0.0000906290		0.0000901803		0.0484392008		0.9966426294	
Reject?	0		0		0		1	
[+ -] 01% TS	1.9842		1.9856		2.8670		4.4663	
P-Value	0.9607339238		0.9608278578		0.9907156838		0.9992184671	
Reject?	1		1		1		1	
CI UL	-0.0167		-0.0335		-0.0169			
CI LL	-0.0612		-0.1225		-0.0603			
Avg Diff	0.0390		0.0780		0.0386		3.6000	
% Diff	1.99%		1.99%		3.44%		22.36%	

Table G.8 Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Observations, 2nd Replicate

8th	<i>Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Obs., 2nd Replicate</i>							
	<i>WIP</i>		<i>ATS</i>		<i>Avg WS</i>		<i>Max WS</i>	
	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>
1	3.7430	3.9477	7.4950	7.9049	2.8347	3.0378	23.0000	29.0000
2	4.0418	4.3051	8.0748	8.6008	3.1325	3.3918	29.0000	34.0000
3	3.9656	4.4174	7.9342	8.8377	3.0574	3.5058	33.0000	45.0000
4	3.8038	3.8467	7.6197	7.7057	2.8960	2.9385	29.0000	32.0000
5	3.7477	3.9950	7.5029	7.9981	2.8419	3.0831	34.0000	32.0000
6	4.0928	3.9247	8.1890	7.8520	3.1801	3.0166	29.0000	34.0000
7	4.0278	3.9317	8.0484	7.8576	3.1130	3.0235	24.0000	29.0000
8	3.6676	4.0726	7.3420	8.1529	2.7650	3.1565	21.0000	28.0000
9	3.8493	3.9354	7.6980	7.8694	2.9376	3.0274	27.0000	31.0000
10	3.8197	4.4288	7.6370	8.8546	2.9125	3.5158	26.0000	44.0000
Avg	3.8759	4.0805	7.7541	8.1634	2.9671	3.1697	27.5000	33.8000
[+ -] 20% PE	-0.5706		-1.1416		-0.3908		0.8000	
[+ -] 15% PE	-0.3768		-0.7539		-0.2424		2.1750	
[+ -] 10% PE	-0.1830		-0.3662		-0.0941		3.5500	
[+ -] 05% PE	0.0108		0.0216		0.0543		4.9250	
[+ -] 01% PE	0.1658		0.3317		0.1729		6.0250	
[+ -] 20% TS	-6.9459		-6.9501		-4.8588		0.4496	
P-Value	0.0000335736		0.0000334177		0.0004486308		0.6681818034	
Reject?	0		0		0		1	
[+ -] 15% TS	-4.6577		-4.6603		-3.0598		1.2385	
P-Value	0.0005945689		0.0005923410		0.0067877492		0.8765685840	
Reject?	0		0		0		1	
[+ -] 10% TS	-2.2962		-2.2976		-1.2050		2.0459	
P-Value	0.0236464177		0.0235917949		0.1294693597		0.9644605072	
Reject?	0		0		1		1	
[+ -] 05% TS	0.1376		0.1372		0.7047		2.8694	
P-Value	0.5531891615		0.5530619262		0.7505928281		0.9907523869	
Reject?	1		1		1		1	
[+ -] 01% TS	2.1356		2.1361		2.2710		3.5377	
P-Value	0.9692697089		0.9692963674		0.9753594480		0.9968315010	
Reject?	1		1		1		1	
CI UL	-0.0294		-0.0589		-0.0308			
CI LL	-0.3798		-0.7596		-0.3744			
Avg Diff	0.2046		0.4093		0.2026		6.3000	
% Diff	5.28%		5.28%		6.83%		22.91%	

G.2 Best Fit Rank 2 vs Less Fit Lognormal

Table G.9 Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Observations, 1st Replicate

Ist	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2495	1.2506	2.5011	2.5033	0.3557	0.3569	7.0000	7.0000
2	1.2753	1.2777	2.5445	2.5494	0.3762	0.3786	5.0000	6.0000
3	1.2565	1.2612	2.5128	2.5222	0.3611	0.3656	6.0000	6.0000
4	1.2613	1.2643	2.5222	2.5282	0.3649	0.3679	6.0000	6.0000
5	1.2327	1.2357	2.4700	2.4760	0.3386	0.3417	5.0000	5.0000
6	1.2622	1.2645	2.5209	2.5255	0.3649	0.3672	6.0000	6.0000
7	1.2473	1.2493	2.4934	2.4974	0.3533	0.3553	6.0000	6.0000
8	1.2742	1.2776	2.5460	2.5528	0.3761	0.3795	6.0000	6.0000
9	1.2485	1.2521	2.4977	2.5050	0.3539	0.3576	7.0000	7.0000
10	1.2359	1.2379	2.4784	2.4823	0.3431	0.3451	6.0000	6.0000
Avg	1.2543	1.2571	2.5087	2.5142	0.3588	0.3615	6.0000	6.1000
[+ -] 20% PE	-0.2481		-0.4962		-0.0690		-1.1000	
[+ -] 15% PE	-0.1854		-0.3708		-0.0511		-0.8000	
[+ -] 10% PE	-0.1227		-0.2453		-0.0331		-0.5000	
[+ -] 05% PE	-0.0600		-0.1199		-0.0152		-0.2000	
[+ -] 01% PE	-0.0098		-0.0196		-0.0008		0.0400	
[+ -] 20% TS	-273.8010		-307.0467		-86.1695		-8.6365	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000059737	
Reject?	0		0		0		0	
[+ -] 15% TS	-265.8678		-295.4754		-81.9606		-6.6822	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000451783	
Reject?	0		0		0		0	
[+ -] 10% TS	-242.9104		-264.1252		-71.7892		-4.4426	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0008086819	
Reject?	0		0		0		0	
[+ -] 05% TS	-167.8770		-173.7511		-44.6858		-1.8880	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0458178767	
Reject?	0		0		0		0	
[+ -] 01% TS	-30.8990		-30.8874		-2.7155		0.3955	
P-Value	0.0000000001		0.0000000001		0.0118912250		0.6491725592	
Reject?	0		0		0		1	
CI UL	-0.0020		-0.0041		-0.0021			
CI LL	-0.0035		-0.0070		-0.0035			
Avg Diff	0.0028		0.0055		0.0028		0.1000	
% Diff	0.22%		0.22%		0.77%		1.67%	

Table G.10 Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	0.9964	1.0074	1.9952	2.0172	0.1734	0.1839	4.0000	4.0000
2	1.0074	1.0177	2.0125	2.0332	0.1811	0.1914	4.0000	4.0000
3	1.0001	1.0102	2.0008	2.0211	0.1757	0.1856	4.0000	4.0000
4	0.9939	1.0027	1.9910	2.0085	0.1706	0.1795	3.0000	4.0000
5	1.0029	1.0095	2.0077	2.0210	0.1779	0.1847	4.0000	4.0000
6	0.9969	1.0078	1.9946	2.0163	0.1736	0.1843	4.0000	4.0000
7	0.9980	1.0117	1.9945	2.0220	0.1747	0.1879	5.0000	6.0000
8	1.0048	1.0168	2.0115	2.0356	0.1792	0.1908	4.0000	5.0000
9	1.0006	1.0101	2.0010	2.0201	0.1772	0.1864	4.0000	5.0000
10	1.0080	1.0180	2.0152	2.0354	0.1822	0.1923	4.0000	5.0000
Avg	1.0009	1.0112	2.0024	2.0230	0.1765	0.1867	4.0000	4.5000
[+ -] 20% PE	-0.1899		-0.3798		-0.0252		-0.3000	
[+ -] 15% PE	-0.1398		-0.2797		-0.0164		-0.1000	
[+ -] 10% PE	-0.0898		-0.1796		-0.0075		0.1000	
[+ -] 05% PE	-0.0397		-0.0795		0.0013		0.3000	
[+ -] 01% PE	0.0003		0.0006		0.0084		0.4600	
[+ -] 20% TS	-276.0375		-272.7817		-42.3804		-1.7719	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0550902274	
Reject?	0		0		0		1	
[+ -] 15% TS	-213.9734		-211.2917		-28.5559		-0.5947	
P-Value	0.0000000000		0.0000000000		0.0000000002		0.2833552829	
Reject?	0		0		0		1	
[+ -] 10% TS	-143.3437		-141.7925		-13.5250		0.5976	
P-Value	0.0000000000		0.0000000000		0.0000001381		0.7175854976	
Reject?	0		0		0		1	
[+ -] 05% TS	-65.4184		-65.0193		2.3884		1.7982	
P-Value	0.0000000000		0.0000000000		0.9796669530		0.9471545672	
Reject?	0		0		1		1	
[+ -] 01% TS	0.5079		0.5121		15.4489		2.7599	
P-Value	0.6881250563		0.6895480121		0.9999999563		0.9889419249	
Reject?	1		1		1		1	
CI UL	-0.0090		-0.0179		-0.0089			
CI LL	-0.0117		-0.0233		-0.0114			
Avg Diff	0.0103		0.0206		0.0101		0.5000	
% Diff	1.03%		1.03%		5.74%		12.50%	

Table G.11 Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2848	1.2849	2.5717	2.5719	0.3856	0.3860	7.0000	7.0000
2	1.3144	1.3154	2.6226	2.6246	0.4098	0.4110	6.0000	6.0000
3	1.2928	1.2964	2.5854	2.5926	0.3919	0.3956	7.0000	6.0000
4	1.2990	1.3011	2.5975	2.6018	0.3971	0.3994	6.0000	6.0000
5	1.2667	1.2686	2.5382	2.5420	0.3673	0.3694	5.0000	5.0000
6	1.3000	1.3010	2.5963	2.5983	0.3973	0.3985	6.0000	6.0000
7	1.2826	1.2832	2.5639	2.5652	0.3831	0.3840	6.0000	6.0000
8	1.3130	1.3148	2.6234	2.6271	0.4094	0.4114	7.0000	7.0000
9	1.2834	1.2861	2.5676	2.5729	0.3835	0.3863	7.0000	7.0000
10	1.2706	1.2718	2.5479	2.5505	0.3723	0.3738	6.0000	6.0000
Avg	1.2907	1.2923	2.5815	2.5847	0.3897	0.3915	6.3000	6.2000
[+ -] 20% PE	-0.2565		-0.5131		-0.0761		1.1600	
[+ -] 15% PE	-0.1920		-0.3840		-0.0567		0.8450	
[+ -] 10% PE	-0.1275		-0.2549		-0.0372		0.5300	
[+ -] 05% PE	-0.0629		-0.1258		-0.0177		0.2150	
[+ -] 01% PE	-0.0113		-0.0226		-0.0021		-0.0370	
[+ -] 20% TS	-240.6704		-266.8659		-79.6390		12.4286	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000002854	
Reject?	0		0		0		0	
[+ -] 15% TS	-232.3291		-255.9309		-75.7706		9.0637	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000040296	
Reject?	0		0		0		0	
[+ -] 10% TS	-212.3616		-230.3764		-67.3089		5.6180	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0001633351	
Reject?	0		0		0		0	
[+ -] 05% TS	-153.4744		-160.3262		-45.4031		2.2251	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0265586932	
Reject?	0		0		0		0	
[+ -] 01% TS	-34.2962		-34.4032		-6.5530		-0.3728	
P-Value	0.0000000000		0.0000000000		0.0000524051		0.6410463792	
Reject?	0		0		0		1	
CI UL	-0.0009		-0.0018		-0.0011			
CI LL	-0.0024		-0.0047		-0.0025			
Avg Diff	0.0016		0.0032		0.0018		-0.1000	
% Diff	0.13%		0.13%		0.46%		-1.59%	

Table G.12 Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Observations, 2nd Replicate

4th	<i>Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2308	1.2434	2.4646	2.4898	0.3477	0.3601	7.0000	6.0000
2	1.2532	1.2649	2.5037	2.5270	0.3671	0.3786	6.0000	6.0000
3	1.2349	1.2455	2.4705	2.4918	0.3505	0.3610	6.0000	5.0000
4	1.2229	1.2329	2.4498	2.4697	0.3400	0.3499	5.0000	6.0000
5	1.2387	1.2466	2.4799	2.4956	0.3541	0.3619	5.0000	5.0000
6	1.2369	1.2502	2.4748	2.5014	0.3538	0.3669	5.0000	6.0000
7	1.2418	1.2568	2.4816	2.5117	0.3583	0.3731	6.0000	6.0000
8	1.2445	1.2578	2.4913	2.5178	0.3587	0.3718	6.0000	7.0000
9	1.2356	1.2457	2.4709	2.4913	0.3521	0.3622	6.0000	6.0000
10	1.2529	1.2648	2.5049	2.5287	0.3672	0.3791	6.0000	6.0000
Avg	1.2392	1.2509	2.4792	2.5025	0.3549	0.3665	5.8000	5.9000
[+ -] 20% PE	-0.2362		-0.4725		-0.0595		-1.0600	
[+ -] 15% PE	-0.1742		-0.3486		-0.0417		-0.7700	
[+ -] 10% PE	-0.1123		-0.2246		-0.0240		-0.4800	
[+ -] 05% PE	-0.0503		-0.1007		-0.0062		-0.1900	
[+ -] 01% PE	-0.0007		-0.0015		0.0080		0.0420	
[+ -] 20% TS	-313.9411		-320.0641		-87.7628		-4.0504	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0014416403	
Reject?	0		0		0		0	
[+ -] 15% TS	-255.3919		-256.9863		-66.6927		-3.0277	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0071498974	
Reject?	0		0		0		0	
[+ -] 10% TS	-175.6161		-174.9956		-40.0432		-1.9424	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0419924777	
Reject?	0		0		0		0	
[+ -] 05% TS	-79.9623		-79.5091		-10.3746		-0.7913	
P-Value	0.0000000000		0.0000000000		0.0000013163		0.2245637653	
Reject?	0		0		0		1	
[+ -] 01% TS	-1.1556		-1.1564		12.8009		0.1790	
P-Value	0.1388042200		0.1386409025		0.9999997784		0.5690387021	
Reject?	1		1		1		1	
CI UL	-0.0102		-0.0203		-0.0101			
CI LL	-0.0131		-0.0263		-0.0129			
Avg Diff	0.0116		0.0233		0.0115		0.1000	
% Diff	0.94%		0.94%		3.24%		1.72%	

Table G.13 Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	2.0010	1.8457	4.0051	3.6944	1.1705	1.0163	17.0000	16.0000
2	2.1963	2.0387	4.3821	4.0676	1.3546	1.1977	19.0000	18.0000
3	2.1499	2.0635	4.2994	4.1266	1.3144	1.2268	21.0000	21.0000
4	2.1222	2.0243	4.2437	4.0480	1.2844	1.1866	16.0000	19.0000
5	2.0542	1.9599	4.1161	3.9272	1.2207	1.1258	14.0000	18.0000
6	2.0915	2.0070	4.1772	4.0084	1.2540	1.1685	12.0000	18.0000
7	2.0377	1.9258	4.0736	3.8499	1.2086	1.0962	23.0000	23.0000
8	2.1715	2.0642	4.3387	4.1244	1.3299	1.2223	17.0000	20.0000
9	2.0958	2.0157	4.1929	4.0325	1.2635	1.1826	18.0000	21.0000
10	2.0597	1.9680	4.1304	3.9465	1.2281	1.1361	20.0000	21.0000
Avg	2.0980	1.9913	4.1959	3.9825	1.2629	1.1559	17.7000	19.5000
[+ -] 20% PE	0.3129		0.6258		0.1456		-1.7400	
[+ -] 15% PE	0.2080		0.4160		0.0824		-0.8550	
[+ -] 10% PE	0.1031		0.2062		0.0193		0.0300	
[+ -] 05% PE	-0.0018		-0.0036		-0.0439		0.9150	
[+ -] 01% PE	-0.0857		-0.1714		-0.0944		1.6230	
[+ -] 20% TS	32.3788		32.3554		15.4842		-1.9076	
P-Value	0.0000000001		0.0000000001		0.0000000428		0.0444045345	
Reject?	0		0		0		0	
[+ -] 15% TS	22.3365		22.3136		9.0799		-0.9848	
P-Value	0.0000000017		0.0000000017		0.0000039712		0.1752331728	
Reject?	0		0		0		1	
[+ -] 10% TS	11.3866		11.3802		2.1816		0.0364	
P-Value	0.0000006012		0.0000006041		0.0285111181		0.5141040584	
Reject?	0		0		0		1	
[+ -] 05% TS	-0.2037		-0.2024		-5.0453		1.1683	
P-Value	0.5784413057		0.5779453982		0.9996525943		0.8636585650	
Reject?	1		1		1		1	
[+ -] 01% TS	-9.6884		-9.7076		-10.9167		2.1628	
P-Value	0.9999976729		0.9999977109		0.9999991417		0.9706001591	
Reject?	1		1		1		1	
CI UL	0.1267		0.2533		0.1266			
CI LL	0.0867		0.1735		0.0875			
Avg Diff	-0.1067		-0.2134		-0.1070		1.8000	
% Diff	-5.09%		-5.09%		-8.47%		10.17%	

Table G.14 Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.0193	0.9121	2.0411	1.8264	0.3319	0.2241	9.0000	9.0000
2	1.0310	0.9144	2.0598	1.8268	0.3400	0.2238	7.0000	8.0000
3	1.0266	0.9154	2.0539	1.8315	0.3376	0.2261	9.0000	12.0000
4	1.0118	0.9046	2.0269	1.8121	0.3248	0.2174	8.0000	8.0000
5	1.0221	0.9068	2.0460	1.8151	0.3320	0.2172	8.0000	7.0000
6	1.0218	0.9076	2.0444	1.8160	0.3349	0.2204	8.0000	9.0000
7	1.0267	0.9124	2.0519	1.8234	0.3402	0.2251	10.0000	10.0000
8	1.0406	0.9232	2.0832	1.8480	0.3482	0.2313	9.0000	8.0000
9	1.0185	0.9078	2.0369	1.8155	0.3319	0.2205	8.0000	10.0000
10	1.0339	0.9231	2.0671	1.8456	0.3435	0.2329	9.0000	8.0000
Avg	1.0252	0.9127	2.0511	1.8260	0.3365	0.2239	8.5000	8.9000
[+ -] 20% PE	0.0925		0.1852		-0.0453		-1.3000	
[+ -] 15% PE	0.0413		0.0826		-0.0622		-0.8750	
[+ -] 10% PE	-0.0100		-0.0200		-0.0790		-0.4500	
[+ -] 05% PE	-0.0612		-0.1225		-0.0958		-0.0250	
[+ -] 01% PE	-0.1023		-0.2046		-0.1093		0.3150	
[+ -] 20% TS	104.7871		103.6264		-52.5190		-2.9515	
P-Value	0.0000000000		0.0000000000		1.0000000000		0.0080907469	
Reject?	0		0		1		0	
[+ -] 15% TS	44.4121		44.1478		-68.9608		-2.0047	
P-Value	0.0000000000		0.0000000000		1.0000000000		0.0379887314	
Reject?	0		0		1		0	
[+ -] 10% TS	-10.0658		-10.0592		-83.1235		-1.0395	
P-Value	0.9999983060		0.9999982968		1.0000000000		0.1628372865	
Reject?	1		1		1		1	
[+ -] 05% TS	-57.4306		-57.7316		-95.0357		-0.0582	
P-Value	1.0000000000		1.0000000000		1.0000000000		0.4774371792	
Reject?	1		1		1		1	
[+ -] 01% TS	-90.1805		-91.0314		-103.0796		0.7370	
P-Value	1.0000000000		1.0000000000		1.0000000000		0.7600558214	
Reject?	1		1		1		1	
CI UL	0.1151		0.2302		0.1151			
CI LL	0.1099		0.2199		0.1102			
Avg Diff	-0.1125		-0.2251		-0.1126		0.4000	
% Diff	-10.97%		-10.97%		-33.47%		4.71%	

Table G.15 Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Observations, 1st Replicate

7th	<i>Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.8968	1.8477	3.7965	3.6984	1.0642	1.0187	14.0000	16.0000
2	1.8830	2.0414	3.7569	4.0731	1.0526	1.2008	13.0000	18.0000
3	1.9293	2.0669	3.8584	4.1334	1.0980	1.2306	13.0000	21.0000
4	1.8941	2.0274	3.7875	4.0542	1.0644	1.1901	17.0000	19.0000
5	1.9191	1.9629	3.8454	3.9332	1.0916	1.1291	15.0000	18.0000
6	1.8987	2.0102	3.7922	4.0148	1.0687	1.1721	17.0000	19.0000
7	1.9678	1.9285	3.9337	3.8552	1.1333	1.0992	16.0000	23.0000
8	1.8659	2.0673	3.7283	4.1306	1.0383	1.2258	19.0000	20.0000
9	1.9397	2.0190	3.8805	4.0392	1.1077	1.1862	16.0000	22.0000
10	1.8660	1.9710	3.7420	3.9526	1.0369	1.1395	14.0000	21.0000
Avg	1.9060	1.9942	3.8121	3.9885	1.0756	1.1592	15.4000	19.7000
[+ -] 20% PE	-0.2930		-0.5861		-0.1315		1.2200	
[+ -] 15% PE	-0.1977		-0.3955		-0.0777		1.9900	
[+ -] 10% PE	-0.1024		-0.2049		-0.0239		2.7600	
[+ -] 05% PE	-0.0071		-0.0143		0.0299		3.5300	
[+ -] 01% PE	0.0691		0.1382		0.0729		4.1460	
[+ -] 20% TS	-10.8121		-10.7966		-5.1962		1.3606	
P-Value	0.0000009307		0.0000009420		0.0002834639		0.8966383161	
Reject?	0		0		0		1	
[+ -] 15% TS	-7.3829		-7.3769		-3.1069		2.2722	
P-Value	0.0000208922		0.0000210266		0.0062905154		0.9754062945	
Reject?	0		0		0		1	
[+ -] 10% TS	-3.8696		-3.8694		-0.9675		3.2258	
P-Value	0.0018954787		0.0018960685		0.1792818624		0.9948040092	
Reject?	0		0		1		1	
[+ -] 05% TS	-0.2717		-0.2733		1.2221		4.2223	
P-Value	0.3959837495		0.3954117981		0.8736469181		0.9988840877	
Reject?	1		1		1		1	
[+ -] 01% TS	2.6677		2.6680		3.0099		5.0506	
P-Value	0.9871407089		0.9871474961		0.9926412167		0.9996551161	
Reject?	1		1		1		1	
CI UL	-0.0297		-0.0594		-0.0290			
CI LL	-0.1467		-0.2932		-0.1383			
Avg Diff	0.0882		0.1763		0.0836		4.3000	
% Diff	4.63%		4.63%		7.78%		27.92%	

Table G.16 Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	3.8403	3.9477	7.6898	7.9049	2.9313	3.0378	23.0000	29.0000
2	4.2552	4.3051	8.5012	8.6008	3.3414	3.3918	29.0000	34.0000
3	4.0936	4.4174	8.1898	8.8377	3.1826	3.5058	32.0000	45.0000
4	3.8175	3.8467	7.6473	7.7057	2.9092	2.9385	23.0000	32.0000
5	4.0833	3.9950	8.1748	7.9981	3.1707	3.0831	30.0000	32.0000
6	3.9423	3.9247	7.8875	7.8520	3.0343	3.0166	31.0000	34.0000
7	3.9722	3.9317	7.9386	7.8576	3.0648	3.0235	26.0000	29.0000
8	4.1298	4.0726	8.2672	8.1529	3.2138	3.1565	28.0000	28.0000
9	3.8217	3.9354	7.6425	7.8694	2.9142	3.0274	28.0000	31.0000
10	4.2475	4.4288	8.4923	8.8546	3.3344	3.5158	29.0000	44.0000
Avg	4.0203	4.0805	8.0431	8.1634	3.1097	3.1697	27.9000	33.8000
[+ -] 20% PE	-0.7439		-1.4884		-0.5619		0.3200	
[+ -] 15% PE	-0.5429		-1.0862		-0.4065		1.7150	
[+ -] 10% PE	-0.3419		-0.6841		-0.2510		3.1100	
[+ -] 05% PE	-0.1409		-0.2819		-0.0955		4.5050	
[+ -] 01% PE	0.0199		0.0398		0.0289		5.6210	
[+ -] 20% TS	-18.5838		-18.5823		-14.0910		0.2055	
P-Value	0.0000000087		0.0000000087		0.0000000970		0.5791042703	
Reject?	0		0		0		1	
[+ -] 15% TS	-13.6734		-13.6714		-10.2693		1.1023	
P-Value	0.0000001257		0.0000001259		0.0000014335		0.8505416502	
Reject?	0		0		0		1	
[+ -] 10% TS	-8.6439		-8.6430		-6.3620		1.9993	
P-Value	0.0000059323		0.0000059371		0.0000655064		0.9616819734	
Reject?	0		0		0		1	
[+ -] 05% TS	-3.5596		-3.5602		-2.4181		2.8938	
P-Value	0.0030616737		0.0030588990		0.0193645849		0.9911128032	
Reject?	0		0		0		1	
[+ -] 01% TS	0.5022		0.5012		0.7291		3.6058	
P-Value	0.6861992832		0.6858742763		0.7577482686		0.9971516846	
Reject?	1		1		1		1	
CI UL	0.0298		0.0597		0.0298			
CI LL	-0.1501		-0.3002		-0.1498			
Avg Diff	0.0601		0.1203		0.0600		5.9000	
% Diff	1.50%		1.50%		1.93%		21.15%	

G.3 Best Fit Rank 1 vs Mixed Empirical-Exponential

Table G.17 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 1st Replicate

<i>Ist</i>	<i>Best Fit Rank 1 vs MEE with CV = 0.25, 30 Obs., 1st Replicate</i>							
	<i>WIP</i>		<i>ATS</i>		<i>Avg WS</i>		<i>Max WS</i>	
	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>
1	1.2446	1.3164	2.4911	2.6350	0.3508	0.4218	6.0000	6.0000
2	1.2684	1.3472	2.5307	2.6879	0.3695	0.4484	5.0000	8.0000
3	1.2464	1.3292	2.4927	2.6583	0.3512	0.4327	6.0000	6.0000
4	1.2536	1.2997	2.5067	2.5991	0.3574	0.4042	5.0000	9.0000
5	1.2255	1.3002	2.4556	2.6053	0.3315	0.4068	5.0000	8.0000
6	1.2554	1.3396	2.5074	2.6754	0.3583	0.4415	5.0000	7.0000
7	1.2418	1.3164	2.4825	2.6316	0.3478	0.4214	6.0000	7.0000
8	1.2660	1.3131	2.5296	2.6237	0.3682	0.4176	6.0000	5.0000
9	1.2395	1.3242	2.4797	2.6491	0.3450	0.4300	7.0000	7.0000
10	1.2300	1.2932	2.4665	2.5933	0.3372	0.4004	5.0000	6.0000
Avg	1.2471	1.3179	2.4943	2.6359	0.3517	0.4225	5.6000	6.9000
[+ -] 20% PE	-0.1786		-0.3572		0.0004		0.1800	
[+ -] 15% PE	-0.1163		-0.2325		0.0180		0.4600	
[+ -] 10% PE	-0.0539		-0.1078		0.0356		0.7400	
[+ -] 05% PE	0.0085		0.0169		0.0532		1.0200	
[+ -] 01% PE	0.0583		0.1167		0.0673		1.2440	
[+ -] 20% TS	-37.1920		-37.2389		0.0991		0.3262	
P-Value	0.0000000000		0.0000000000		0.5383935098		0.6241530543	
Reject?	0		0		1		1	
[+ -] 15% TS	-24.6448		-24.6580		4.0430		0.8471	
P-Value	0.0000000007		0.0000000007		0.9985423188		0.7905537603	
Reject?	0		0		1		1	
[+ -] 10% TS	-11.6134		-11.6167		8.1044		1.3847	
P-Value	0.0000005086		0.0000005074		0.9999900232		0.9002457205	
Reject?	0		0		1		1	
[+ -] 05% TS	1.8486		1.8486		12.2672		1.9395	
P-Value	0.9512125690		0.9512140141		0.9999996809		0.9578146693	
Reject?	1		1		1		1	
[+ -] 01% TS	12.8832		12.8952		15.6577		2.3962	
P-Value	0.9999997902		0.9999997919		0.9999999612		0.9799272974	
Reject?	1		1		1		1	
CI UL	-0.0606		-0.1212		-0.0611			
CI LL	-0.0810		-0.1620		-0.0805			
Avg Diff	0.0708		0.1416		0.0708		1.3000	
% Diff	5.68%		5.68%		20.13%		23.21%	

Table G.18 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 2nd Replicate

2nd	<i>Best Fit Rank 1 vs MEE with CV = 0.25, 30 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.0040	1.0697	2.0104	2.1419	0.1806	0.2437	4.0000	4.0000
2	1.0146	1.0584	2.0269	2.1146	0.1882	0.2336	4.0000	4.0000
3	1.0073	1.0569	2.0154	2.1145	0.1827	0.2328	4.0000	5.0000
4	0.9996	1.0627	2.0023	2.1287	0.1763	0.2378	4.0000	6.0000
5	1.0073	1.0676	2.0166	2.1372	0.1824	0.2423	4.0000	6.0000
6	1.0046	1.0645	2.0099	2.1298	0.1811	0.2400	4.0000	5.0000
7	1.0080	1.0654	2.0144	2.1293	0.1842	0.2381	5.0000	5.0000
8	1.0133	1.0675	2.0285	2.1369	0.1873	0.2412	4.0000	5.0000
9	1.0072	1.0630	2.0143	2.1259	0.1835	0.2387	4.0000	5.0000
10	1.0149	1.0705	2.0291	2.1403	0.1891	0.2439	5.0000	4.0000
Avg	1.0081	1.0646	2.0168	2.1299	0.1835	0.2392	4.2000	4.9000
[+ -] 20% PE	-0.1451		-0.2902		0.0190		-0.1400	
[+ -] 15% PE	-0.0947		-0.1894		0.0281		0.0700	
[+ -] 10% PE	-0.0443		-0.0885		0.0373		0.2800	
[+ -] 05% PE	0.0061		0.0123		0.0465		0.4900	
[+ -] 01% PE	0.0465		0.0930		0.0538		0.6580	
[+ -] 20% TS	-64.3063		-65.1620		10.0245		-0.4397	
P-Value	0.0000000000		0.0000000000		0.9999982469		0.3352616292	
Reject?	0		0		1		1	
[+ -] 15% TS	-43.1128		-43.5024		15.2550		0.2232	
P-Value	0.0000000000		0.0000000000		0.9999999513		0.5858000809	
Reject?	0		0		1		1	
[+ -] 10% TS	-20.7145		-20.8088		20.7473		0.9060	
P-Value	0.0000000033		0.0000000032		0.9999999967		0.8057278626	
Reject?	0		0		1		1	
[+ -] 05% TS	2.9535		2.9560		26.5126		1.6093	
P-Value	0.9919353539		0.9919676359		0.9999999996		0.9289914392	
Reject?	1		1		1		1	
[+ -] 01% TS	22.8448		22.7613		31.3282		2.1868	
P-Value	0.9999999986		0.9999999986		0.9999999999		0.9717297220	
Reject?	1		1		1		1	
CI UL	-0.0520		-0.1039		-0.0518			
CI LL	-0.0611		-0.1223		-0.0595			
Avg Diff	0.0565		0.1131		0.0557		0.7000	
% Diff	5.61%		5.61%		30.33%		16.67%	

Table G.19 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 1st Replicate

3rd	<i>Best Fit Rank 1 vs MEE with CV = 0.25, 100 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2784	1.2899	2.5588	2.5819	0.3793	0.3889	7.0000	5.0000
2	1.3065	1.3005	2.6067	2.5949	0.4023	0.3991	5.0000	6.0000
3	1.2809	1.3030	2.5615	2.6059	0.3804	0.4023	7.0000	6.0000
4	1.2895	1.2867	2.5785	2.5731	0.3880	0.3849	6.0000	6.0000
5	1.2581	1.2813	2.5209	2.5674	0.3588	0.3821	5.0000	5.0000
6	1.2918	1.2982	2.5800	2.5929	0.3894	0.3963	6.0000	6.0000
7	1.2761	1.2836	2.5509	2.5661	0.3768	0.3846	6.0000	7.0000
8	1.3034	1.3059	2.6043	2.6092	0.4003	0.4038	6.0000	6.0000
9	1.2733	1.3141	2.5474	2.6290	0.3736	0.4144	7.0000	7.0000
10	1.2633	1.2854	2.5333	2.5777	0.3653	0.3864	6.0000	6.0000
Avg	1.2821	1.2949	2.5642	2.5898	0.3814	0.3943	6.1000	6.0000
[+ -] 20% PE	-0.2437		-0.4873		-0.0634		1.1200	
[+ -] 15% PE	-0.1795		-0.3591		-0.0443		0.8150	
[+ -] 10% PE	-0.1154		-0.2309		-0.0253		0.5100	
[+ -] 05% PE	-0.0513		-0.1027		-0.0062		0.2050	
[+ -] 01% PE	-0.0001		-0.0001		0.0091		-0.0390	
[+ -] 20% TS	-46.0224		-46.7343		-12.6283		4.5159	
P-Value	0.0000000000		0.0000000000		0.0000002490		0.0007276987	
Reject?	0		0		0		0	
[+ -] 15% TS	-35.2630		-35.6711		-9.1457		3.1994	
P-Value	0.0000000000		0.0000000000		0.0000037429		0.0054212142	
Reject?	0		0		0		0	
[+ -] 10% TS	-23.5908		-23.7685		-5.4008		1.9480	
P-Value	0.0000000011		0.0000000010		0.0002162875		0.0416182740	
Reject?	0		0		0		0	
[+ -] 05% TS	-10.9218		-10.9580		-1.3741		0.7615	
P-Value	0.0000008548		0.0000008313		0.1013250280		0.2329183551	
Reject?	0		0		1		1	
[+ -] 01% TS	-0.0115		-0.0091		2.0629		-0.1416	
P-Value	0.4955476343		0.4964637965		0.9654224930		0.5547614563	
Reject?	1		1		1		1	
CI UL	-0.0026		-0.0051		-0.0030			
CI LL	-0.0230		-0.0460		-0.0227			
Avg Diff	0.0128		0.0256		0.0129		-0.1000	
% Diff	1.00%		1.00%		3.37%		-1.64%	

Table G.20 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 1 vs MEE with CV = 0.25, 100 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2394	1.2908	2.4819	2.5848	0.3562	0.4072	6.0000	7.0000
2	1.2613	1.3153	2.5199	2.6278	0.3750	0.4274	6.0000	7.0000
3	1.2425	1.3063	2.4858	2.6135	0.3580	0.4212	6.0000	13.0000
4	1.2297	1.3008	2.4633	2.6057	0.3466	0.4168	6.0000	6.0000
5	1.2445	1.2929	2.4915	2.5883	0.3597	0.4080	5.0000	6.0000
6	1.2463	1.3179	2.4935	2.6369	0.3629	0.4317	5.0000	8.0000
7	1.2524	1.3054	2.5029	2.6089	0.3687	0.4193	6.0000	7.0000
8	1.2535	1.2810	2.5093	2.5643	0.3676	0.3970	6.0000	8.0000
9	1.2427	1.3233	2.4852	2.6464	0.3591	0.4370	6.0000	7.0000
10	1.2611	1.2675	2.5213	2.5342	0.3753	0.3829	6.0000	5.0000
Avg	1.2473	1.3001	2.4955	2.6011	0.3629	0.4148	5.8000	7.4000
[+ -] 20% PE	-0.1967		-0.3935		-0.0207		0.4400	
[+ -] 15% PE	-0.1343		-0.2687		-0.0025		0.7300	
[+ -] 10% PE	-0.0720		-0.1439		0.0156		1.0200	
[+ -] 05% PE	-0.0096		-0.0192		0.0338		1.3100	
[+ -] 01% PE	0.0403		0.0807		0.0483		1.5420	
[+ -] 20% TS	-26.5246		-26.5644		-2.9668		0.6382	
P-Value	0.0000000004		0.0000000004		0.0078924138		0.7303687516	
Reject?	0		0		0		1	
[+ -] 15% TS	-18.3817		-18.4004		-0.3652		1.0601	
P-Value	0.0000000095		0.0000000095		0.3616932682		0.8416434934	
Reject?	0		0		1		1	
[+ -] 10% TS	-9.9921		-9.9976		2.3109		1.4830	
P-Value	0.0000018009		0.0000017927		0.9769159062		0.9138875168	
Reject?	0		0		1		1	
[+ -] 05% TS	-1.3508		-1.3503		5.0629		1.9067	
P-Value	0.1048636777		0.1049402774		0.9996608230		0.9555342311	
Reject?	1		1		1		1	
[+ -] 01% TS	5.7463		5.7472		7.3200		2.2462	
P-Value	0.9998612008		0.9998613553		0.9999776592		0.9743377246	
Reject?	1		1		1		1	
CI UL	-		-0.0740		-0.0370			
CI LL	-0.0686		-0.1373		-0.0668			
Avg Diff	0.0528		0.1056		0.0519		1.6000	
% Diff	4.23%		4.23%		14.31%		27.59%	

Table G.21 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 1 vs MEE with CV = 0.75, 30 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.8719	1.8066	3.7468	3.6162	1.0411	0.9766	15.0000	13.0000
2	2.0383	1.8397	4.0668	3.6706	1.1969	1.0075	18.0000	13.0000
3	1.9896	1.9213	3.9788	3.8422	1.1544	1.0853	19.0000	13.0000
4	1.9786	1.9064	3.9567	3.8117	1.1411	1.0711	14.0000	16.0000
5	1.9136	1.8378	3.8344	3.6824	1.0802	1.0071	13.0000	15.0000
6	1.9466	1.9030	3.8878	3.8006	1.1093	1.0659	11.0000	14.0000
7	1.8996	1.8311	3.7974	3.6605	1.0702	0.9991	21.0000	15.0000
8	2.0182	1.8733	4.0326	3.7429	1.1772	1.0372	15.0000	14.0000
9	1.9493	1.9097	3.8997	3.8206	1.1169	1.0784	17.0000	14.0000
10	1.9196	1.9071	3.8495	3.8243	1.0880	1.0724	18.0000	15.0000
Avg	1.9525	1.8736	3.9050	3.7472	1.1175	1.0401	16.1000	14.2000
[+ -] 20% PE	0.3116		0.6232		0.1460		1.3200	
[+ -] 15% PE	0.2139		0.4279		0.0902		0.5150	
[+ -] 10% PE	0.1163		0.2327		0.0343		-0.2900	
[+ -] 05% PE	0.0187		0.0374		-0.0216		-1.0950	
[+ -] 01% PE	-0.0594		-0.1188		-0.0663		-1.7390	
[+ -] 20% TS	20.8747		20.7751		10.3566		1.5035	
P-Value	0.0000000031		0.0000000032		0.0000013356		0.0834869768	
Reject?	0		0		0		1	
[+ -] 15% TS	13.8633		13.8256		6.1928		0.5581	
P-Value	0.0000001116		0.0000001143		0.0000801275		0.2951926897	
Reject?	0		0		0		1	
[+ -] 10% TS	7.2846		7.2796		2.2791		-0.2996	
P-Value	0.0000232039		0.0000233267		0.0243181827		0.6143672681	
Reject?	0		0		0		1	
[+ -] 05% TS	1.1307		1.1329		-1.3877		-1.0807	
P-Value	0.1436967733		0.1432724066		0.9006950755		0.8460316798	
Reject?	1		1		1		1	
[+ -] 01% TS	-3.4960		-3.5044		-4.1483		-1.6567	
P-Value	0.9966169062		0.9966612276		0.9987547037		0.9340177857	
Reject?	1		1		1		1	
CI UL	0.1176		0.2350		0.1139			
CI LL	0.0402		0.0807		0.0411			
Avg Diff	-0.0789		-0.1578		-0.0775		-1.9000	
% Diff	-4.04%		-4.04%		-6.93%		-11.80%	

Table G.22 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 2nd Replicate

6th	<i>Best Fit Rank 1 vs MEE with CV = 0.75, 30 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	0.8922	0.9392	1.7865	1.8806	0.2047	0.2504	6.0000	7.0000
2	0.9010	0.9428	1.8001	1.8836	0.2102	0.2531	5.0000	8.0000
3	0.8978	0.9387	1.7961	1.8781	0.2088	0.2498	6.0000	9.0000
4	0.8880	0.9485	1.7789	1.9000	0.2008	0.2578	5.0000	8.0000
5	0.8963	0.9508	1.7943	1.9034	0.2064	0.2592	6.0000	6.0000
6	0.8933	0.9560	1.7873	1.9127	0.2062	0.2653	6.0000	7.0000
7	0.8973	0.9407	1.7932	1.8800	0.2105	0.2513	7.0000	8.0000
8	0.9070	0.9507	1.8156	1.9031	0.2153	0.2612	6.0000	9.0000
9	0.8934	0.9397	1.7866	1.8793	0.2064	0.2519	5.0000	8.0000
10	0.9028	0.9465	1.8049	1.8923	0.2125	0.2566	6.0000	8.0000
Avg	0.8969	0.9454	1.7944	1.8913	0.2082	0.2557	5.8000	7.8000
[+ -] 20% PE	-0.1309		-0.2619		0.0059		0.8400	
[+ -] 15% PE	-0.0861		-0.1722		0.0163		1.1300	
[+ -] 10% PE	-0.0412		-0.0825		0.0267		1.4200	
[+ -] 05% PE	0.0036		0.0072		0.0371		1.7100	
[+ -] 01% PE	0.0395		0.0790		0.0454		1.9420	
[+ -] 20% TS	-47.8569		-48.1999		2.6234		2.1495	
P-Value	0.0000000000		0.0000000000		0.9861717002		0.9699588218	
Reject?	0		0		1		1	
[+ -] 15% TS	-32.2070		-32.3590		7.4365		2.9416	
P-Value	0.0000000001		0.0000000001		0.9999802594		0.9917781084	
Reject?	0		0		1		1	
[+ -] 10% TS	-15.7913		-15.8244		12.4402		3.7601	
P-Value	0.0000000361		0.0000000354		0.9999997169		0.9977577028	
Reject?	0		0		1		1	
[+ -] 05% TS	1.4174		1.4196		17.6376		4.6052	
P-Value	0.9049798770		0.9052843054		0.9999999863		0.9993594982	
Reject?	1		1		1		1	
[+ -] 01% TS	15.7717		15.7336		21.9363		5.3007	
P-Value	0.9999999635		0.9999999628		0.9999999980		0.9997532891	
Reject?	1		1		1		1	
CI UL	-0.0428		-0.0856		-0.0428			
CI LL	-0.0541		-0.1083		-0.0522			
Avg Diff	0.0485		0.0970		0.0475		2.0000	
% Diff	5.40%		5.40%		22.81%		34.48%	

Table G.23 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 1st Replicate

7th	<i>Best Fit Rank 1 vs MEE with CV = 0.75, 100 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.8741	2.1121	3.7512	4.2275	1.0437	1.2818	15.0000	19.0000
2	2.0412	2.2376	4.0726	4.4645	1.2002	1.3963	18.0000	20.0000
3	1.9927	2.1209	3.9850	4.2414	1.1579	1.2871	19.0000	16.0000
4	1.9813	2.1257	3.9621	4.2507	1.1442	1.2898	14.0000	19.0000
5	1.9163	2.1090	3.8399	4.2258	1.0832	1.2779	13.0000	17.0000
6	1.9492	2.1836	3.8930	4.3612	1.1123	1.3487	11.0000	25.0000
7	1.9021	2.0835	3.8025	4.1650	1.0731	1.2513	21.0000	16.0000
8	2.0211	2.1210	4.0384	4.2379	1.1804	1.2860	15.0000	23.0000
9	1.9521	2.1715	3.9053	4.3443	1.1201	1.3363	17.0000	20.0000
10	1.9223	2.1007	3.8548	4.2127	1.0911	1.2678	18.0000	16.0000
Avg	1.9552	2.1366	3.9105	4.2731	1.1206	1.3023	16.1000	19.1000
[+ -] 20% PE	-0.2097		-0.4195		-0.0424		-0.2200	
[+ -] 15% PE	-0.1120		-0.2240		0.0136		0.5850	
[+ -] 10% PE	-0.0142		-0.0284		0.0696		1.3900	
[+ -] 05% PE	0.0835		0.1671		0.1256		2.1950	
[+ -] 01% PE	0.1618		0.3235		0.1705		2.8390	
[+ -] 20% TS	-12.6689		-12.6928		-2.6556		-0.1138	
P-Value	0.0000002422		0.0000002383		0.0131161020		0.4559574692	
Reject?	0		0		0		1	
[+ -] 15% TS	-7.0089		-7.0177		0.8793		0.3096	
P-Value	0.0000313136		0.0000310130		0.7989359170		0.6180549398	
Reject?	0		0		1		1	
[+ -] 10% TS	-0.9220		-0.9224		4.6603		0.7533	
P-Value	0.1902792966		0.1901885798		0.9994076075		0.7647437898	
Reject?	1		1		1		1	
[+ -] 05% TS	5.6078		5.6106		8.6944		1.2186	
P-Value	0.9998345143		0.9998351194		0.9999943419		0.8730119933	
Reject?	1		1		1		1	
[+ -] 01% TS	11.1564		11.1600		12.1058		1.6074	
P-Value	0.9999992854		0.9999992874		0.9999996428		0.9287811375	
Reject?	1		1		1		1	
CI UL	-0.1487		-0.2975		-0.1500			
CI LL	-0.2139		-0.4278		-0.2133			
Avg Diff	0.1813		0.3626		0.1817		3.0000	
% Diff	9.27%		9.27%		16.21%		18.63%	

Table G.24 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 1 vs MEE with CV = 0.75, 100 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	3.7430	3.3653	7.4950	6.7387	2.8347	2.4583	23.0000	23.0000
2	4.0418	3.5864	8.0748	7.1650	3.1325	2.6766	29.0000	24.0000
3	3.9656	3.5046	7.9342	7.0117	3.0574	2.5950	33.0000	27.0000
4	3.8038	3.4579	7.6197	6.9270	2.8960	2.5487	29.0000	28.0000
5	3.7477	3.3656	7.5029	6.7380	2.8419	2.4584	34.0000	25.0000
6	4.0928	3.7441	8.1890	7.4908	3.1801	2.8325	29.0000	31.0000
7	4.0278	3.8424	8.0484	7.6791	3.1130	2.9306	24.0000	32.0000
8	3.6676	3.5377	7.3420	7.0818	2.7650	2.6280	21.0000	23.0000
9	3.8493	3.5721	7.6980	7.1439	2.9376	2.6613	27.0000	27.0000
10	3.8197	3.5847	7.6370	7.1634	2.9125	2.6761	26.0000	30.0000
Avg	3.8759	3.5561	7.7541	7.1139	2.9671	2.6465	27.5000	27.0000
[+ -] 20% PE	0.4554		0.9106		0.2729		5.0000	
[+ -] 15% PE	0.2616		0.5229		0.1245		3.6250	
[+ -] 10% PE	0.0678		0.1352		-0.0238		2.2500	
[+ -] 05% PE	-0.1260		-0.2525		-0.1722		0.8750	
[+ -] 01% PE	-0.2810		-0.5626		-0.2908		-0.2250	
[+ -] 20% TS	13.7757		13.7944		8.2908		3.5658	
P-Value	0.0000001179		0.0000001165		0.0000083111		0.0030321119	
Reject?	0		0		0		0	
[+ -] 15% TS	7.8523		7.8569		3.7565		2.5037	
P-Value	0.0000128399		0.0000127810		0.0022546657		0.0168293757	
Reject?	0		0		0		0	
[+ -] 10% TS	2.0099		2.0063		-0.7097		1.5050	
P-Value	0.0376728461		0.0378894461		0.7520762046		0.0832955997	
Reject?	0		0		1		1	
[+ -] 05% TS	-3.6751		-3.6833		-5.0512		0.5669	
P-Value	0.9974430092		0.9974753369		0.9996553930		0.2923339955	
Reject?	1		1		1		1	
[+ -] 01% TS	-8.0661		-8.0773		-8.4024		-0.1421	
P-Value	0.9999896378		0.9999897517		0.9999925378		0.5549363451	
Reject?	1		1		1		1	
CI UL	0.3990		0.7984		0.3991			
CI LL	0.2406		0.4819		0.2419			
Avg Diff	-0.3198		-0.6402		-0.3205		-0.5000	
% Diff	-8.25%		-8.26%		-10.80%		-1.82%	

G.4 Best Fit Rank 2 vs Mixed Empirical-Exponential

Table G.25 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 2 vs MEE with CV = 0.25, 30 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2495	1.3164	2.5011	2.6350	0.3557	0.4218	7.0000	6.0000
2	1.2753	1.3472	2.5445	2.6879	0.3762	0.4484	5.0000	8.0000
3	1.2565	1.3292	2.5128	2.6583	0.3611	0.4327	6.0000	6.0000
4	1.2613	1.2997	2.5222	2.5991	0.3649	0.4042	6.0000	9.0000
5	1.2327	1.3002	2.4700	2.6053	0.3386	0.4068	5.0000	8.0000
6	1.2622	1.3396	2.5209	2.6754	0.3649	0.4415	6.0000	7.0000
7	1.2473	1.3164	2.4934	2.6316	0.3533	0.4214	6.0000	7.0000
8	1.2742	1.3131	2.5460	2.6237	0.3761	0.4176	6.0000	5.0000
9	1.2485	1.3242	2.4977	2.6491	0.3539	0.4300	7.0000	7.0000
10	1.2359	1.2932	2.4784	2.5933	0.3431	0.4004	6.0000	6.0000
Avg	1.2543	1.3179	2.5087	2.6359	0.3588	0.4225	6.0000	6.9000
[+ -] 20% PE	-0.1873		-0.3746		-0.0081		-0.3000	
[+ -] 15% PE	-0.1246		-0.2491		0.0099		0.0000	
[+ -] 10% PE	-0.0618		-0.1237		0.0278		0.3000	
[+ -] 05% PE	0.0009		0.0018		0.0458		0.6000	
[+ -] 01% PE	0.0511		0.1021		0.0601		0.8400	
[+ -] 20% TS	-38.8903		-38.9579		-1.7853		-0.5597	
P-Value	0.0000000000		0.0000000000		0.0539318128		0.2946815239	
Reject?	0		0		1		1	
[+ -] 15% TS	-26.3675		-26.3898		2.2269		0.0000	
P-Value	0.0000000004		0.0000000004		0.9735172447		0.5000000000	
Reject?	0		0		1		1	
[+ -] 10% TS	-13.3226		-13.3282		6.3688		0.5769	
P-Value	0.0000001573		0.0000001567		0.9999350201		0.7109174967	
Reject?	0		0		1		1	
[+ -] 05% TS	0.1922		0.1916		10.6239		1.1715	
P-Value	0.5740879900		0.5738524076		0.9999989213		0.8642522334	
Reject?	1		1		1		1	
[+ -] 01% TS	11.2975		11.3065		14.0960		1.6602	
P-Value	0.9999993575		0.9999993618		0.9999999033		0.9343758623	
Reject?	1		1		1		1	
CI UL	-0.0534		-0.1068		-0.0541			
CI LL	-0.0738		-0.1476		-0.0733			
Avg Diff	0.0636		0.1272		0.0637		0.9000	
% Diff	5.07%		5.07%		17.75%		15.00%	

Table G.26 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 2 vs MEE with CV = 0.25, 30 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	0.9964	1.0697	1.9952	2.1419	0.1734	0.2437	4.0000	4.0000
2	1.0074	1.0584	2.0125	2.1146	0.1811	0.2336	4.0000	4.0000
3	1.0001	1.0569	2.0008	2.1145	0.1757	0.2328	4.0000	5.0000
4	0.9939	1.0627	1.9910	2.1287	0.1706	0.2378	3.0000	6.0000
5	1.0029	1.0676	2.0077	2.1372	0.1779	0.2423	4.0000	6.0000
6	0.9969	1.0645	1.9946	2.1298	0.1736	0.2400	4.0000	5.0000
7	0.9980	1.0654	1.9945	2.1293	0.1747	0.2381	5.0000	5.0000
8	1.0048	1.0675	2.0115	2.1369	0.1792	0.2412	4.0000	5.0000
9	1.0006	1.0630	2.0010	2.1259	0.1772	0.2387	4.0000	5.0000
10	1.0080	1.0705	2.0152	2.1403	0.1822	0.2439	4.0000	4.0000
Avg	1.0009	1.0646	2.0024	2.1299	0.1765	0.2392	4.0000	4.9000
[+ -] 20% PE	-0.1364		-0.2730		0.0273		0.1000	
[+ -] 15% PE	-0.0864		-0.1728		0.0362		0.3000	
[+ -] 10% PE	-0.0364		-0.0727		0.0450		0.5000	
[+ -] 05% PE	0.0137		0.0274		0.0538		0.7000	
[+ -] 01% PE	0.0537		0.1075		0.0609		0.8600	
[+ -] 20% TS	-61.6323		-62.3513		15.4377		0.2973	
P-Value	0.0000000000		0.0000000000		0.9999999561		0.6135206304	
Reject?	0		0		1		1	
[+ -] 15% TS	-40.0653		-40.3839		20.9135		0.9071	
P-Value	0.0000000000		0.0000000000		0.9999999969		0.8059913644	
Reject?	0		0		1		1	
[+ -] 10% TS	-17.3108		-17.3797		26.6451		1.5374	
P-Value	0.0000000162		0.0000000156		0.9999999996		0.9207069103	
Reject?	0		0		1		1	
[+ -] 05% TS	6.6908		6.6955		32.6401		2.1888	
P-Value	0.9999552673		0.9999555066		0.9999999999		0.9718201122	
Reject?	1		1		1		1	
[+ -] 01% TS	26.8285		26.7468		37.6300		2.7256	
P-Value	0.9999999997		0.9999999997		1.0000000000		0.9883036489	
Reject?	1		1		1		1	
CI UL	-0.0592		-0.1185		-0.0590			
CI LL	-0.0682		-0.1366		-0.0663			
Avg Diff	0.0637		0.1275		0.0627		0.9000	
% Diff	6.37%		6.37%		35.49%		22.50%	

Table G.27 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 1st Replicate

3rd	<i>Best Fit Rank 2 vs MEE with CV = 0.25, 100 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2848	1.2899	2.5717	2.5819	0.3856	0.3889	7.0000	5.0000
2	1.3144	1.3005	2.6226	2.5949	0.4098	0.3991	6.0000	6.0000
3	1.2928	1.3030	2.5854	2.6059	0.3919	0.4023	7.0000	6.0000
4	1.2990	1.2867	2.5975	2.5731	0.3971	0.3849	6.0000	6.0000
5	1.2667	1.2813	2.5382	2.5674	0.3673	0.3821	5.0000	5.0000
6	1.3000	1.2982	2.5963	2.5929	0.3973	0.3963	6.0000	6.0000
7	1.2826	1.2836	2.5639	2.5661	0.3831	0.3846	6.0000	7.0000
8	1.3130	1.3059	2.6234	2.6092	0.4094	0.4038	7.0000	6.0000
9	1.2834	1.3141	2.5676	2.6290	0.3835	0.4144	7.0000	7.0000
10	1.2706	1.2854	2.5479	2.5777	0.3723	0.3864	6.0000	6.0000
Avg	1.2907	1.2949	2.5815	2.5898	0.3897	0.3943	6.3000	6.0000
[+ -] 20% PE	-0.2540		-0.5080		-0.0734		0.9600	
[+ -] 15% PE	-0.1895		-0.3789		-0.0539		0.6450	
[+ -] 10% PE	-0.1249		-0.2498		-0.0344		0.3300	
[+ -] 05% PE	-0.0604		-0.1207		-0.0149		0.0150	
[+ -] 01% PE	-0.0088		-0.0175		0.0006		-0.2370	
[+ -] 20% TS	-49.0158		-49.8569		-15.0657		4.0632	
P-Value	0.0000000000		0.0000000000		0.0000000543		0.0014141791	
Reject?	0		0		0		0	
[+ -] 15% TS	-38.0919		-38.5883		-11.4806		2.6674	
P-Value	0.0000000000		0.0000000000		0.0000005607		0.0128650084	
Reject?	0		0		0		0	
[+ -] 10% TS	-26.1882		-26.4166		-7.6092		1.3324	
P-Value	0.0000000004		0.0000000004		0.0000164756		0.1077432860	
Reject?	0		0		0		1	
[+ -] 05% TS	-13.2079		-13.2634		-3.4288		0.0591	
P-Value	0.0000001694		0.0000001634		0.0037611556		0.4770871412	
Reject?	0		0		0		1	
[+ -] 01% TS	-1.9814		-1.9805		0.1530		-0.9150	
P-Value	0.0394406883		0.0395004762		0.5590950581		0.8079675494	
Reject?	0		0		1		1	
CI UL	0.0058		0.0115		0.0049			
CI LL	-0.0141		-0.0281		-0.0140			
Avg Diff	0.0042		0.0083		0.0045		-0.3000	
% Diff	0.32%		0.32%		1.17%		-4.76%	

Table G.28 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 2 vs MEE with CV = 0.25, 100 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.2308	1.2908	2.4646	2.5848	0.3477	0.4072	7.0000	7.0000
2	1.2532	1.3153	2.5037	2.6278	0.3671	0.4274	6.0000	7.0000
3	1.2349	1.3063	2.4705	2.6135	0.3505	0.4212	6.0000	13.0000
4	1.2229	1.3008	2.4498	2.6057	0.3400	0.4168	5.0000	6.0000
5	1.2387	1.2929	2.4799	2.5883	0.3541	0.4080	5.0000	6.0000
6	1.2369	1.3179	2.4748	2.6369	0.3538	0.4317	5.0000	8.0000
7	1.2418	1.3054	2.4816	2.6089	0.3583	0.4193	6.0000	7.0000
8	1.2445	1.2810	2.4913	2.5643	0.3587	0.3970	6.0000	8.0000
9	1.2356	1.3233	2.4709	2.6464	0.3521	0.4370	6.0000	7.0000
10	1.2529	1.2675	2.5049	2.5342	0.3672	0.3829	6.0000	5.0000
Avg	1.2392	1.3001	2.4792	2.6011	0.3549	0.4148	5.8000	7.4000
[+ -] 20% PE	-0.1869		-0.3740		-0.0111		0.4400	
[+ -] 15% PE	-0.1250		-0.2500		0.0067		0.7300	
[+ -] 10% PE	-0.0630		-0.1261		0.0244		1.0200	
[+ -] 05% PE	-0.0011		-0.0021		0.0422		1.3100	
[+ -] 01% PE	0.0485		0.0971		0.0563		1.5420	
[+ -] 20% TS	-25.5285		-25.5611		-1.6192		0.6346	
P-Value	0.0000000005		0.0000000005		0.0699290320		0.7292633544	
Reject?	0		0		1		1	
[+ -] 15% TS	-17.3073		-17.3221		0.9847		1.0559	
P-Value	0.0000000162		0.0000000161		0.8247442797		0.8407237664	
Reject?	0		0		1		1	
[+ -] 10% TS	-8.8493		-8.8533		3.6584		1.4792	
P-Value	0.0000049004		0.0000048823		0.9973757822		0.9133898709	
Reject?	0		0		1		1	
[+ -] 05% TS	-0.1503		-0.1495		6.4031		1.9043	
P-Value	0.4419382248		0.4422335846		0.9999375911		0.9553666180	
Reject?	1		1		1		1	
[+ -] 01% TS	6.9850		6.9861		8.6506		2.2456	
P-Value	0.9999678496		0.9999678857		0.9999941047		0.9743153011	
Reject?	1		1		1		1	
CI UL	-0.0452		-0.0905		-0.0452			
CI LL	-0.0766		-0.1532		-0.0746			
Avg Diff	0.0609		0.1219		0.0599		1.6000	
% Diff	4.91%		4.92%		16.88%		27.59%	

Table G.29 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 2 vs MEE with CV = 0.75, 30 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	2.0010	1.8066	4.0051	3.6162	1.1705	0.9766	17.0000	13.0000
2	2.1963	1.8397	4.3821	3.6706	1.3546	1.0075	19.0000	13.0000
3	2.1499	1.9213	4.2994	3.8422	1.3144	1.0853	21.0000	13.0000
4	2.1222	1.9064	4.2437	3.8117	1.2844	1.0711	16.0000	16.0000
5	2.0542	1.8378	4.1161	3.6824	1.2207	1.0071	14.0000	15.0000
6	2.0915	1.9030	4.1772	3.8006	1.2540	1.0659	12.0000	14.0000
7	2.0377	1.8311	4.0736	3.6605	1.2086	0.9991	23.0000	15.0000
8	2.1715	1.8733	4.3387	3.7429	1.3299	1.0372	17.0000	14.0000
9	2.0958	1.9097	4.1929	3.8206	1.2635	1.0784	18.0000	14.0000
10	2.0597	1.9071	4.1304	3.8243	1.2281	1.0724	20.0000	15.0000
Avg	2.0980	1.8736	4.1959	3.7472	1.2629	1.0401	17.7000	14.2000
[+ -] 20% PE	0.1952		0.3905		0.0298		0.0400	
[+ -] 15% PE	0.0903		0.1807		-0.0334		-0.8450	
[+ -] 10% PE	-0.0146		-0.0291		-0.0965		-1.7300	
[+ -] 05% PE	-0.1195		-0.2389		-0.1597		-2.6150	
[+ -] 01% PE	-0.2034		-0.4068		-0.2102		-3.3230	
[+ -] 20% TS	12.1386		12.1102		1.9537		0.0434	
P-Value	0.0000003491		0.0000003561		0.0412372492		0.4831753826	
Reject?	0		0		0		1	
[+ -] 15% TS	5.3918		5.3910		-2.1072		-0.8705	
P-Value	0.0002188412		0.0002190618		0.9678204799		0.7966664707	
Reject?	0		0		1		1	
[+ -] 10% TS	-0.8359		-0.8366		-5.8536		-1.6968	
P-Value	0.7875836357		0.7877566279		0.9998786673		0.9380128543	
Reject?	1		1		1		1	
[+ -] 05% TS	-6.5749		-6.5979		-9.3040		-2.4469	
P-Value	0.9999489051		0.9999502428		0.9999967495		0.9815280745	
Reject?	1		1		1		1	
[+ -] 01% TS	-10.8370		-10.8909		-11.8652		-2.9987	
P-Value	0.9999990871		0.9999991245		0.9999995761		0.9925059451	
Reject?	1		1		1		1	
CI UL	0.2672		0.5339		0.2632			
CI LL	0.1816		0.3636		0.1824			
Avg Diff	-0.2244		-0.4487		-0.2228		-3.5000	
% Diff	-10.70%		-10.69%		-17.64%		-19.77%	

Table G.30 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 2nd Replicate

6th	<i>Best Fit Rank 2 vs MEE with CV = 0.75, 30 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.0193	0.9392	2.0411	1.8806	0.3319	0.2504	9.0000	7.0000
2	1.0310	0.9428	2.0598	1.8836	0.3400	0.2531	7.0000	8.0000
3	1.0266	0.9387	2.0539	1.8781	0.3376	0.2498	9.0000	9.0000
4	1.0118	0.9485	2.0269	1.9000	0.3248	0.2578	8.0000	8.0000
5	1.0221	0.9508	2.0460	1.9034	0.3320	0.2592	8.0000	6.0000
6	1.0218	0.9560	2.0444	1.9127	0.3349	0.2653	8.0000	7.0000
7	1.0267	0.9407	2.0519	1.8800	0.3402	0.2513	10.0000	8.0000
8	1.0406	0.9507	2.0832	1.9031	0.3482	0.2612	9.0000	9.0000
9	1.0185	0.9397	2.0369	1.8793	0.3319	0.2519	8.0000	8.0000
10	1.0339	0.9465	2.0671	1.8923	0.3435	0.2566	9.0000	8.0000
Avg	1.0252	0.9454	2.0511	1.8913	0.3365	0.2557	8.5000	7.8000
[+ -] 20% PE	0.1252		0.2504		-0.0135		1.0000	
[+ -] 15% PE	0.0739		0.1479		-0.0304		0.5750	
[+ -] 10% PE	0.0226		0.0453		-0.0472		0.1500	
[+ -] 05% PE	-0.0286		-0.0572		-0.0640		-0.2750	
[+ -] 01% PE	-0.0696		-0.1393		-0.0775		-0.6150	
[+ -] 20% TS	46.0949		45.7384		-5.9365		3.2425	
P-Value	0.0000000000		0.0000000000		0.9998905243		0.0050587768	
Reject?	0		0		1		0	
[+ -] 15% TS	26.2805		26.1605		-12.8845		1.8289	
P-Value	0.0000000004		0.0000000004		0.9999997904		0.0503371083	
Reject?	0		0		1		1	
[+ -] 10% TS	7.7749		7.7653		-19.3805		0.4675	
P-Value	0.0000138913		0.0000140290		0.9999999940		0.3256243559	
Reject?	0		0		1		1	
[+ -] 05% TS	-9.5005		-9.5036		-25.4506		-0.8391	
P-Value	0.9999972639		0.9999972712		0.9999999995		0.7884357058	
Reject?	1		1		1		1	
[+ -] 01% TS	-22.4894		-22.5487		-30.0180		-1.8440	
P-Value	0.9999999984		0.9999999984		0.9999999999		0.9508591490	
Reject?	1		1		1		1	
CI UL	0.0869		0.1739		0.0867			
CI LL	0.0728		0.1457		0.0750			
Avg Diff	-0.0799		-0.1598		-0.0808		-0.7000	
% Diff	-7.79%		-7.79%		-24.02%		-8.24%	

Table G.31 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 2 vs MEE with CV = 0.75, 100 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BF	LF	BF	LF	BF	LF	BF	LF
1	1.8968	2.1121	3.7965	4.2275	1.0642	1.2818	14.0000	19.0000
2	1.8830	2.2376	3.7569	4.4645	1.0526	1.3963	13.0000	20.0000
3	1.9293	2.1209	3.8584	4.2414	1.0980	1.2871	13.0000	16.0000
4	1.8941	2.1257	3.7875	4.2507	1.0644	1.2898	17.0000	19.0000
5	1.9191	2.1090	3.8454	4.2258	1.0916	1.2779	15.0000	17.0000
6	1.8987	2.1836	3.7922	4.3612	1.0687	1.3487	17.0000	25.0000
7	1.9678	2.0835	3.9337	4.1650	1.1333	1.2513	16.0000	16.0000
8	1.8659	2.1210	3.7283	4.2379	1.0383	1.2860	19.0000	23.0000
9	1.9397	2.1715	3.8805	4.3443	1.1077	1.3363	16.0000	20.0000
10	1.8660	2.1007	3.7420	4.2127	1.0369	1.2678	14.0000	16.0000
Avg	1.9060	2.1366	3.8121	4.2731	1.0756	1.3023	15.4000	19.1000
[+ -] 20% PE	-0.1507		-0.3015		0.0116		0.6200	
[+ -] 15% PE	-0.0554		-0.1109		0.0654		1.3900	
[+ -] 10% PE	0.0399		0.0797		0.1192		2.1600	
[+ -] 05% PE	0.1352		0.2703		0.1730		2.9300	
[+ -] 01% PE	0.2115		0.4228		0.2160		3.5460	
[+ -] 20% TS	-7.0564		-7.0549		0.5738		0.7846	
P-Value	0.0000297214		0.0000297707		0.7099351003		0.7735838994	
Reject?	0		0		1		1	
[+ -] 15% TS	-2.6404		-2.6439		3.2885		1.7714	
P-Value	0.0134478685		0.0133715575		0.9952993194		0.9448720545	
Reject?	0		0		1		1	
[+ -] 10% TS	1.9377		1.9381		6.1023		2.7680	
P-Value	0.9576911692		0.9577163937		0.9999106307		0.9890879362	
Reject?	1		1		1		1	
[+ -] 05% TS	6.6828		6.6973		9.0183		3.7699	
P-Value	0.9999548547		0.9999555972		0.9999958013		0.9977912936	
Reject?	1		1		1		1	
[+ -] 01% TS	10.6020		10.6365		11.4263		4.5720	
P-Value	0.9999989025		0.9999989320		0.9999994163		0.9993284402	
Reject?	1		1		1		1	
CI UL	-0.1856		-0.3714		-0.1841			
CI LL	-0.2755		-0.5505		-0.2693			
Avg Diff	0.2305		0.4610		0.2267		3.7000	
% Diff	12.09%		12.09%		21.08%		24.03%	

Table G.32 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 2nd Replicate

8th	<i>Best Fit Rank 2 vs MEE with CV = 0.75, 100 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WSI		Max WSI	
	BF	LF	BF	LF	BF	LF	BF	LF
1	3.8403	3.3653	7.6898	6.7387	2.9313	2.4583	23.0000	23.0000
2	4.2552	3.5864	8.5012	7.1650	3.3414	2.6766	29.0000	24.0000
3	4.0936	3.5046	8.1898	7.0117	3.1826	2.5950	32.0000	27.0000
4	3.8175	3.4579	7.6473	6.9270	2.9092	2.5487	23.0000	28.0000
5	4.0833	3.3656	8.1748	6.7380	3.1707	2.4584	30.0000	25.0000
6	3.9423	3.7441	7.8875	7.4908	3.0343	2.8325	31.0000	31.0000
7	3.9722	3.8424	7.9386	7.6791	3.0648	2.9306	26.0000	32.0000
8	4.1298	3.5377	8.2672	7.0818	3.2138	2.6280	28.0000	23.0000
9	3.8217	3.5721	7.6425	7.1439	2.9142	2.6613	28.0000	27.0000
10	4.2475	3.5847	8.4923	7.1634	3.3344	2.6761	29.0000	30.0000
Avg	4.0203	3.5561	8.0431	7.1139	3.1097	2.6465	27.9000	27.0000
[+ -] 20% PE	0.3398		0.6794		0.1588		4.6800	
[+ -] 15% PE	0.1388		0.2773		0.0033		3.2850	
[+ -] 10% PE	-0.0622		-0.1249		-0.1522		1.8900	
[+ -] 05% PE	-0.2632		-0.5270		-0.3076		0.4950	
[+ -] 01% PE	-0.4241		-0.8487		-0.4320		-0.6210	
[+ -] 20% TS	5.5718		5.5671		2.6483		3.9010	
P-Value	0.0001732879		0.0001743416		0.0132751357		0.0018070538	
Reject?	0		0		0		0	
[+ -] 15% TS	2.2146		2.2105		0.0540		2.6798	
P-Value	0.0270170404		0.0271995899		0.4790765527		0.0126070028	
Reject?	0		0		1		0	
[+ -] 10% TS	-0.9659		-0.9683		-2.4032		1.5080	
P-Value	0.8203414672		0.8208997231		0.9801570029		0.0829115094	
Reject?	1		1		1		1	
[+ -] 05% TS	-3.9750		-3.9750		-4.7272		0.3861	
P-Value	0.9983849956		0.9983850042		0.9994609694		0.3541925432	
Reject?	1		1		1		1	
[+ -] 01% TS	-6.2631		-6.2611		-6.4938		-0.4756	
P-Value	0.9999263403		0.9999261646		0.9999438721		0.6771390615	
Reject?	1		1		1		1	
CI UL	0.6183		1.2375		0.6145			
CI LL	0.3102		0.6208		0.3118			
Avg Diff	-0.4643		-0.9292		-0.4631		-0.9000	
% Diff	-11.55%		-11.55%		-14.89%		-3.23%	

G.5 Best Fit Rank 1 vs Best Fit Rank 2

Table G.33 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 30 Observations, 1st Replicate

1st	<i>Best Fit R1 vs Best Fit R2 with CV = 0.25, 30 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>
1	1.2446	1.2495	2.4911	2.5011	0.3508	0.3557	6.0000	7.0000
2	1.2684	1.2753	2.5307	2.5445	0.3695	0.3762	5.0000	5.0000
3	1.2464	1.2565	2.4927	2.5128	0.3512	0.3611	6.0000	6.0000
4	1.2536	1.2613	2.5067	2.5222	0.3574	0.3649	5.0000	6.0000
5	1.2255	1.2327	2.4556	2.4700	0.3315	0.3386	5.0000	5.0000
6	1.2554	1.2622	2.5074	2.5209	0.3583	0.3649	5.0000	6.0000
7	1.2418	1.2473	2.4825	2.4934	0.3478	0.3533	6.0000	6.0000
8	1.2660	1.2742	2.5296	2.5460	0.3682	0.3761	6.0000	6.0000
9	1.2395	1.2485	2.4797	2.4977	0.3450	0.3539	7.0000	7.0000
10	1.2300	1.2359	2.4665	2.4784	0.3372	0.3431	5.0000	6.0000
Avg	1.2471	1.2543	2.4943	2.5087	0.3517	0.3588	5.6000	6.0000
PE	-0.0072		-0.0144		-0.0071		-0.4000	
TS	-14.43515054		-14.44703522		-14.8020041		-2.449489743	
P-Value	1.57373E-07		1.56255E-07		1.26603E-07		0.036787498	
Reject?	0		0		0		0	
Avg Diff	-0.0072		-0.0144		-0.0071		-0.4000	
% Diff	-0.58%		-0.58%		-2.02%		-7.14%	

Table G.34 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 30 Observations, 2nd Replicate

2nd	<i>Best Fit R1 vs Best Fit R2 with CV = 0.25, 30 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>
1	1.0040	0.9964	2.0104	1.9952	0.1806	0.1734	4.0000	4.0000
2	1.0146	1.0074	2.0269	2.0125	0.1882	0.1811	4.0000	4.0000
3	1.0073	1.0001	2.0154	2.0008	0.1827	0.1757	4.0000	4.0000
4	0.9996	0.9939	2.0023	1.9910	0.1763	0.1706	4.0000	3.0000
5	1.0073	1.0029	2.0166	2.0077	0.1824	0.1779	4.0000	4.0000
6	1.0046	0.9969	2.0099	1.9946	0.1811	0.1736	4.0000	4.0000
7	1.0080	0.9980	2.0144	1.9945	0.1842	0.1747	5.0000	5.0000
8	1.0133	1.0048	2.0285	2.0115	0.1873	0.1792	4.0000	4.0000
9	1.0072	1.0006	2.0143	2.0010	0.1835	0.1772	4.0000	4.0000
10	1.0149	1.0080	2.0291	2.0152	0.1891	0.1822	5.0000	4.0000
Avg	1.0081	1.0009	2.0168	2.0024	0.1835	0.1765	4.2000	4.0000
PE	0.0072		0.0144		0.0070		0.2000	
TS	15.1869604		15.21567954		16.37867418		1.5	
P-Value	1.01299E-07		9.96491E-08		5.2447E-08		0.167850656	
Reject?	0		0		0		1	
Avg Diff	0.0072		0.0144		0.0070		0.2000	
% Diff	0.71%		0.71%		3.81%		4.76%	

Table G.35 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit R1 vs Best Fit R2 with CV = 0.25, 100 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	1.2784	1.2848	2.5588	2.5717	0.3793	0.3856	7.0000	7.0000
2	1.3065	1.3144	2.6067	2.6226	0.4023	0.4098	5.0000	6.0000
3	1.2809	1.2928	2.5615	2.5854	0.3804	0.3919	7.0000	7.0000
4	1.2895	1.2990	2.5785	2.5975	0.3880	0.3971	6.0000	6.0000
5	1.2581	1.2667	2.5209	2.5382	0.3588	0.3673	5.0000	5.0000
6	1.2918	1.3000	2.5800	2.5963	0.3894	0.3973	6.0000	6.0000
7	1.2761	1.2826	2.5509	2.5639	0.3768	0.3831	6.0000	6.0000
8	1.3034	1.3130	2.6043	2.6234	0.4003	0.4094	6.0000	7.0000
9	1.2733	1.2834	2.5474	2.5676	0.3736	0.3835	7.0000	7.0000
10	1.2633	1.2706	2.5333	2.5479	0.3653	0.3723	6.0000	6.0000
Avg	1.2821	1.2907	2.5642	2.5815	0.3814	0.3897	6.1000	6.3000
PE	-0.0086		-0.0172		-0.0083		-0.2000	
TS	-15.87500685		-15.88638751		-15.96801464		-1.5	
P-Value	6.88793E-08		6.84503E-08		6.54588E-08		0.167850656	
Reject?	0		0		0		1	
Avg Diff	-0.0086		-0.0172		-0.0083		-0.2000	
% Diff	-0.67%		-0.67%		-2.18%		-3.28%	

Table G.36 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit R1 vs Best Fit R2 with CV = 0.25, 100 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	1.2394	1.2308	2.4819	2.4646	0.3562	0.3477	6.0000	7.0000
2	1.2613	1.2532	2.5199	2.5037	0.3750	0.3671	6.0000	6.0000
3	1.2425	1.2349	2.4858	2.4705	0.3580	0.3505	6.0000	6.0000
4	1.2297	1.2229	2.4633	2.4498	0.3466	0.3400	6.0000	5.0000
5	1.2445	1.2387	2.4915	2.4799	0.3597	0.3541	5.0000	5.0000
6	1.2463	1.2369	2.4935	2.4748	0.3629	0.3538	5.0000	5.0000
7	1.2524	1.2418	2.5029	2.4816	0.3687	0.3583	6.0000	6.0000
8	1.2535	1.2445	2.5093	2.4913	0.3676	0.3587	6.0000	6.0000
9	1.2427	1.2356	2.4852	2.4709	0.3591	0.3521	6.0000	6.0000
10	1.2611	1.2529	2.5213	2.5049	0.3753	0.3672	6.0000	6.0000
Avg	1.2473	1.2392	2.4955	2.4792	0.3629	0.3549	5.8000	5.8000
PE	0.0081		0.0163		0.0080		0.0000	
TS	18.4000816		18.43697666		18.60465442		0	
P-Value	1.89179E-08		1.85878E-08		1.71657E-08		1	
Reject?	0		0		0		1	
Avg Diff	0.0081		0.0163		0.0080		0.0000	
% Diff	0.65%		0.65%		2.20%		0.00%	

Table G.37 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 30 Observations, 1st Replicate

5th	<i>Best Fit R1 vs Best Fit R2 with CV = 0.75, 30 Obs., 1st Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>
1	1.8719	2.0010	3.7468	4.0051	1.0411	1.1705	15.0000	17.0000
2	2.0383	2.1963	4.0668	4.3821	1.1969	1.3546	18.0000	19.0000
3	1.9896	2.1499	3.9788	4.2994	1.1544	1.3144	19.0000	21.0000
4	1.9786	2.1222	3.9567	4.2437	1.1411	1.2844	14.0000	16.0000
5	1.9136	2.0542	3.8344	4.1161	1.0802	1.2207	13.0000	14.0000
6	1.9466	2.0915	3.8878	4.1772	1.1093	1.2540	11.0000	12.0000
7	1.8996	2.0377	3.7974	4.0736	1.0702	1.2086	21.0000	23.0000
8	2.0182	2.1715	4.0326	4.3387	1.1772	1.3299	15.0000	17.0000
9	1.9493	2.0958	3.8997	4.1929	1.1169	1.2635	17.0000	18.0000
10	1.9196	2.0597	3.8495	4.1304	1.0880	1.2281	18.0000	20.0000
Avg	1.9525	2.0980	3.9050	4.1959	1.1175	1.2629	16.1000	17.7000
PE	-0.1454		-0.2909		-0.1454		-1.6000	
TS	-48.22319896		-48.82790949		-49.19996533		-9.797958971	
P-Value	3.55389E-12		3.17807E-12		2.96889E-12		4.23974E-06	
Reject?	0		0		0		0	
Avg Diff	-0.1454		-0.2909		-0.1454		-1.6000	
% Diff	-7.45%		-7.45%		-13.01%		-9.94%	

Table G.38 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 30 Observations, 2nd Replicate

6th	<i>Best Fit R1 vs Best Fit R2 with CV = 0.75, 30 Obs., 2nd Replicate</i>							
	WIP		ATS		Avg WS		Max WS	
	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>	<i>BFR1</i>	<i>BFR2</i>
1	0.8922	1.0193	1.7865	2.0411	0.2047	0.3319	6.0000	9.0000
2	0.9010	1.0310	1.8001	2.0598	0.2102	0.3400	5.0000	7.0000
3	0.8978	1.0266	1.7961	2.0539	0.2088	0.3376	6.0000	9.0000
4	0.8880	1.0118	1.7789	2.0269	0.2008	0.3248	5.0000	8.0000
5	0.8963	1.0221	1.7943	2.0460	0.2064	0.3320	6.0000	8.0000
6	0.8933	1.0218	1.7873	2.0444	0.2062	0.3349	6.0000	8.0000
7	0.8973	1.0267	1.7932	2.0519	0.2105	0.3402	7.0000	10.0000
8	0.9070	1.0406	1.8156	2.0832	0.2153	0.3482	6.0000	9.0000
9	0.8934	1.0185	1.7866	2.0369	0.2064	0.3319	5.0000	8.0000
10	0.9028	1.0339	1.8049	2.0671	0.2125	0.3435	6.0000	9.0000
Avg	0.8969	1.0252	1.7944	2.0511	0.2082	0.3365	5.8000	8.5000
PE	-0.1284		-0.2568		-0.1283		-2.7000	
TS	-137.0141586		-138.7666264		-147.542857		-17.67564911	
P-Value	2.98628E-16		2.66364E-16		1.53417E-16		2.6917E-08	
Reject?	0		0		0		0	
Avg Diff	-0.1284		-0.2568		-0.1283		-2.7000	
% Diff	-14.31%		-14.31%		-61.64%		-46.55%	

Table G.39 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 100 Obs., 1st Replicate							
	WIP		ATS		Avg WS		Max WS	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	1.8741	1.8968	3.7512	3.7965	1.0437	1.0642	15.0000	14.0000
2	2.0412	1.8830	4.0726	3.7569	1.2002	1.0526	18.0000	13.0000
3	1.9927	1.9293	3.9850	3.8584	1.1579	1.0980	19.0000	13.0000
4	1.9813	1.8941	3.9621	3.7875	1.1442	1.0644	14.0000	17.0000
5	1.9163	1.9191	3.8399	3.8454	1.0832	1.0916	13.0000	15.0000
6	1.9492	1.8987	3.8930	3.7922	1.1123	1.0687	11.0000	17.0000
7	1.9021	1.9678	3.8025	3.9337	1.0731	1.1333	21.0000	16.0000
8	2.0211	1.8659	4.0384	3.7283	1.1804	1.0383	15.0000	19.0000
9	1.9521	1.9397	3.9053	3.8805	1.1201	1.1077	17.0000	16.0000
10	1.9223	1.8660	3.8548	3.7420	1.0911	1.0369	18.0000	14.0000
Avg	1.9552	1.9060	3.9105	3.8121	1.1206	1.0756	16.1000	15.4000
PE	0.0492		0.0983		0.0451		0.7000	
TS	2.148446343		2.149261191		2.118296742		0.518400014	
P-Value	0.060188604		0.060108861		0.063212251		0.616682195	
Reject?	1		1		1		1	
Avg Diff	0.0492		0.0983		0.0451		0.7000	
% Diff	2.52%		2.51%		4.02%		4.35%	

Table G.40 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 100 Obs., 2nd Replicate							
	WIP		ATS		Avg WS		Max WS	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	3.7430	3.8403	7.4950	7.6898	2.8347	2.9313	23.0000	23.0000
2	4.0418	4.2552	8.0748	8.5012	3.1325	3.3414	29.0000	29.0000
3	3.9656	4.0936	7.9342	8.1898	3.0574	3.1826	33.0000	32.0000
4	3.8038	3.8175	7.6197	7.6473	2.8960	2.9092	29.0000	23.0000
5	3.7477	4.0833	7.5029	8.1748	2.8419	3.1707	34.0000	30.0000
6	4.0928	3.9423	8.1890	7.8875	3.1801	3.0343	29.0000	31.0000
7	4.0278	3.9722	8.0484	7.9386	3.1130	3.0648	24.0000	26.0000
8	3.6676	4.1298	7.3420	8.2672	2.7650	3.2138	21.0000	28.0000
9	3.8493	3.8217	7.6980	7.6425	2.9376	2.9142	27.0000	28.0000
10	3.8197	4.2475	7.6370	8.4923	2.9125	3.3344	26.0000	29.0000
Avg	3.8759	4.0203	7.7541	8.0431	2.9671	3.1097	27.5000	27.9000
PE	-0.1444		-0.2890		-0.1426		-0.4000	
TS	-2.170199082		-2.170385171		-2.202922848		-0.348742916	
P-Value	0.058094646		0.058077041		0.055077406		0.73530184	
Reject?	1		1		1		1	
Avg Diff	-0.1444		-0.2890		-0.1426		-0.4000	
% Diff	-3.73%		-3.73%		-4.81%		-1.45%	

H Intermediate Model Statistical Comparisons

H.1 Best Fit Rank 1 vs Less Fit Lognormal

Table H.1 Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WS1		Max WS1		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.0233	9.0239	9.0449	9.0455	1.4983	1.4976	21.0000	21.0000	0.1730	0.1746	4.0000	4.0000	2.4860	2.4891	25.0000	25.0000
2	8.8485	8.8564	8.8576	8.8655	1.5056	1.5034	18.0000	18.0000	0.1686	0.1701	5.0000	6.0000	2.2659	2.2748	17.0000	17.0000
3	9.1026	9.0946	9.1174	9.1094	1.4236	1.4208	16.0000	16.0000	0.1633	0.1641	4.0000	5.0000	2.6764	2.6737	21.0000	21.0000
4	8.9490	8.9387	8.9298	8.9196	1.5040	1.5032	20.0000	20.0000	0.1635	0.1640	4.0000	4.0000	2.4195	2.4128	22.0000	22.0000
5	8.3504	8.3595	8.3968	8.4060	1.4613	1.4584	18.0000	18.0000	0.1700	0.1708	5.0000	5.0000	1.9821	1.9959	16.0000	17.0000
6	9.3909	9.3968	9.3806	9.3864	1.4971	1.4953	23.0000	22.0000	0.1684	0.1700	4.0000	4.0000	2.8233	2.8303	20.0000	20.0000
7	8.8987	8.9004	8.8953	8.8970	1.5004	1.4952	21.0000	21.0000	0.1729	0.1750	5.0000	5.0000	2.3793	2.3821	21.0000	21.0000
8	8.9821	8.9898	8.9893	8.9970	1.4142	1.4115	21.0000	20.0000	0.1709	0.1723	5.0000	5.0000	2.5896	2.6009	22.0000	22.0000
9	9.0130	9.0071	8.9732	8.9673	1.5372	1.5367	25.0000	25.0000	0.1725	0.1737	5.0000	5.0000	2.3985	2.3932	18.0000	18.0000
10	10.1015	10.0898	10.0332	10.0215	1.5582	1.5567	17.0000	17.0000	0.1758	0.1779	4.0000	4.0000	3.4797	3.4704	28.0000	28.0000
11	9.0455	9.0368	9.0551	9.0464	1.5291	1.5281	22.0000	22.0000	0.1645	0.1649	4.0000	4.0000	2.4627	2.4530	19.0000	19.0000
12	8.7194	8.7142	8.6642	8.6591	1.5897	1.5869	21.0000	21.0000	0.1743	0.1752	4.0000	4.0000	2.1017	2.0975	23.0000	23.0000
13	9.0440	9.0296	9.0605	9.0461	1.4868	1.4855	20.0000	20.0000	0.1733	0.1745	5.0000	5.0000	2.5037	2.4924	24.0000	24.0000
14	8.7936	8.7898	8.8480	8.8442	1.4331	1.4308	19.0000	19.0000	0.1668	0.1683	4.0000	5.0000	2.3729	2.3713	17.0000	17.0000
Avg	9.0187	9.0162	9.0176	9.0151	1.4956	1.4936	20.1429	20.0000	0.1698	0.1711	4.4286	4.6429	2.4958	2.4955	20.9286	21.0000
[+ -] 20% PE	1.8012		1.8010		0.2971		3.8857		-0.0327		-0.6714		0.4989		-4.1143	
[+ -] 15% PE	1.3503		1.3501		0.2223		2.8786		-0.0242		-0.4500		0.3741		-3.0679	
[+ -] 10% PE	0.8994		0.8993		0.1475		1.8714		-0.0157		-0.2286		0.2493		-2.0214	
[+ -] 05% PE	0.4484		0.4484		0.0727		0.8643		-0.0072		-0.0071		0.1245		-0.9750	
[+ -] 01% PE	0.0877		0.0877		0.0129		0.0586		-0.0004		0.1700		0.0247		-0.1379	
[+ -] 20% TS	90.3043		95.0047		106.6919		29.0461		-186.7889		-5.6083		27.2135		-18.5665	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000425242		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	91.2626		95.9903		104.8934		25.5866		-174.7483		-3.8243		27.4364		-17.1808	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0010539760		0.0000000000		0.0000000001	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	92.9046		97.6271		101.0625		19.2028		-134.1078		-1.9706		27.7619		-14.7385	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0352220107		0.0000000000		0.0000000009	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 05% TS	95.0713		99.2594		88.7906		9.4198		-60.4992		-0.0623		27.6610		-9.8074	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000001792		0.0000000000		0.4756452376		0.0000000000		0.0000001127	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 01% TS	45.1762		44.9248		33.0840		0.6156		-3.1959		1.4919		11.9253		-1.8217	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.2743921370		0.0035113524		0.9202027140		0.0000000113		0.0457889415	
Reject?	0		0		0		1		0		1		0		0	
CI UL	0.0071		0.0071		0.0028				-0.0009				0.0050			
CI LL	-0.0021		-0.0021		0.0013				-0.0016				-0.0044			
Avg Diff	-0.0025		-0.0025		-0.0020		-0.1429		0.0013		0.2143		-0.0003		0.0714	
% Diff	-0.03%		-0.03%		-0.14%		-0.71%		0.74%		4.84%		-0.01%		0.34%	

Table H.2 Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	8.9913	8.9932	8.9655	8.9673	1.2924	1.2923	22.0000	22.0000	1.0091	1.0052	13.0000	13.0000	1.3850	1.3847	18.0000	18.0000
2	8.5850	8.5830	8.5985	8.5965	1.2673	1.2680	19.0000	19.0000	1.0240	1.0200	12.0000	12.0000	1.1067	1.1047	14.0000	14.0000
3	8.8409	8.8509	8.8373	8.8474	1.3174	1.3174	18.0000	19.0000	1.1051	1.1081	15.0000	15.0000	1.1656	1.1641	14.0000	14.0000
4	8.4540	8.4617	8.5072	8.5150	1.2155	1.2168	18.0000	18.0000	0.9446	0.9429	16.0000	16.0000	1.1463	1.1462	14.0000	13.0000
5	8.7726	8.7758	8.7579	8.7611	1.2965	1.2953	21.0000	21.0000	1.2181	1.2204	15.0000	16.0000	1.0557	1.0545	11.0000	11.0000
6	9.3054	9.3097	9.2597	9.2640	1.3732	1.3730	16.0000	17.0000	1.1140	1.1113	16.0000	16.0000	1.4994	1.4966	19.0000	19.0000
7	8.8019	8.8091	8.8119	8.8191	1.2510	1.2517	19.0000	19.0000	1.0227	1.0224	14.0000	14.0000	1.2402	1.2388	16.0000	16.0000
8	8.5583	8.5650	8.6372	8.6440	1.2222	1.2219	20.0000	21.0000	0.9558	0.9543	14.0000	14.0000	1.2584	1.2581	18.0000	18.0000
9	8.4914	8.4964	8.5053	8.5103	1.2413	1.2417	20.0000	20.0000	0.9119	0.9127	14.0000	14.0000	1.1526	1.1527	15.0000	15.0000
10	8.7741	8.7785	8.7607	8.7651	1.2637	1.2633	15.0000	15.0000	1.0067	1.0099	14.0000	14.0000	1.3140	1.3139	15.0000	15.0000
11	8.9582	8.9640	8.9196	8.9253	1.3351	1.3348	17.0000	17.0000	1.0869	1.0894	21.0000	21.0000	1.1466	1.1457	12.0000	12.0000
12	8.5495	8.5549	8.5775	8.5830	1.2682	1.2682	19.0000	19.0000	1.0317	1.0326	17.0000	17.0000	1.0466	1.0434	13.0000	12.0000
13	8.8667	8.8727	8.8662	8.8722	1.2763	1.2757	24.0000	24.0000	1.0243	1.0239	19.0000	19.0000	1.3197	1.3191	15.0000	15.0000
14	8.8872	8.8955	8.8677	8.8760	1.3235	1.3229	17.0000	16.0000	1.0462	1.0445	13.0000	13.0000	1.2745	1.2748	18.0000	18.0000
Avg	8.7740	8.7793	8.7766	8.7819	1.2817	1.2816	18.9286	19.0714	1.0358	1.0355	15.2143	15.2857	1.2222	1.2212	15.1429	15.0000
[+ -] 20% PE	-1.7495		-1.7500		0.2563		-3.6429		0.2069		-2.9714		0.2434		2.8857	
[+ -] 15% PE	-1.3108		-1.3112		0.1922		-2.6964		0.1551		-2.2107		0.1823		2.1286	
[+ -] 10% PE	-0.8721		-0.8724		0.1281		-1.7500		0.1033		-1.4500		0.1212		1.3714	
[+ -] 05% PE	-0.4334		-0.4335		0.0640		-0.8036		0.0515		-0.6893		0.0601		0.6143	
[+ -] 01% PE	-0.0825		-0.0825		0.0128		-0.0464		0.0101		-0.0807		0.0112		0.0086	
[+ -] 20% TS	-140.1921		-159.1870		111.4005		-18.5034		46.9022		-19.6812		35.0408		15.8181	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000		0.0000000004	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-139.8094		-158.7690		112.6094		-15.2939		45.8403		-17.9654		34.9133		13.6843	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000005		0.0000000000		0.0000000001		0.0000000000		0.0000000021	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	-138.8629		-157.6647		114.9197		-10.9660		43.6276		-14.7661		34.6407		10.4601	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.00000000306		0.0000000000		0.0000000008		0.0000000000		0.0000000533	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 05% TS	-134.6998		-152.4028		120.6233		-5.4290		37.0283		-8.6869		33.6945		5.5468	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000576402		0.0000000000		0.0000004487		0.0000000000		0.0000471755	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 01% TS	-81.3374		-85.9077		83.1436		-0.3239		13.4883		-1.1227		23.5612		0.0865	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.3755726853		0.0000000025		0.1409370063		0.0000000000		0.4661981120	
Reject?	0		0		0		1		0		1		0		1	
CI UL	-0.0036		-0.0036		0.0004				0.0017				0.0016			
CI LL	-0.0070		-0.0070		-0.0003				-0.0012				0.0004			
Avg Diff	0.0053		0.0053		0.0000		0.1429		-0.0003		0.0714		-0.0010		-0.1429	
% Diff	0.06%		0.06%		0.00%		0.75%		-0.02%		0.47%		-0.08%		-0.94%	

Table H.3 Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.9980	10.0144	10.0219	10.0382	1.9467	1.9530	25.0000	25.0000	0.3133	0.3200	6.0000	7.0000	1.7554	1.7570	22.0000	21.0000
2	9.8719	9.9013	9.8817	9.9112	1.9770	1.9762	23.0000	23.0000	0.3113	0.3160	6.0000	7.0000	1.5752	1.5768	13.0000	13.0000
3	9.7943	9.8023	9.8103	9.8184	1.8428	1.8398	17.0000	17.0000	0.2956	0.3014	5.0000	5.0000	1.7442	1.7441	15.0000	15.0000
4	9.8768	9.8706	9.8558	9.8496	1.9478	1.9504	23.0000	23.0000	0.3035	0.3065	5.0000	5.0000	1.7165	1.7093	19.0000	18.0000
5	9.2499	9.2755	9.3014	9.3271	1.8728	1.8699	22.0000	22.0000	0.3145	0.3170	6.0000	6.0000	1.4290	1.4366	15.0000	15.0000
6	10.1231	10.1477	10.1121	10.1366	1.9424	1.9469	29.0000	29.0000	0.3065	0.3126	5.0000	5.0000	1.8777	1.8780	18.0000	18.0000
7	9.8989	9.9240	9.8954	9.9205	1.9841	1.9760	27.0000	26.0000	0.3213	0.3305	7.0000	7.0000	1.6935	1.6934	17.0000	17.0000
8	9.6903	9.7060	9.6982	9.7138	1.8319	1.8311	25.0000	24.0000	0.3150	0.3203	6.0000	6.0000	1.7863	1.7892	18.0000	18.0000
9	9.9909	10.0128	9.9485	9.9703	1.9958	2.0009	29.0000	29.0000	0.3198	0.3255	7.0000	7.0000	1.5939	1.5940	15.0000	15.0000
10	10.4779	10.5019	10.4060	10.4299	2.0515	2.0500	20.0000	21.0000	0.3263	0.3362	7.0000	6.0000	2.2510	2.2532	24.0000	24.0000
11	10.1418	10.1718	10.1525	10.1826	2.0087	2.0098	25.0000	26.0000	0.3056	0.3064	5.0000	5.0000	1.7684	1.7648	18.0000	18.0000
12	9.8250	9.8540	9.7630	9.7918	2.0770	2.0692	29.0000	28.0000	0.3194	0.3261	6.0000	6.0000	1.4785	1.4757	19.0000	19.0000
13	10.0444	10.0605	10.0629	10.0790	1.9499	1.9474	23.0000	23.0000	0.3190	0.3247	6.0000	6.0000	1.7679	1.7607	18.0000	18.0000
14	9.6134	9.6324	9.6729	9.6920	1.8698	1.8635	21.0000	20.0000	0.3038	0.3121	6.0000	6.0000	1.6736	1.6767	15.0000	15.0000
Avg	9.8997	9.9196	9.8988	9.9186	1.9499	1.9489	24.1429	24.0000	0.3125	0.3182	5.9286	6.0000	1.7222	1.7221	17.5714	17.4286
[+ -] 20% PE	-1.9600		-1.9599		0.3890		4.6857		-0.0568		-1.1143		0.3443		3.3714	
[+ -] 15% PE	-1.4651		-1.4649		0.2915		3.4786		-0.0411		-0.8179		0.2582		2.4929	
[+ -] 10% PE	-0.9701		-0.9700		0.1940		2.2714		-0.0255		-0.5214		0.1721		1.6143	
[+ -] 05% PE	-0.4751		-0.4750		0.0965		1.0643		-0.0099		-0.2250		0.0860		0.7357	
[+ -] 01% PE	-0.0791		-0.0791		0.0185		0.0986		0.0026		0.0121		0.0171		0.0329	
[+ -] 20% TS	-129.4034		-140.1500		94.0049		21.1452		-90.6504		-7.9481		32.9839		23.0060	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.000012006		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-128.1957		-138.5642		91.0050		17.8997		-67.9113		-6.0165		32.9526		21.2304	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000001		0.0000000000		0.0000216393		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	-124.6433		-134.0101		83.7269		12.8933		-42.0590		-3.9425		32.7751		16.8163	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000044		0.0000000000		0.0008425938		0.0000000000		0.0000000002	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 05% TS	-108.0792		-113.8388		61.6494		6.2591		-15.7233		-1.7413		31.4165		8.3523	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000146447		0.0000000004		0.0526145948		0.0000000000		0.0000006954	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 01% TS	-29.7939		-29.8918		14.9202		0.5641		3.9756		0.0954		14.8674		0.3495	
P-Value	0.0000000000		0.0000000000		0.0000000007		0.2911356027		0.9992083899		0.5372788373		0.0000000008		0.3661524393	
Reject?	0		0		0		1		1		1		0		1	
CI UL	-0.0142		-0.0142		0.0037				-0.0043				0.0024			
CI LL	-0.0256		-0.0255		-0.0016				-0.0072				-0.0022			
Avg Diff	0.0199		0.0199		-0.0010		-0.1429		0.0057		0.0714		-0.0001		-0.1429	
% Diff	0.20%		0.20%		-0.05%		-0.59%		1.84%		1.20%		-0.01%		-0.81%	

Table H.4 Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.2227	9.2225	9.1961	9.1959	2.0491	2.0437	32.0000	32.0000	0.2431	0.2434	5.0000	5.0000	1.5922	1.5925	20.0000	20.0000
2	8.7392	8.7200	8.7530	8.7337	2.0014	1.9985	21.0000	21.0000	0.2445	0.2426	6.0000	6.0000	1.2795	1.2748	16.0000	15.0000
3	9.0127	9.0169	9.0085	9.0127	2.1170	2.1119	23.0000	23.0000	0.2562	0.2571	6.0000	6.0000	1.3548	1.3557	15.0000	15.0000
4	8.6557	8.6553	8.7105	8.7097	1.9667	1.9621	22.0000	22.0000	0.2314	0.2305	5.0000	5.0000	1.2926	1.2923	14.0000	14.0000
5	8.7906	8.7687	8.7758	8.7539	2.0800	2.0745	25.0000	25.0000	0.2616	0.2628	5.0000	5.0000	1.2050	1.2036	12.0000	12.0000
6	9.5676	9.5724	9.5203	9.5251	2.2082	2.2022	24.0000	24.0000	0.2524	0.2535	5.0000	5.0000	1.7402	1.7371	21.0000	20.0000
7	9.0315	9.0416	9.0417	9.0518	1.9970	1.9926	24.0000	24.0000	0.2323	0.2314	5.0000	6.0000	1.4249	1.4265	18.0000	18.0000
8	8.7725	8.7832	8.8535	8.8642	1.9171	1.9116	25.0000	25.0000	0.2284	0.2279	4.0000	4.0000	1.4461	1.4486	20.0000	20.0000
9	8.6968	8.6912	8.7109	8.7052	1.9234	1.9199	24.0000	24.0000	0.2321	0.2314	5.0000	5.0000	1.3140	1.3153	15.0000	15.0000
10	8.9818	8.9771	8.9668	8.9622	1.9803	1.9744	18.0000	18.0000	0.2436	0.2437	5.0000	5.0000	1.5252	1.5287	17.0000	17.0000
11	9.1505	9.1491	9.1109	9.1096	2.1335	2.1278	23.0000	23.0000	0.2507	0.2529	5.0000	6.0000	1.2898	1.2881	13.0000	13.0000
12	8.7334	8.7291	8.7620	8.7577	2.0203	2.0156	24.0000	24.0000	0.2347	0.2335	5.0000	4.0000	1.1767	1.1764	14.0000	14.0000
13	9.0766	9.0776	9.0762	9.0767	2.0320	2.0276	33.0000	34.0000	0.2426	0.2415	7.0000	7.0000	1.5237	1.5245	16.0000	16.0000
14	9.0681	9.0730	9.0483	9.0532	2.0574	2.0519	21.0000	21.0000	0.2607	0.2605	6.0000	6.0000	1.4622	1.4634	19.0000	19.0000
Avg	8.9642	8.9627	8.9667	8.9651	2.0345	2.0296	24.2143	24.2857	0.2439	0.2438	5.2857	5.3571	1.4019	1.4020	16.4286	16.2857
[+ -] 20% PE	1.7913		1.7917		0.4020		-4.7714		0.0487		-0.9857		-0.2803		3.1429	
[+ -] 15% PE	1.3431		1.3434		0.3002		-3.5607		0.0365		-0.7214		-0.2102		2.3214	
[+ -] 10% PE	0.8949		0.8950		0.1985		-2.3500		0.0243		-0.4571		-0.1402		1.5000	
[+ -] 05% PE	0.4466		0.4467		0.0968		-1.1393		0.0121		-0.1929		-0.0701		0.6786	
[+ -] 01% PE	0.0881		0.0880		0.0154		-0.1707		0.0023		0.0186		-0.0140		0.0214	
[+ -] 20% TS	121.4222		132.0573		94.9429		-27.0363		59.2525		-7.3014		-33.4544		20.7029	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.000029958		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	117.5771		126.9902		95.3431		-28.0351		53.6275		-5.4676		-33.5244		18.7207	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000539664		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	109.9580		117.2818		96.0720		-28.5279		44.6976		-3.5288		-33.6099		14.6042	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0018517451		0.0000000000		0.0000000010	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 05% TS	89.5447		92.9745		97.5652		-20.4315		29.1313		-1.5086		-33.4234		7.3328	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0776550412		0.0000000000		0.0000028623	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 01% TS	30.5907		30.5835		65.1151		-2.6186		7.1543		0.1462		-21.0875		0.2256	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0106202658		0.0000037156		0.5570140270		0.0000000000		0.4125036061	
Reject?	0		0		0		0		0		1		0		1	
CI UL	0.0071		0.0071		0.0055				0.0008				0.0012			
CI LL	-0.0039		-0.0039		0.0044				-0.0005				-0.0013			
Avg Diff	-0.0016		-0.0016		-0.0049		0.0714		-0.0001		0.0714		0.0000		-0.1429	
% Diff	-0.02%		-0.02%		-0.24%		0.29%		-0.05%		1.35%		0.00%		-0.87%	

Table H.5 Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	7.3627	7.4159	7.3803	7.4337	0.4902	0.4609	15.0000	15.0000	1.2666	1.3692	21.0000	26.0000	0.8335	0.8356	13.0000	13.0000
2	7.3235	7.3614	7.3314	7.3692	0.4962	0.4621	13.0000	13.0000	1.2572	1.3323	23.0000	39.0000	0.7354	0.7524	12.0000	13.0000
3	7.1866	7.1619	7.1984	7.1736	0.4745	0.4463	12.0000	13.0000	1.1884	1.2260	24.0000	25.0000	0.7985	0.7901	12.0000	12.0000
4	7.2662	7.2574	7.2505	7.2418	0.4904	0.4613	13.0000	13.0000	1.1857	1.2392	24.0000	27.0000	0.7954	0.8003	15.0000	13.0000
5	7.0383	7.0598	7.0774	7.0990	0.4911	0.4562	13.0000	12.0000	1.2336	1.3007	20.0000	26.0000	0.6829	0.6925	11.0000	11.0000
6	7.3562	7.4058	7.3490	7.3985	0.4827	0.4507	11.0000	11.0000	1.2624	1.3596	19.0000	22.0000	0.8195	0.8261	16.0000	15.0000
7	7.3421	7.3718	7.3387	7.3684	0.4824	0.4475	13.0000	14.0000	1.3212	1.3877	30.0000	34.0000	0.7893	0.7919	14.0000	14.0000
8	7.2242	7.2118	7.2302	7.2178	0.4716	0.4409	13.0000	14.0000	1.2232	1.2477	20.0000	22.0000	0.8641	0.8921	15.0000	19.0000
9	7.4128	7.4326	7.3812	7.4010	0.4960	0.4677	15.0000	15.0000	1.2914	1.3582	27.0000	37.0000	0.7973	0.8024	13.0000	13.0000
10	7.5296	7.5528	7.4786	7.5012	0.4977	0.4659	12.0000	12.0000	1.2884	1.3841	18.0000	24.0000	0.9297	0.9209	17.0000	17.0000
11	7.2509	7.2442	7.2586	7.2518	0.4834	0.4513	13.0000	12.0000	1.1785	1.2224	20.0000	24.0000	0.7940	0.7879	12.0000	12.0000
12	7.3002	7.2828	7.2541	7.2370	0.5077	0.4742	13.0000	13.0000	1.2691	1.3154	19.0000	28.0000	0.7055	0.7005	14.0000	14.0000
13	7.3543	7.3654	7.3681	7.3792	0.4878	0.4594	10.0000	11.0000	1.2663	1.3359	26.0000	30.0000	0.8340	0.8323	17.0000	16.0000
14	7.2412	7.2589	7.2860	7.3039	0.4753	0.4451	12.0000	13.0000	1.2192	1.2950	17.0000	24.0000	0.8123	0.8087	15.0000	14.0000
Avg	7.2992	7.3130	7.2987	7.3126	0.4877	0.4564	12.7143	12.9286	1.2465	1.3124	22.0000	27.7143	0.7994	0.8024	14.0000	14.0000
[+ -] 20% PE	-1.4460		-1.4459		0.0663		-2.3286		-0.1834		1.3143		-0.1569		-2.8000	
[+ -] 15% PE	-1.0811		-1.0810		0.0419		-1.6929		-0.1211		2.4143		-0.1169		-2.1000	
[+ -] 10% PE	-0.7161		-0.7161		0.0175		-1.0571		-0.0588		3.5143		-0.0769		-1.4000	
[+ -] 05% PE	-0.3511		-0.3511		-0.0069		-0.4214		0.0036		4.6143		-0.0369		-0.7000	
[+ -] 01% PE	-0.0592		-0.0592		-0.0264		0.0871		0.0534		5.4943		-0.0050		-0.1400	
[+ -] 20% TS	-204.4110		-237.5431		91.7626		-10.5132		-34.4147		1.2381		-34.3271		-7.0982	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000502		0.0000000000		0.8812085952		0.0000000000		0.0000040363	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-168.0746		-186.7729		62.9294		-8.0174		-22.1637		2.2937		-29.7377		-5.4644	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000010919		0.0000000000		0.9804428160		0.0000000000		0.0000542645	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 10% TS	-117.0608		-123.9084		27.6420		-5.2376		-10.3952		3.3598		-22.7674		-3.7271	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000801319		0.0000000573		0.9974385619		0.0000000000		0.0012679286	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 05% TS	-56.8169		-57.9229		-10.9380		-2.1757		0.6034		4.4293		-12.4749		-1.8994	
P-Value	0.0000000000		0.0000000000		0.9999999685		0.0243093060		0.7216868425		0.9996599850		0.0000000066		0.0399650878	
Reject?	0		0		1		0		1		1		0		0	
[+ -] 01% TS	-9.1076		-9.1393		-40.8468		0.4632		8.7305		5.2821		-1.7962		-0.3845	
P-Value	0.0000002631		0.0000002529		1.0000000000		0.6745521694		0.9999995758		0.9999258076		0.0478672375		0.3534006970	
Reject?	0		0		1		1		1		1		0		1	
CI UL	0.0005		0.0004		0.0327				-0.0525				0.0029			
CI LL	-0.0281		-0.0281		0.0299				-0.0792				-0.0089			
Avg Diff	0.0138		0.0138		-0.0313		0.2143		0.0659		5.7143		0.0030		0.0000	
% Diff	0.19%		0.19%		-6.41%		1.69%		5.29%		25.97%		0.38%		0.00%	

Table H.6 Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.1831	9.4576	9.1560	9.4303	1.1406	1.2622	19.0000	25.0000	1.3704	1.3340	24.0000	22.0000	1.5908	1.8429	18.0000	19.0000
2	8.8885	9.0544	8.9006	9.0686	1.1652	1.2994	18.0000	20.0000	1.3810	1.3547	21.0000	22.0000	1.4220	1.4993	15.0000	20.0000
3	9.1070	9.1500	9.1017	9.1462	1.1782	1.3103	21.0000	24.0000	1.4920	1.4841	22.0000	22.0000	1.4357	1.4169	17.0000	17.0000
4	8.7637	9.1746	8.8186	9.2320	1.1475	1.3218	22.0000	30.0000	1.2548	1.2341	17.0000	16.0000	1.3983	1.6980	21.0000	22.0000
5	8.9861	8.9301	8.9710	8.9157	1.1476	1.2567	19.0000	26.0000	1.4953	1.4441	20.0000	21.0000	1.4451	1.3713	20.0000	15.0000
6	9.5390	9.7226	9.4927	9.6746	1.2522	1.3974	23.0000	24.0000	1.4752	1.4395	19.0000	20.0000	1.7519	1.9049	22.0000	26.0000
7	9.1338	9.2189	9.1444	9.2293	1.1570	1.3019	23.0000	35.0000	1.3543	1.3263	20.0000	21.0000	1.5714	1.6129	22.0000	19.0000
8	8.8581	9.1331	8.9403	9.2175	1.1249	1.2286	23.0000	23.0000	1.2812	1.2452	17.0000	20.0000	1.5127	1.7761	16.0000	25.0000
9	8.9485	9.1611	8.9626	9.1752	1.1468	1.3124	20.0000	26.0000	1.3463	1.3227	20.0000	22.0000	1.4478	1.5794	15.0000	19.0000
10	9.0279	9.3507	9.0160	9.3383	1.1355	1.2568	20.0000	22.0000	1.3670	1.3284	20.0000	22.0000	1.5580	1.8449	22.0000	23.0000
11	9.3989	9.0857	9.3579	9.0464	1.2007	1.3074	18.0000	25.0000	1.4456	1.4165	23.0000	24.0000	1.6515	1.3509	17.0000	14.0000
12	8.6968	8.9811	8.7255	9.0104	1.1637	1.3047	21.0000	25.0000	1.3540	1.3429	22.0000	24.0000	1.2387	1.3931	22.0000	16.0000
13	9.1154	9.2341	9.1158	9.2304	1.1718	1.2812	26.0000	28.0000	1.3696	1.3381	23.0000	21.0000	1.5346	1.6436	18.0000	21.0000
14	9.3690	9.2576	9.3445	9.2375	1.1902	1.3017	16.0000	21.0000	1.3985	1.3558	19.0000	17.0000	1.7363	1.6244	22.0000	27.0000
Avg	9.0726	9.2080	9.0748	9.2109	1.1658	1.2959	20.6429	25.2857	1.3846	1.3547	20.5000	21.0000	1.5211	1.6113	19.0714	20.2143
[+ -] 20% PE	-1.6791		-1.6789		-0.1031		0.5143		0.2470		-3.6000		-0.2139		-2.6714	
[+ -] 15% PE	-1.2255		-1.2252		-0.0448		1.5464		0.1778		-2.5750		-0.1379		-1.7179	
[+ -] 10% PE	-0.7718		-0.7714		0.0135		2.5786		0.1085		-1.5500		-0.0618		-0.7643	
[+ -] 05% PE	-0.3182		-0.3177		0.0718		3.6107		0.0393		-0.5250		0.0142		0.1893	
[+ -] 01% PE	0.0447		0.0453		0.1184		4.4364		-0.0161		0.2950		0.0751		0.9521	
[+ -] 20% TS	-27.6967		-28.3164		-16.7889		0.5659		54.3524		-7.3485		-4.4048		-2.2155	
P-Value	0.0000000000		0.0000000000		0.0000000002		0.7094612899		0.0000000000		0.000027979		0.0003556754		0.0225945542	
Reject?	0		0		0		1		0		0		0		0	
[+ -] 15% TS	-21.0178		-21.3804		-7.4163		1.7215		45.6500		-5.4128		-2.8837		-1.4467	
P-Value	0.0000000000		0.0000000000		0.0000025368		0.9455772392		0.0000000000		0.0000592563		0.0064012602		0.0858336578	
Reject?	0		0		0		1		0		0		0		1	
[+ -] 10% TS	-13.7629		-13.9262		2.2528		2.9003		31.9618		-3.3486		-1.3121		-0.6532	
P-Value	0.0000000020		0.0000000017		0.9789061730		0.9937993362		0.0000000000		0.0026174034		0.1060937624		0.2624999787	
Reject?	0		0		1		1		0		0		1		1	
[+ -] 05% TS	-5.8969		-5.9302		12.0792		4.0976		12.5863		-1.1628		0.3061		0.1641	
P-Value	0.0000263121		0.0000249161		0.9999999903		0.9993706463		0.0000000059		0.1329005806		0.6178186602		0.5639081880	
Reject?	0		0		1		1		0		1		1		1	
[+ -] 01% TS	0.8539		0.8681		19.9500		5.0656		-5.1699		0.6652		1.6310		0.8344	
P-Value	0.7956854322		0.7994718902		1.0000000000		0.9998917801		0.9999098492		0.7412191901		0.9365662557		0.7904476321	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.0232		-0.0240		-0.1172				0.0367				0.0089			
CI LL	-0.2477		-0.2481		-0.1429				0.0231				-0.1895			
Avg Diff	0.1354		0.1361		0.1300		4.6429		-0.0299		0.5000		0.0903		1.1429	
% Diff	1.49%		1.50%		11.15%		22.49%		-2.16%		2.44%		5.94%		5.99%	

Table H.7 Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	12.0238	11.9135	12.0446	11.9424	1.7057	1.7206	23.0000	25.0000	1.6495	1.8353	25.0000	29.0000	2.4724	2.1925	24.0000	23.0000
2	12.0418	12.0978	12.0527	12.1117	1.7168	1.7089	23.0000	25.0000	1.6459	1.7867	24.0000	37.0000	2.3771	2.2269	37.0000	26.0000
3	11.6717	11.7433	11.6908	11.7628	1.5846	1.5783	17.0000	21.0000	1.6926	1.6373	26.0000	23.0000	2.2721	2.4107	21.0000	21.0000
4	11.7784	11.8197	11.7523	11.7940	1.7066	1.7250	26.0000	26.0000	1.6343	1.6925	20.0000	32.0000	2.2539	2.2247	23.0000	21.0000
5	11.2504	11.2695	11.3128	11.3320	1.6596	1.6369	24.0000	23.0000	1.5590	1.7607	17.0000	26.0000	2.1441	1.9614	26.0000	18.0000
6	12.1528	12.4472	12.1435	12.4351	1.6652	1.6631	21.0000	21.0000	1.6477	1.8093	23.0000	23.0000	2.6295	2.7046	30.0000	25.0000
7	11.8871	11.9442	11.8834	11.9398	1.7015	1.6765	24.0000	27.0000	1.6502	1.8608	23.0000	41.0000	2.4208	2.2513	25.0000	19.0000
8	11.6241	11.8418	11.6345	11.8513	1.6189	1.6169	21.0000	22.0000	1.6162	1.7168	22.0000	24.0000	2.4746	2.5932	28.0000	28.0000
9	11.7812	12.0276	11.7296	11.9762	1.7145	1.7175	26.0000	25.0000	1.6251	1.8329	21.0000	33.0000	2.1893	2.2411	20.0000	21.0000
10	12.1949	12.8209	12.1099	12.7345	1.7762	1.7837	24.0000	23.0000	1.6497	1.8712	19.0000	20.0000	2.7110	3.0709	33.0000	27.0000
11	11.9633	11.9460	11.9756	11.9588	1.7338	1.7349	28.0000	28.0000	1.6609	1.6534	29.0000	23.0000	2.2548	2.2196	20.0000	22.0000
12	11.9356	11.8578	11.8569	11.7829	1.7920	1.8018	28.0000	29.0000	1.7436	1.7647	23.0000	28.0000	2.1453	2.0248	31.0000	26.0000
13	12.1127	12.0006	12.1343	12.0235	1.6590	1.6848	22.0000	22.0000	1.6239	1.7922	23.0000	33.0000	2.6119	2.2720	25.0000	26.0000
14	11.4371	11.9346	11.5088	12.0085	1.6050	1.6073	20.0000	20.0000	1.6197	1.7364	25.0000	26.0000	2.1813	2.5240	17.0000	21.0000
Avg	11.8468	11.9760	11.8450	11.9753	1.6885	1.6897	23.3571	24.0714	1.6442	1.7679	22.8571	28.4286	2.3670	2.3513	25.7143	23.1429
[+ -] 20% PE	-2.2401		-2.2387		-0.3365		-3.9571		-0.2051		1.0000		0.4577		2.5714	
[+ -] 15% PE	-1.6478		-1.6465		-0.2521		-2.7893		-0.1229		2.1429		0.3393		1.2857	
[+ -] 10% PE	-1.0554		-1.0542		-0.1676		-1.6214		-0.0407		3.2857		0.2210		0.0000	
[+ -] 05% PE	-0.4631		-0.4620		-0.0832		-0.4536		0.0415		4.4286		0.1026		-1.2857	
[+ -] 01% PE	0.0108		0.0118		-0.0157		0.4807		0.1072		5.3429		0.0079		-2.3143	
[+ -] 20% TS	-36.1884		-36.2772		-75.9311		-7.8359		-8.1876		0.5187		7.9203		2.7955	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.000014018		0.0000008667		0.6936434909		0.0000012473		0.0075792655	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-27.0206		-27.0761		-62.3044		-5.8341		-4.9746		1.1241		5.9232		1.3195	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000291804		0.0001270500		0.8593495446		0.0000252041		0.1048833657	
Reject?	0		0		0		0		0		1		0		1	
[+ -] 10% TS	-17.5102		-17.5461		-44.1701		-3.5767		-1.6708		1.7429		3.8835		0.0000	
P-Value	0.0000000001		0.0000000001		0.0000000000		0.0016897406		0.0593268143		0.9475338383		0.0009420949		0.5000000000	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 05% TS	-7.7456		-7.7590		-22.4425		-1.0522		1.7247		2.3750		1.8122		-1.1788	
P-Value	0.0000015899		0.0000015603		0.0000000000		0.1559467622		0.9458685965		0.9831893618		0.0465536877		0.8701948842	
Reject?	0		0		0		1		1		1		0		1	
[+ -] 01% TS	0.1811		0.1996		-4.1653		1.1573		4.5072		2.8900		0.1404		-2.0311	
P-Value	0.5704577622		0.5775766358		0.0005545434		0.8660168980		0.9997052592		0.9936755051		0.4452527668		0.9683952390	
Reject?	1		1		0		1		1		1		1		1	
CI UL	-0.0007		-0.0024		0.0070				-0.0724				0.1377			
CI LL	-0.2578		-0.2581		-0.0094				-0.1750				-0.1062			
Avg Diff	0.1293		0.1303		0.0012		0.7143		0.1237		5.5714		-0.0157		-2.5714	
% Diff	1.09%		1.10%		0.07%		3.06%		7.52%		24.38%		-0.66%		-10.00%	

Table H.8 Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	13.6462	13.8171	13.6066	13.7773	4.9390	4.9717	44.0000	49.0000	1.3397	1.3440	31.0000	18.0000	1.0898	1.2351	13.0000	16.0000
2	13.7862	13.9437	13.8079	13.9658	5.2031	5.2162	45.0000	49.0000	1.3283	1.3805	18.0000	19.0000	0.9719	1.0680	14.0000	18.0000
3	13.8027	13.9998	13.7961	13.9944	5.2510	5.2968	44.0000	43.0000	1.2938	1.5047	18.0000	25.0000	1.0222	0.9848	15.0000	16.0000
4	13.4758	13.7267	13.5593	13.8125	5.0989	5.1330	54.0000	54.0000	1.2679	1.2678	21.0000	19.0000	0.9853	1.1765	17.0000	17.0000
5	13.5279	13.5300	13.5047	13.5073	5.1282	5.0745	51.0000	52.0000	1.3017	1.4199	18.0000	26.0000	0.9975	1.0118	14.0000	15.0000
6	14.4457	14.6917	14.3751	14.6189	5.6839	5.7247	42.0000	46.0000	1.2752	1.3853	21.0000	19.0000	1.2178	1.3349	17.0000	22.0000
7	13.8328	14.0502	13.8484	14.0653	5.0517	5.1652	41.0000	41.0000	1.2851	1.3338	18.0000	20.0000	1.0826	1.1341	18.0000	21.0000
8	13.2596	13.3168	13.3828	13.4399	4.6539	4.5940	46.0000	43.0000	1.2430	1.3042	18.0000	20.0000	1.1200	1.1901	15.0000	17.0000
9	13.6627	13.8125	13.6837	13.8347	4.8153	4.9425	42.0000	44.0000	1.3917	1.3323	19.0000	25.0000	1.0458	1.1357	15.0000	17.0000
10	13.2639	13.3997	13.2485	13.3838	4.7381	4.7465	38.0000	39.0000	1.2857	1.2998	16.0000	22.0000	1.1115	1.2737	21.0000	20.0000
11	14.2368	14.0522	14.1755	13.9919	5.2999	5.2235	46.0000	44.0000	1.3179	1.4031	20.0000	23.0000	1.1453	0.9898	15.0000	15.0000
12	13.6567	13.8460	13.7014	13.8910	5.0622	5.0683	58.0000	57.0000	1.3124	1.3150	17.0000	22.0000	0.8807	1.0122	17.0000	14.0000
13	13.9295	13.9008	13.9301	13.8995	5.1686	5.1214	49.0000	49.0000	1.3401	1.3319	20.0000	21.0000	1.1132	1.1837	17.0000	16.0000
14	13.9110	13.9076	13.8786	13.8777	5.0922	4.9989	40.0000	42.0000	1.3392	1.4338	18.0000	29.0000	1.2234	1.1959	18.0000	22.0000
Avg	13.7455	13.8568	13.7499	13.8614	5.0847	5.0912	45.7143	46.5714	1.3087	1.3611	19.5000	22.0000	1.0719	1.1376	16.1429	17.5714
[+ -] 20% PE	-2.6379		-2.6385		-1.0104		-8.2857		-0.2093		-1.4000		-0.1487		-1.8000	
[+ -] 15% PE	-1.9506		-1.9510		-0.7562		-6.0000		-0.1439		-0.4250		-0.0951		-0.9929	
[+ -] 10% PE	-1.2633		-1.2635		-0.5019		-3.7143		-0.0784		0.5500		-0.0415		-0.1857	
[+ -] 05% PE	-0.5760		-0.5760		-0.2477		-1.4286		-0.0130		1.5250		0.0121		0.6214	
[+ -] 01% PE	-0.0262		-0.0260		-0.0443		0.4000		0.0394		2.3050		0.0550		1.2671	
[+ -] 20% TS	-64.9590		-67.2851		-43.9835		-10.5709		-10.9023		-0.8121		-5.5651		-2.7767	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000471		0.0000000327		0.2156751870		0.0000457374		0.0078569516	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-51.0435		-52.3781		-36.0435		-8.1459		-7.5892		-0.2528		-3.6389		-1.5593	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000009168		0.0000019815		0.4021760344		0.0015000340		0.0714602931	
Reject?	0		0		0		0		0		1		0		1	
[+ -] 10% TS	-34.8961		-35.4733		-25.8823		-5.3508		-4.1882		0.3357		-1.6214		-0.2966	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000659067		0.0005313387		0.6287782562		0.0644599491		0.3857465248	
Reject?	0		0		0		0		0		1		1		1	
[+ -] 05% TS	-16.6300		-16.7580		-13.5214		-2.1726		-0.7018		0.9555		0.4811		1.0074	
P-Value	0.0000000002		0.0000000002		0.0000000025		0.0244462827		0.2475874562		0.8216300169		0.6807738643		0.8339305291	
Reject?	0		0		0		0		1		1		1		1	
[+ -] 01% TS	-0.7767		-0.7712		-2.4770		0.6318		2.1466		1.4753		2.2183		2.0765	
P-Value	0.2256207376		0.2271868642		0.0138840882		0.7307715897		0.9743633351		0.9180378822		0.9775203079		0.9708810077	
Reject?	1		1		0		1		1		1		1		1	
CI UL	-0.0387		-0.0391		0.0320				-0.0129				-0.0123			
CI LL	-0.1838		-0.1840		-0.0451				-0.0920				-0.1190			
Avg Diff	0.1112		0.1115		0.0065		0.8571		0.0524		2.5000		0.0657		1.4286	
% Diff	0.81%		0.81%		0.13%		1.87%		4.01%		12.82%		6.13%		8.85%	

H.2 Best Fit Rank 2 vs Less Fit Lognormal

Table H.9 Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Observations, 1st Replicate

Ist	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.0127	9.0239	9.0342	9.0455	1.4934	1.4976	21.0000	21.0000	0.1679	0.1746	5.0000	4.0000	2.4825	2.4891	26.0000	25.0000
2	8.8328	8.8564	8.8419	8.8655	1.5056	1.5034	18.0000	18.0000	0.1642	0.1701	4.0000	6.0000	2.2622	2.2748	17.0000	17.0000
3	9.0972	9.0946	9.1120	9.1094	1.4254	1.4208	16.0000	16.0000	0.1602	0.1641	4.0000	5.0000	2.6720	2.6737	21.0000	21.0000
4	8.9603	8.9387	8.9412	8.9196	1.4978	1.5032	18.0000	20.0000	0.1607	0.1640	4.0000	4.0000	2.4364	2.4128	22.0000	22.0000
5	8.3244	8.3595	8.3707	8.4060	1.4630	1.4584	19.0000	18.0000	0.1665	0.1708	6.0000	5.0000	1.9576	1.9959	16.0000	17.0000
6	9.3678	9.3968	9.3569	9.3864	1.4981	1.4953	24.0000	22.0000	0.1635	0.1700	4.0000	4.0000	2.8136	2.8303	19.0000	20.0000
7	8.8886	8.9004	8.8852	8.8970	1.5095	1.4952	23.0000	21.0000	0.1675	0.1750	5.0000	5.0000	2.3775	2.3821	21.0000	21.0000
8	8.9737	8.9898	8.9810	8.9970	1.4166	1.4115	22.0000	20.0000	0.1658	0.1723	5.0000	5.0000	2.5866	2.6009	22.0000	22.0000
9	9.0114	9.0071	8.9721	8.9673	1.5335	1.5367	25.0000	25.0000	0.1694	0.1737	6.0000	5.0000	2.4118	2.3932	19.0000	18.0000
10	10.0999	10.0898	10.0316	10.0215	1.5548	1.5567	17.0000	17.0000	0.1698	0.1779	4.0000	4.0000	3.4846	3.4704	28.0000	28.0000
11	9.0422	9.0368	9.0518	9.0464	1.5219	1.5281	21.0000	22.0000	0.1625	0.1649	4.0000	4.0000	2.4758	2.4530	19.0000	19.0000
12	8.7151	8.7142	8.6602	8.6591	1.5897	1.5869	22.0000	21.0000	0.1705	0.1752	4.0000	4.0000	2.1066	2.0975	22.0000	23.0000
13	9.0473	9.0296	9.0637	9.0461	1.4864	1.4855	20.0000	20.0000	0.1691	0.1745	5.0000	5.0000	2.5111	2.4924	23.0000	24.0000
14	8.7775	8.7898	8.8318	8.8442	1.4310	1.4308	19.0000	19.0000	0.1622	0.1683	4.0000	5.0000	2.3670	2.3713	17.0000	17.0000
Avg	9.0108	9.0162	9.0096	9.0151	1.4948	1.4936	20.3571	20.0000	0.1657	0.1711	4.5714	4.6429	2.4961	2.4955	20.8571	21.0000
[+ -] 20% PE	-1.7967		-1.7964		0.2978		3.7143		-0.0277		-0.8429		0.4986		-4.0286	
[+ -] 15% PE	-1.3462		-1.3460		0.2230		2.6964		-0.0195		-0.6143		0.3738		-2.9857	
[+ -] 10% PE	-0.8956		-0.8955		0.1483		1.6786		-0.0112		-0.3857		0.2490		-1.9429	
[+ -] 05% PE	-0.4451		-0.4450		0.0736		0.6607		-0.0029		-0.1571		0.1242		-0.9000	
[+ -] 01% PE	-0.0847		-0.0846		0.0138		-0.1536		0.0037		0.0257		0.0244		-0.0657	
[+ -] 20% TS	-77.9288		-81.9289		91.2999		13.9746		-68.7040		-3.3597		27.3741		-14.3277	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000016		0.0000000000		0.0025619248		0.0000000000		0.0000000012	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-75.0126		-78.7642		83.1189		9.9945		-47.8961		-2.5255		27.3771		-12.0914	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000905		0.0000000000		0.0126685333		0.0000000000		0.0000000095	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	-69.2791		-72.5116		68.9745		6.0299		-26.9873		-1.6360		26.7616		-8.9616	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000211743		0.0000000000		0.0629082251		0.0000000000		0.00000003160	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 05% TS	-54.4618		-56.3946		43.1620		2.2695		-6.7636		-0.6877		21.8877		-4.6699	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0204543299		0.0000066724		0.2518774905		0.0000000000		0.0002192288	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 01% TS	-16.6592		-16.7434		9.3890		-0.5052		8.5034		0.1154		5.2621		-0.3661	
P-Value	0.0000000002		0.0000000002		0.0000001860		0.6890543439		0.9999994304		0.5450441326		0.0000767980		0.3600848114	
Reject?	0		0		0		1		1		1		0		1	
CI UL	0.0045		0.0045		0.0043				-0.0044				0.0110			
CI LL	-0.0154		-0.0155		-0.0019				-0.0064				-0.0098			
Avg Diff	0.0055		0.0055		-0.0012		-0.3571		0.0054		0.0714		-0.0006		0.1429	
% Diff	0.06%		0.06%		-0.08%		-1.75%		3.26%		1.56%		-0.02%		0.68%	

Table H.10 Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	8.9886	8.9932	8.9628	8.9673	1.2932	1.2923	21.0000	22.0000	1.0011	1.0052	13.0000	13.0000	1.3826	1.3847	18.0000	18.0000
2	8.5786	8.5830	8.5921	8.5965	1.2643	1.2680	19.0000	19.0000	1.0092	1.0200	13.0000	12.0000	1.1070	1.1047	13.0000	14.0000
3	8.8164	8.8509	8.8129	8.8474	1.3196	1.3174	18.0000	19.0000	1.0716	1.1081	15.0000	15.0000	1.1699	1.1641	14.0000	14.0000
4	8.4291	8.4617	8.4822	8.5150	1.2105	1.2168	18.0000	18.0000	0.9288	0.9429	15.0000	16.0000	1.1409	1.1462	14.0000	13.0000
5	8.7547	8.7758	8.7400	8.7611	1.2999	1.2953	21.0000	21.0000	1.1818	1.2204	15.0000	16.0000	1.0605	1.0545	11.0000	11.0000
6	9.2919	9.3097	9.2464	9.2640	1.3719	1.3730	15.0000	17.0000	1.0981	1.1113	16.0000	16.0000	1.4987	1.4966	19.0000	19.0000
7	8.7885	8.8091	8.7985	8.8191	1.2499	1.2517	19.0000	19.0000	1.0070	1.0224	14.0000	14.0000	1.2408	1.2388	16.0000	16.0000
8	8.5368	8.5650	8.6155	8.6440	1.2191	1.2219	20.0000	21.0000	0.9351	0.9543	13.0000	14.0000	1.2580	1.2581	18.0000	18.0000
9	8.4749	8.4964	8.4887	8.5103	1.2403	1.2417	19.0000	20.0000	0.8925	0.9127	14.0000	14.0000	1.1490	1.1527	15.0000	15.0000
10	8.7583	8.7785	8.7447	8.7651	1.2656	1.2633	15.0000	15.0000	0.9790	1.0099	14.0000	14.0000	1.3125	1.3139	15.0000	15.0000
11	8.9418	8.9640	8.9032	8.9253	1.3372	1.3348	17.0000	17.0000	1.0602	1.0894	20.0000	21.0000	1.1457	1.1457	13.0000	12.0000
12	8.5416	8.5549	8.5695	8.5830	1.2685	1.2682	19.0000	19.0000	1.0136	1.0326	16.0000	17.0000	1.0532	1.0434	13.0000	12.0000
13	8.8521	8.8727	8.8517	8.8722	1.2790	1.2757	22.0000	24.0000	1.0031	1.0239	19.0000	19.0000	1.3216	1.3191	15.0000	15.0000
14	8.8682	8.8955	8.8488	8.8760	1.3262	1.3229	17.0000	16.0000	1.0324	1.0445	14.0000	13.0000	1.2688	1.2748	18.0000	18.0000
Avg	8.7587	8.7793	8.7612	8.7819	1.2818	1.2816	18.5714	19.0714	1.0153	1.0355	15.0714	15.2857	1.2221	1.2212	15.1429	15.0000
[+ -] 20% PE	-1.7311		-1.7316		0.2562		-3.2143		-0.1828		-2.8000		0.2436		2.8857	
[+ -] 15% PE	-1.2932		-1.2935		0.1921		-2.2857		-0.1320		-2.0464		0.1825		2.1286	
[+ -] 10% PE	-0.8552		-0.8555		0.1280		-1.3571		-0.0812		-1.2929		0.1213		1.3714	
[+ -] 05% PE	-0.4173		-0.4174		0.0639		-0.4286		-0.0305		-0.5393		0.0602		0.6143	
[+ -] 01% PE	-0.0669		-0.0669		0.0127		0.3143		0.0101		0.0636		0.0114		0.0086	
[+ -] 20% TS	-131.5923		-148.3950		123.4465		-13.8538		-49.5484		-15.4212		33.3459		13.7837	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.000000018		0.0000000000		0.0000000005		0.0000000000		0.0000000020	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-128.1768		-144.0398		127.5067		-10.1158		-43.7534		-11.6175		32.4531		11.3879	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000787		0.0000000000		0.0000000154		0.0000000000		0.0000000195	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	-120.7974		-134.6032		128.6926		-6.0779		-31.7563		-7.3775		30.6192		8.1858	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000195887		0.0000000000		0.0000026830		0.0000000000		0.0000008688	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 05% TS	-98.1674		-106.3765		93.6671		-1.9121		-12.5108		-3.0142		25.3552		4.0307	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0390799664		0.0000000063		0.0049814434		0.0000000000		0.0007135784	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 01% TS	-26.1733		-26.4921		16.4577		1.3825		3.8758		0.3437		8.4654		0.0594	
P-Value	0.0000000000		0.0000000000		0.0000000002		0.9049451792		0.9990440996		0.6317069613		0.0000005988		0.4767613300	
Reject?	0		0		0		1		1		1		0		1	
CI UL	-0.0155		-0.0155		0.0020				-0.0145				0.0034			
CI LL	-0.0258		-0.0258		-0.0016				-0.0261				-0.0017			
Avg Diff	0.0206		0.0207		-0.0002		0.5000		0.0203		0.2143		-0.0009		-0.1429	
% Diff	0.24%		0.24%		-0.01%		2.69%		2.00%		1.42%		-0.07%		-0.94%	

Table H.11 Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	10.0510	10.0144	10.0749	10.0382	1.9574	1.9530	25.0000	25.0000	0.3240	0.3200	7.0000	7.0000	1.7595	1.7570	23.0000	21.0000
2	9.8942	9.9013	9.9040	9.9112	1.9832	1.9762	23.0000	23.0000	0.3205	0.3160	6.0000	7.0000	1.5713	1.5768	13.0000	13.0000
3	9.8239	9.8023	9.8401	9.8184	1.8462	1.8398	17.0000	17.0000	0.3030	0.3014	5.0000	5.0000	1.7379	1.7441	15.0000	15.0000
4	9.9182	9.8706	9.8970	9.8496	1.9553	1.9504	23.0000	23.0000	0.3099	0.3065	5.0000	5.0000	1.7286	1.7093	20.0000	18.0000
5	9.2550	9.2755	9.3067	9.3271	1.8768	1.8699	22.0000	22.0000	0.3216	0.3170	6.0000	6.0000	1.4160	1.4366	14.0000	15.0000
6	10.1445	10.1477	10.1335	10.1366	1.9517	1.9469	29.0000	29.0000	0.3158	0.3126	5.0000	5.0000	1.8712	1.8780	19.0000	18.0000
7	9.9110	9.9240	9.9075	9.9205	1.9866	1.9760	27.0000	26.0000	0.3300	0.3305	8.0000	7.0000	1.6905	1.6934	17.0000	17.0000
8	9.7362	9.7060	9.7441	9.7138	1.8372	1.8311	24.0000	24.0000	0.3237	0.3203	6.0000	6.0000	1.7840	1.7892	18.0000	18.0000
9	10.0066	10.0128	9.9642	9.9703	2.0058	2.0009	29.0000	29.0000	0.3333	0.3255	7.0000	7.0000	1.5910	1.5940	15.0000	15.0000
10	10.5251	10.5019	10.4529	10.4299	2.0581	2.0500	21.0000	21.0000	0.3395	0.3362	7.0000	6.0000	2.2499	2.2532	24.0000	24.0000
11	10.1383	10.1718	10.1491	10.1826	2.0160	2.0098	26.0000	26.0000	0.3132	0.3064	5.0000	5.0000	1.7704	1.7648	18.0000	18.0000
12	9.8640	9.8540	9.8018	9.7918	2.0785	2.0692	28.0000	28.0000	0.3309	0.3261	7.0000	6.0000	1.4862	1.4757	19.0000	19.0000
13	10.0723	10.0605	10.0908	10.0790	1.9550	1.9474	23.0000	23.0000	0.3283	0.3247	6.0000	6.0000	1.7695	1.7607	18.0000	18.0000
14	9.6444	9.6324	9.7042	9.6920	1.8715	1.8635	20.0000	20.0000	0.3128	0.3121	6.0000	6.0000	1.6698	1.6767	15.0000	15.0000
Avg	9.9275	9.9196	9.9265	9.9186	1.9557	1.9489	24.0714	24.0000	0.3219	0.3182	6.1429	6.0000	1.7211	1.7221	17.7143	17.4286
[+ -] 20% PE	1.9777		1.9775		0.3843		4.7429		0.0607		1.0857		-0.3432		3.2571	
[+ -] 15% PE	1.4813		1.4811		0.2865		3.5393		0.0446		0.7786		-0.2572		2.3714	
[+ -] 10% PE	0.9849		0.9848		0.1888		2.3357		0.0285		0.4714		-0.1711		1.4857	
[+ -] 05% PE	0.4885		0.4885		0.0910		1.1321		0.0124		0.1643		-0.0851		0.6000	
[+ -] 01% PE	0.0914		0.0914		0.0127		0.1693		-0.0004		-0.0814		-0.0162		-0.1086	
[+ -] 20% TS	126.5062		135.5744		98.5240		25.7087		85.8191		8.9187		-30.7309		17.6554	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000003336		0.0000000000		0.0000000001	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	121.6139		129.2085		98.4499		24.9210		70.0227		6.2070		-29.7995		13.2288	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000159157		0.0000000000		0.0000000032	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	108.8325		113.6374		97.7878		22.5528		48.3467		3.6189		-27.7369		8.0645	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0015586714		0.0000000000		0.0000010239	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 05% TS	72.8193		73.7712		91.8605		14.9910		21.7557		1.2069		-21.6145		3.0208	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000007		0.0000000000		0.1244809447		0.0000000000		0.0049185081	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 01% TS	15.0759		15.0572		26.8873		2.4261		-0.7423		-0.5757		-5.9627		-0.5033	
P-Value	0.0000000006		0.0000000007		0.0000000000		0.0152755816		0.7644544809		0.7126737011		0.0000236236		0.6884293394	
Reject?	0		0		0		0		1		1		0		1	
CI UL	0.0211		0.0211		0.0079				0.0049				0.0046			
CI LL	-0.0054		-0.0054		0.0058				0.0024				-0.0066			
Avg Diff	-0.0078		-0.0078		-0.0068		-0.0714		-0.0036		-0.1429		0.0010		-0.2857	
% Diff	-0.08%		-0.08%		-0.35%		-0.30%		-1.13%		-2.33%		0.06%		-1.61%	

Table H.12 Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.2521	9.2225	9.2254	9.1959	2.0306	2.0437	28.0000	32.0000	0.2399	0.2434	5.0000	5.0000	1.5847	1.5925	19.0000	20.0000
2	8.7531	8.7200	8.7669	8.7337	1.9904	1.9985	22.0000	21.0000	0.2355	0.2426	6.0000	6.0000	1.2829	1.2748	15.0000	15.0000
3	8.9952	9.0169	8.9906	9.0127	2.0557	2.1119	22.0000	23.0000	0.2469	0.2571	6.0000	6.0000	1.3515	1.3557	15.0000	15.0000
4	8.6665	8.6553	8.7208	8.7097	1.9538	1.9621	24.0000	22.0000	0.2222	0.2305	5.0000	5.0000	1.2972	1.2923	15.0000	14.0000
5	8.8010	8.7687	8.7862	8.7539	2.0959	2.0745	25.0000	25.0000	0.2579	0.2628	5.0000	5.0000	1.2077	1.2036	12.0000	12.0000
6	9.5613	9.5724	9.5142	9.5251	2.1051	2.2022	25.0000	24.0000	0.2498	0.2535	5.0000	5.0000	1.7422	1.7371	20.0000	20.0000
7	9.0189	9.0416	9.0289	9.0518	1.9676	1.9926	23.0000	24.0000	0.2277	0.2314	6.0000	6.0000	1.4241	1.4265	18.0000	18.0000
8	8.7526	8.7832	8.8334	8.8642	1.8740	1.9116	25.0000	25.0000	0.2219	0.2279	4.0000	4.0000	1.4501	1.4486	20.0000	20.0000
9	8.7360	8.6912	8.7501	8.7052	1.9230	1.9199	26.0000	24.0000	0.2262	0.2314	5.0000	5.0000	1.3146	1.3153	15.0000	15.0000
10	8.9895	8.9771	8.9746	8.9622	1.9553	1.9744	18.0000	18.0000	0.2394	0.2437	5.0000	5.0000	1.5353	1.5287	16.0000	17.0000
11	9.1314	9.1491	9.0919	9.1096	2.1361	2.1278	29.0000	23.0000	0.2441	0.2529	5.0000	6.0000	1.2897	1.2881	13.0000	13.0000
12	8.7192	8.7291	8.7476	8.7577	1.9588	2.0156	22.0000	24.0000	0.2347	0.2335	5.0000	4.0000	1.1871	1.1764	14.0000	14.0000
13	9.0811	9.0776	9.0800	9.0767	1.9966	2.0276	31.0000	34.0000	0.2357	0.2415	7.0000	7.0000	1.5195	1.5245	17.0000	16.0000
14	9.0798	9.0730	9.0600	9.0532	2.0788	2.0519	22.0000	21.0000	0.2523	0.2605	6.0000	6.0000	1.4509	1.4634	19.0000	19.0000
Avg	8.9670	8.9627	8.9693	8.9651	2.0087	2.0296	24.4286	24.2857	0.2382	0.2438	5.3571	5.3571	1.4027	1.4020	16.2857	16.2857
[+ -] 20% PE	1.7891		1.7896		-0.3808		4.7429		-0.0420		-1.0714		0.2798		-3.2571	
[+ -] 15% PE	1.3408		1.3412		-0.2804		3.5214		-0.0301		-0.8036		0.2097		-2.4429	
[+ -] 10% PE	0.8924		0.8927		-0.1800		2.3000		-0.0182		-0.5357		0.1396		-1.6286	
[+ -] 05% PE	0.4441		0.4442		-0.0795		1.0786		-0.0063		-0.2679		0.0694		-0.8143	
[+ -] 01% PE	0.0854		0.0855		0.0008		0.1014		0.0032		-0.0536		0.0133		-0.1629	
[+ -] 20% TS	110.6214		118.0766		-37.3027		6.9999		-45.4025		-9.5547		30.7657		-17.5425	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000046713		0.0000000000		0.000001522		0.0000000000		0.0000000001	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	101.9457		107.4549		-28.7532		5.2789		-35.3567		-7.3723		29.7419		-14.6590	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000746053		0.0000000000		0.0000027033		0.0000000000		0.0000000009	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 10% TS	86.3659		89.3564		-19.1758		3.4875		-22.7750		-5.0206		27.6794		-10.6341	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0020046154		0.0000000000		0.0001171302		0.0000000000		0.0000000439	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 05% TS	55.9559		56.5089		-8.7214		1.6468		-8.1553		-2.5438		22.1032		-5.5504	
P-Value	0.0000000000		0.0000000000		0.0000004292		0.0617708050		0.0000009052		0.0122401397		0.0000000000		0.0000468881	
Reject?	0		0		0		1		0		0		0		0	
[+ -] 01% TS	12.8598		12.8351		0.0898		0.1552		4.1582		-0.5109		6.9208		-1.1056	
P-Value	0.0000000045		0.0000000046		0.5350802300		0.4395209021		0.9994380282		0.3089773331		0.0000052587		0.1444609151	
Reject?	0		0		1		1		1		1		0		1	
CI UL	0.0182		0.0182		-0.0015				-0.0039				0.0045			
CI LL	-0.0096		-0.0097		-0.0403				-0.0073				-0.0031			
Avg Diff	-0.0043		-0.0042		0.0209		-0.1429		0.0056		0.0000		-0.0007		0.0000	
% Diff	-0.05%		-0.05%		1.04%		-0.58%		2.35%		0.00%		-0.05%		0.00%	

Table H.13 Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	7.4375	7.4159	7.4551	7.4337	0.4586	0.4609	15.0000	15.0000	1.2668	1.3692	19.0000	26.0000	0.9685	0.8356	16.0000	13.0000
2	7.4345	7.3614	7.4429	7.3692	0.4652	0.4621	13.0000	13.0000	1.2448	1.3323	22.0000	39.0000	0.9209	0.7524	14.0000	13.0000
3	7.4007	7.1619	7.4129	7.1736	0.4457	0.4463	12.0000	13.0000	1.2929	1.2260	23.0000	25.0000	0.9625	0.7901	15.0000	12.0000
4	7.4422	7.2574	7.4264	7.2418	0.4590	0.4613	13.0000	13.0000	1.2658	1.2392	19.0000	27.0000	0.9503	0.8003	16.0000	13.0000
5	7.1152	7.0598	7.1548	7.0990	0.4604	0.4562	12.0000	12.0000	1.2128	1.3007	17.0000	26.0000	0.8428	0.6925	14.0000	11.0000
6	7.4884	7.4058	7.4810	7.3985	0.4529	0.4507	11.0000	11.0000	1.2762	1.3596	21.0000	22.0000	0.9931	0.8261	17.0000	15.0000
7	7.4373	7.3718	7.4335	7.3684	0.4533	0.4475	12.0000	14.0000	1.2989	1.3877	21.0000	34.0000	0.9694	0.7919	17.0000	14.0000
8	7.3919	7.2118	7.3980	7.2178	0.4422	0.4409	11.0000	14.0000	1.2533	1.2477	21.0000	22.0000	1.0536	0.8921	20.0000	19.0000
9	7.4405	7.4326	7.4088	7.4010	0.4658	0.4677	15.0000	15.0000	1.2384	1.3582	16.0000	37.0000	0.9451	0.8024	18.0000	13.0000
10	7.6557	7.5528	7.6038	7.5012	0.4661	0.4659	11.0000	12.0000	1.2662	1.3841	18.0000	24.0000	1.1413	0.9209	20.0000	17.0000
11	7.4696	7.2442	7.4774	7.2518	0.4525	0.4513	12.0000	12.0000	1.3060	1.2224	18.0000	24.0000	0.9442	0.7879	14.0000	12.0000
12	7.4355	7.2828	7.3885	7.2370	0.4744	0.4742	13.0000	13.0000	1.3023	1.3154	20.0000	28.0000	0.8746	0.7005	18.0000	14.0000
13	7.4038	7.3654	7.4173	7.3792	0.4569	0.4594	10.0000	11.0000	1.2356	1.3359	18.0000	30.0000	0.9823	0.8323	18.0000	16.0000
14	7.3540	7.2589	7.3996	7.3039	0.4446	0.4451	11.0000	13.0000	1.2336	1.2950	27.0000	24.0000	0.9724	0.8087	15.0000	14.0000
Avg	7.4219	7.3130	7.4214	7.3126	0.4570	0.4564	12.2143	12.9286	1.2638	1.3124	20.0000	27.7143	0.9658	0.8024	16.5714	14.0000
[+ -] 20% PE	1.3755		1.3754		0.0908		-1.7286		-0.2042		3.7143		0.0298		0.7429	
[+ -] 15% PE	1.0044		1.0044		0.0680		-1.1179		-0.1410		4.7143		-0.0185		-0.0857	
[+ -] 10% PE	0.6333		0.6333		0.0451		-0.5071		-0.0778		5.7143		-0.0668		-0.9143	
[+ -] 05% PE	0.2622		0.2622		0.0223		0.1036		-0.0146		6.7143		-0.1151		-1.7429	
[+ -] 01% PE	-0.0347		-0.0346		0.0040		0.5921		0.0359		7.5143		-0.1537		-2.4057	
[+ -] 20% TS	68.2430		68.7076		104.6235		-5.4891		-10.5481		2.0205		6.4051		2.4253	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000520280		0.0000000483		0.9677884232		0.0000116225		0.0152990702	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	50.3337		50.4615		85.2065		-3.7083		-7.3710		2.5982		-4.0261		-0.2826	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0013139554		0.0000027081		0.9889586338		0.9992802130		0.6090204596	
Reject?	0		0		0		0		0		1		1		1	
[+ -] 10% TS	31.8804		31.8757		60.8750		-1.7566		-4.1160		3.1903		-14.0583		-3.0185	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0512456083		0.0006080550		0.9964504338		0.9999999985		0.9950598563	
Reject?	0		0		0		1		0		1		1		1	
[+ -] 05% TS	13.1842		13.1695		31.7288		0.3742		-0.7829		3.7969		-22.6533		-5.7153	
P-Value	0.0000000034		0.0000000034		0.0000000000		0.6428573497		0.2238498170		0.9988899159		1.0000000000		0.9999644573	
Reject?	0		0		0		1		1		1		1		1	
[+ -] 01% TS	-1.7349		-1.7318		5.8228		2.2103		1.9397		4.2928		-28.2047		-7.8017	
P-Value	0.9468027552		0.9465224706		0.0000297324		0.9771854775		0.9627847335		0.9995625263		1.0000000000		0.9999985298	
Reject?	1		1		0		1		1		1		1		1	
CI UL	0.1521		0.1521		0.0021				-0.0086				0.1754			
CI LL	0.0656		0.0656		-0.0009				-0.0885				0.1514			
Avg Diff	-0.1089		-0.1089		-0.0006		0.7143		0.0486		7.7143		-0.1634		-2.5714	
% Diff	-1.47%		-1.47%		-0.13%		5.85%		3.84%		38.57%		-16.92%		-15.52%	

Table H.14 Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.8465	9.4576	9.8184	9.4303	1.2663	1.2622	22.0000	25.0000	1.6655	1.3340	26.0000	22.0000	1.9736	1.8429	20.0000	19.0000
2	9.5233	9.0544	9.5385	9.0686	1.3045	1.2994	20.0000	20.0000	1.6802	1.3547	24.0000	22.0000	1.6089	1.4993	20.0000	20.0000
3	9.5818	9.1500	9.5771	9.1462	1.3141	1.3103	22.0000	24.0000	1.8218	1.4841	25.0000	22.0000	1.4874	1.4169	17.0000	17.0000
4	9.4997	9.1746	9.5590	9.2320	1.2937	1.3218	26.0000	30.0000	1.5258	1.2341	21.0000	16.0000	1.7757	1.6980	21.0000	22.0000
5	9.4855	8.9301	9.4707	8.9157	1.2677	1.2567	19.0000	26.0000	1.7801	1.4441	25.0000	21.0000	1.4595	1.3713	15.0000	15.0000
6	10.4265	9.7226	10.3751	9.6746	1.3961	1.3974	24.0000	24.0000	1.8616	1.4395	23.0000	20.0000	2.1082	1.9049	26.0000	26.0000
7	9.5488	9.2189	9.5598	9.2293	1.2959	1.3019	28.0000	35.0000	1.6421	1.3263	22.0000	21.0000	1.7197	1.6129	18.0000	19.0000
8	9.4610	9.1331	9.5482	9.2175	1.2488	1.2286	24.0000	23.0000	1.4953	1.2452	22.0000	20.0000	1.8569	1.7761	27.0000	25.0000
9	9.3707	9.1611	9.3850	9.1752	1.2851	1.3124	23.0000	26.0000	1.6224	1.3227	24.0000	22.0000	1.6379	1.5794	18.0000	19.0000
10	9.8280	9.3507	9.8146	9.3383	1.2641	1.2568	23.0000	22.0000	1.6707	1.3284	25.0000	22.0000	1.9641	1.8449	20.0000	23.0000
11	9.4482	9.0857	9.4075	9.0464	1.3294	1.3074	20.0000	25.0000	1.7299	1.4165	26.0000	24.0000	1.4815	1.3509	15.0000	14.0000
12	9.4235	8.9811	9.4544	9.0104	1.3042	1.3047	23.0000	25.0000	1.6812	1.3429	30.0000	24.0000	1.5304	1.3931	16.0000	16.0000
13	9.7175	9.2341	9.7133	9.2304	1.3055	1.2812	28.0000	28.0000	1.6882	1.3381	22.0000	21.0000	1.7842	1.6436	21.0000	21.0000
14	9.6953	9.2576	9.6745	9.2375	1.3201	1.3017	19.0000	21.0000	1.6581	1.3558	19.0000	17.0000	1.7396	1.6244	25.0000	27.0000
Avg	9.6326	9.2080	9.6354	9.2109	1.2997	1.2959	22.9286	25.2857	1.6802	1.3547	23.8571	21.0000	1.7234	1.6113	19.9286	20.2143
[+ -] 20% PE	1.5019		1.5025		0.2561		-2.2286		0.0106		1.9143		0.2326		-3.7000	
[+ -] 15% PE	1.0203		1.0208		0.1912		-1.0821		-0.0734		0.7214		0.1464		-2.7036	
[+ -] 10% PE	0.5387		0.5390		0.1262		0.0643		-0.1575		-0.4714		0.0603		-1.7071	
[+ -] 05% PE	0.0570		0.0572		0.0612		1.2107		-0.2415		-1.6643		-0.0259		-0.7107	
[+ -] 01% PE	-0.3283		-0.3282		0.0092		2.1279		-0.3087		-2.6186		-0.0948		0.0864	
[+ -] 20% TS	64.4339		62.7440		53.7488		-2.9947		1.6310		5.7210		22.3597		-9.2153	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0051716664		0.0634310072		0.0000352098		0.0000000000		0.0000002302	
Reject?	0		0		0		0		1		0		0		0	
[+ -] 15% TS	40.9807		40.2250		41.6927		-1.4744		-10.1688		2.0986		16.0078		-7.1866	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0820942120		0.9999999259		0.0279788708		0.0000000003		0.0000035430	
Reject?	0		0		0		1		1		0		0		0	
[+ -] 10% TS	20.0356		19.8516		28.3530		0.0886		-19.3912		-1.3230		7.0143		-4.7867	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.5346145980		1.0000000000		0.8956849629		0.0000045719		0.0001776059	
Reject?	0		0		0		1		1		1		0		0	
[+ -] 05% TS	1.9534		1.9590		14.0174		1.6823		-26.4651		-4.4747		-2.9193		-2.0671	
P-Value	0.0363206121		0.0359576568		0.0000000016		0.9418232158		1.0000000000		0.9996871691		0.9940218472		0.0296223763	
Reject?	0		0		0		1		1		1		1		0	
[+ -] 01% TS	-10.5151		-10.5804		2.1231		2.9707		-30.9216		-6.7774		-9.8268		0.2550	
P-Value	0.9999999499		0.9999999534		0.0267602664		0.9945836006		1.0000000000		0.9999934664		0.9999998899		0.5986361311	
Reject?	1		1		0		1		1		1		1		1	
CI UL	0.4932		0.4926		0.0132				0.3475				0.1335			
CI LL	0.3560		0.3565		-0.0056				0.3034				0.0907			
Avg Diff	-0.4246		-0.4246		-0.0038		2.3571		-0.3255		-2.8571		-0.1121		0.2857	
% Diff	-4.41%		-4.41%		-0.29%		10.28%		-19.37%		-11.98%		-6.50%		1.43%	

Table H.15 Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	11.6348	11.9135	11.6623	11.9424	1.6786	1.7206	24.0000	25.0000	1.7636	1.8353	27.0000	29.0000	2.2635	2.1925	23.0000	23.0000
2	11.6679	12.0978	11.6818	12.1117	1.6459	1.7089	22.0000	25.0000	1.7842	1.7867	27.0000	37.0000	2.1953	2.2269	25.0000	26.0000
3	11.7263	11.7433	11.7457	11.7628	1.6480	1.5783	22.0000	21.0000	1.6501	1.6373	20.0000	23.0000	2.5164	2.4107	20.0000	21.0000
4	11.4973	11.8197	11.4722	11.7940	1.6724	1.7250	20.0000	26.0000	1.7091	1.6925	29.0000	32.0000	2.1477	2.2247	20.0000	21.0000
5	11.1511	11.2695	11.2130	11.3320	1.6264	1.6369	21.0000	23.0000	1.7029	1.7607	22.0000	26.0000	1.9305	1.9614	21.0000	18.0000
6	12.2951	12.4472	12.2823	12.4351	1.7357	1.6631	23.0000	21.0000	1.8054	1.8093	21.0000	23.0000	2.6612	2.7046	23.0000	25.0000
7	11.8981	11.9442	11.8937	11.9398	1.6079	1.6765	20.0000	27.0000	1.9173	1.8608	40.0000	41.0000	2.2411	2.2513	20.0000	19.0000
8	12.0116	11.8418	12.0213	11.8513	1.7145	1.6169	26.0000	22.0000	1.6807	1.7168	21.0000	24.0000	2.5216	2.5932	27.0000	28.0000
9	12.0631	12.0276	12.0113	11.9762	1.7433	1.7175	23.0000	25.0000	1.8899	1.8329	31.0000	33.0000	2.2696	2.2411	20.0000	21.0000
10	12.8742	12.8209	12.7875	12.7345	1.6668	1.7837	22.0000	23.0000	1.8214	1.8712	20.0000	20.0000	3.1170	3.0709	26.0000	27.0000
11	11.9508	11.9460	11.9629	11.9588	1.6752	1.7349	25.0000	28.0000	1.7421	1.6534	23.0000	23.0000	2.3335	2.2196	21.0000	22.0000
12	11.7693	11.8578	11.6950	11.7829	1.6668	1.8018	20.0000	29.0000	1.7922	1.7647	28.0000	28.0000	1.9937	2.0248	27.0000	26.0000
13	11.8470	12.0006	11.8696	12.0235	1.6944	1.6848	24.0000	22.0000	1.8163	1.7922	20.0000	33.0000	2.2438	2.2720	27.0000	26.0000
14	11.5521	11.9346	11.6239	12.0085	1.5572	1.6073	18.0000	20.0000	1.7173	1.7364	19.0000	26.0000	2.4357	2.5240	19.0000	21.0000
Avg	11.8528	11.9760	11.8516	11.9753	1.6667	1.6897	22.1429	24.0714	1.7709	1.7679	24.8571	28.4286	2.3479	2.3513	22.7857	23.1429
[+ -] 20% PE	-2.2473		-2.2467		-0.3102		-2.5000		0.3511		-1.4000		-0.4662		-4.2000	
[+ -] 15% PE	-1.6546		-1.6541		-0.2269		-1.3929		0.2626		-0.1571		-0.3488		-3.0607	
[+ -] 10% PE	-1.0620		-1.0615		-0.1436		-0.2857		0.1741		1.0857		-0.2314		-1.9214	
[+ -] 05% PE	-0.4694		-0.4689		-0.0602		0.8214		0.0855		2.3286		-0.1140		-0.7821	
[+ -] 01% PE	0.0047		0.0051		0.0064		1.7071		0.0147		3.3229		-0.0201		0.1293	
[+ -] 20% TS	-36.6966		-37.4550		-15.4170		-2.3835		30.1855		-1.2019		-17.7294		-9.8337	
P-Value	0.0000000000		0.0000000000		0.0000000005		0.0165442141		0.0000000000		0.1254291610		0.0000000001		0.000001093	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-28.8931		-29.3360		-11.4809		-1.3546		22.3841		-0.1396		-14.8919		-7.5012	
P-Value	0.0000000000		0.0000000000		0.0000000177		0.0993069339		0.0000000000		0.4455681356		0.0000000008		0.0000022461	
Reject?	0		0		0		1		0		1		0		0	
[+ -] 10% TS	-19.8323		-20.0221		-7.3930		-0.2834		14.6039		0.9950		-11.0636		-4.8984	
P-Value	0.0000000000		0.0000000000		0.0000026235		0.3906529219		0.0000000010		0.8310525128		0.0000000275		0.0001454652	
Reject?	0		0		0		1		0		1		0		0	
[+ -] 05% TS	-9.3610		-9.3923		-3.1552		0.8311		7.0150		2.1944		-6.0252		-2.0572	
P-Value	0.0000001925		0.0000001853		0.0037975481		0.7895496210		0.0000045672		0.9765104504		0.0000213358		0.0301538286	
Reject?	0		0		0		1		0		1		0		0	
[+ -] 01% TS	0.0996		0.1072		0.3407		1.7547		1.1772		3.1926		-1.1288		0.3462	
P-Value	0.5388919335		0.5418857308		0.6305955549		0.9485812408		0.1301097427		0.9964664044		0.1396987001		0.6326259989	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.0215		-0.0217		0.0175				0.0301				0.0347			
CI LL	-0.2250		-0.2255		-0.0637				-0.0241				-0.0414			
Avg Diff	0.1233		0.1236		0.0231		1.9286		-0.0030		3.5714		0.0034		0.3571	
% Diff	1.04%		1.04%		1.39%		8.71%		-0.17%		14.37%		0.14%		1.57%	

Table H.16 Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	13.5727	13.8171	13.5338	13.7773	4.8111	4.9717	49.0000	49.0000	1.3160	1.3440	19.0000	18.0000	1.1953	1.2351	16.0000	16.0000
2	13.4437	13.9437	13.4650	13.9658	4.8225	5.2162	40.0000	49.0000	1.3591	1.3805	18.0000	19.0000	1.0200	1.0680	17.0000	18.0000
3	13.6658	13.9998	13.6603	13.9944	4.9609	5.2968	42.0000	43.0000	1.4419	1.5047	25.0000	25.0000	1.0058	0.9848	14.0000	16.0000
4	13.0323	13.7267	13.1129	13.8125	4.3809	5.1330	38.0000	54.0000	1.2674	1.2678	17.0000	19.0000	1.1378	1.1765	14.0000	17.0000
5	13.6988	13.5300	13.6759	13.5073	5.0623	5.0745	48.0000	52.0000	1.4466	1.4199	25.0000	26.0000	0.9814	1.0118	13.0000	15.0000
6	13.7340	14.6917	13.6660	14.6189	4.4375	5.7247	40.0000	46.0000	1.4424	1.3853	19.0000	19.0000	1.3588	1.3349	21.0000	22.0000
7	13.6981	14.0502	13.7133	14.0653	4.9954	5.1652	45.0000	41.0000	1.3124	1.3338	17.0000	20.0000	1.0943	1.1341	16.0000	21.0000
8	13.0226	13.3168	13.1427	13.4399	4.3839	4.5940	41.0000	43.0000	1.2627	1.3042	24.0000	20.0000	1.1829	1.1901	20.0000	17.0000
9	13.7814	13.8125	13.8038	13.8347	4.8224	4.9425	63.0000	44.0000	1.3063	1.3323	20.0000	25.0000	1.0765	1.1357	16.0000	17.0000
10	13.6189	13.3997	13.6002	13.3838	4.7293	4.7465	37.0000	39.0000	1.3958	1.2998	22.0000	22.0000	1.2817	1.2737	17.0000	20.0000
11	14.2459	14.0522	14.1849	13.9919	5.4090	5.2235	59.0000	44.0000	1.3761	1.4031	20.0000	23.0000	1.0131	0.9898	17.0000	15.0000
12	13.8581	13.8460	13.9037	13.8910	5.1623	5.0683	59.0000	57.0000	1.3456	1.3150	25.0000	22.0000	1.0105	1.0122	13.0000	14.0000
13	13.4528	13.9008	13.4512	13.8995	4.6577	5.1214	47.0000	49.0000	1.3413	1.3319	17.0000	21.0000	1.1664	1.1837	15.0000	16.0000
14	14.3182	13.9076	14.2875	13.8777	5.2119	4.9989	57.0000	42.0000	1.4518	1.4338	23.0000	29.0000	1.1420	1.1959	18.0000	22.0000
Avg	13.6531	13.8568	13.6572	13.8614	4.8462	5.0912	47.5000	46.5714	1.3618	1.3611	20.7857	22.0000	1.1190	1.1376	16.2143	17.5714
[+ -] 20% PE	-2.5269		-2.5273		-0.7242		8.5714		0.2717		-2.9429		-0.2052		-1.8857	
[+ -] 15% PE	-1.8443		-1.8444		-0.4819		6.1964		0.2036		-1.9036		-0.1493		-1.0750	
[+ -] 10% PE	-1.1616		-1.1615		-0.2396		3.8214		0.1355		-0.8643		-0.0933		-0.2643	
[+ -] 05% PE	-0.4790		-0.4787		0.0027		1.4464		0.0674		0.1750		-0.0374		0.5464	
[+ -] 01% PE	0.0672		0.0676		0.1965		-0.4536		0.0130		1.0064		0.0074		1.1950	
[+ -] 20% TS	-21.7688		-21.9340		-6.0491		3.8754		25.8486		-3.4656		-18.9108		-3.0273	
P-Value	0.0000000000		0.0000000000		0.0000205264		0.0009565692		0.0000000000		0.0020904316		0.0000000000		0.0048575019	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-16.3703		-16.4640		-4.1420		2.6902		19.1933		-2.3057		-15.1324		-1.7690	
P-Value	0.0000000002		0.0000000002		0.0005792210		0.0092677765		0.0000000000		0.0191260802		0.0000000006		0.0501657235	
Reject?	0		0		0		0		0		0		0		1	
[+ -] 10% TS	-10.6229		-10.6645		-2.1199		1.5942		12.5747		-1.0756		-10.3471		-0.4451	
P-Value	0.0000000444		0.0000000424		0.0269133444		0.0674481028		0.0000000060		0.1508314272		0.0000000605		0.3317920883	
Reject?	0		0		0		1		0		1		0		1	
[+ -] 05% TS	-4.5116		-4.5201		0.0245		0.5803		6.1218		0.2235		-4.4709		0.9400	
P-Value	0.0002923823		0.0002878919		0.5095840970		0.2858271684		0.0000182474		0.5866776275		0.0003149792		0.8178098923	
Reject?	0		0		1		1		0		1		0		1	
[+ -] 01% TS	0.6476		0.6529		1.8332		-0.1765		1.1512		1.3104		0.9220		2.0875	
P-Value	0.7357272125		0.7374152029		0.9551164472		0.5686723877		0.1351860510		0.8936292093		0.8133418239		0.9714530630	
Reject?	1		1		1		1		1		1		1		1	
CI UL	0.0191		0.0183		-0.0148				0.0251				-0.0014			
CI LL	-0.4264		-0.4267		-0.4752				-0.0238				-0.0357			
Avg Diff	0.2037		0.2042		0.2450		-0.9286		-0.0007		1.2143		0.0186		1.3571	
% Diff	1.49%		1.50%		5.06%		-1.95%		-0.05%		5.84%		1.66%		8.37%	

H.3 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential

Table H.17 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 1 vs MEE with CV = 0.25, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.0233	9.5281	9.0449	9.5506	1.4983	1.5040	21.0000	19.0000	0.1730	0.2599	4.0000	9.0000	2.4860	2.7698	25.0000	25.0000
2	8.8485	9.0354	8.8576	9.0449	1.5056	1.5268	18.0000	18.0000	0.1686	0.2560	5.0000	7.0000	2.2659	2.2781	17.0000	18.0000
3	9.1026	9.3462	9.1174	9.3630	1.4236	1.4878	16.0000	17.0000	0.1633	0.2564	4.0000	7.0000	2.6764	2.6455	21.0000	22.0000
4	8.9490	9.3090	8.9298	9.2887	1.5040	1.5466	20.0000	18.0000	0.1635	0.2609	4.0000	7.0000	2.4195	2.5358	22.0000	27.0000
5	8.3504	8.6421	8.3968	8.6905	1.4613	1.5122	18.0000	18.0000	0.1700	0.2583	5.0000	6.0000	1.9821	2.0001	16.0000	20.0000
6	9.3909	9.5496	9.3806	9.5390	1.4971	1.5681	23.0000	26.0000	0.1684	0.2617	4.0000	7.0000	2.8233	2.7443	20.0000	22.0000
7	8.8987	9.1863	8.8953	9.1834	1.5004	1.5315	21.0000	22.0000	0.1729	0.2664	5.0000	6.0000	2.3793	2.4167	21.0000	20.0000
8	8.9821	9.4271	8.9893	9.4348	1.4142	1.5030	21.0000	24.0000	0.1709	0.2607	5.0000	6.0000	2.5896	2.7382	22.0000	24.0000
9	9.0130	9.5348	8.9732	9.4913	1.5372	1.5878	25.0000	29.0000	0.1725	0.2728	5.0000	14.0000	2.3985	2.6332	18.0000	20.0000
10	10.1015	10.4366	10.0332	10.3648	1.5582	1.5626	17.0000	16.0000	0.1758	0.2706	4.0000	8.0000	3.4797	3.5206	28.0000	32.0000
11	9.0455	9.4514	9.0551	9.4617	1.5291	1.5546	22.0000	18.0000	0.1645	0.2763	4.0000	6.0000	2.4627	2.6419	19.0000	20.0000
12	8.7194	9.0513	8.6642	8.9942	1.5897	1.5895	21.0000	22.0000	0.1743	0.2717	4.0000	7.0000	2.1017	2.1687	23.0000	23.0000
13	9.0440	9.6803	9.0605	9.6956	1.4868	1.5264	20.0000	19.0000	0.1733	0.2713	5.0000	7.0000	2.5037	2.8732	24.0000	23.0000
14	8.7936	9.0792	8.8480	9.1354	1.4331	1.4583	19.0000	19.0000	0.1668	0.2455	4.0000	6.0000	2.3729	2.4723	17.0000	20.0000
Avg	9.0187	9.3755	9.0176	9.3741	1.4956	1.5328	20.1429	20.3571	0.1698	0.2635	4.4286	7.3571	2.4958	2.6027	20.9286	22.5714
[+ -] 20% PE	-1.4470		-1.4469		-0.2619		-3.8143		0.0597		2.0429		-0.3922		-2.5429	
[+ -] 15% PE	-0.9960		-0.9961		-0.1872		-2.8071		0.0682		2.2643		-0.2674		-1.4964	
[+ -] 10% PE	-0.5451		-0.5452		-0.1124		-1.8000		0.0766		2.4857		-0.1426		-0.4500	
[+ -] 05% PE	-0.0942		-0.0943		-0.0376		-0.7929		0.0851		2.7071		-0.0179		0.5964	
[+ -] 01% PE	0.2666		0.2664		0.0222		0.0129		0.0919		2.8843		0.0820		1.4336	
[+ -] 20% TS	-35.0037		-35.4113		-28.9655		-6.8545		28.4969		3.6283		-9.6903		-4.5763	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000058121		1.0000000000		0.9984692742		0.0000001294		0.0002598289	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 15% TS	-25.5320		-25.7432		-22.0079		-5.0034		32.7000		4.0292		-7.0406		-2.7911	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0001207538		1.0000000000		0.9992843855		0.0000043965		0.0076445653	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-14.6276		-14.7126		-14.0732		-3.1722		36.9163		4.4309		-3.9681		-0.8655	
P-Value	0.0000000009		0.0000000009		0.0000000015		0.0036753897		1.0000000000		0.9996610287		0.0008028596		0.2012164356	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 05% TS	-2.6022		-2.6178		-5.0194		-1.3776		41.1371		4.8334		-0.5185		1.1758	
P-Value	0.0109566679		0.0106381834		0.0001173894		0.0957966231		1.0000000000		0.9998366411		0.3064271828		0.8696261246	
Reject?	0		0		0		1		1		1		1		1	
[+ -] 01% TS	7.4389		7.4688		3.1234		0.0220		44.5109		5.1557		2.4338		2.8679	
P-Value	0.9999975443		0.9999976474		0.9959628892		0.5086261457		1.0000000000		0.9999075881		0.9849416262		0.9934017010	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.2794		-0.2796		-0.0220				-0.0892				-0.0344			
CI LL	-0.4342		-0.4336		-0.0524				-0.0981				-0.1794			
Avg Diff	0.3568		0.3566		0.0372		0.2143		0.0936		2.9286		0.1069		1.6429	
% Diff	3.96%		3.95%		2.49%		1.06%		55.13%		66.13%		4.28%		7.85%	

Table H.18 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 1 vs MEE with CV = 0.25, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	8.9913	9.2553	8.9655	9.2286	1.2924	1.3231	22.0000	22.0000	1.0091	1.1490	13.0000	17.0000	1.3850	1.3515	18.0000	17.0000
2	8.5850	8.8264	8.5985	8.8404	1.2673	1.2679	19.0000	18.0000	1.0240	1.0844	12.0000	13.0000	1.1067	1.0995	14.0000	12.0000
3	8.8409	9.1876	8.8373	9.1835	1.3174	1.3579	18.0000	18.0000	1.1051	1.2569	15.0000	18.0000	1.1656	1.2040	14.0000	13.0000
4	8.4540	8.7411	8.5072	8.7956	1.2155	1.2333	18.0000	16.0000	0.9446	1.1392	16.0000	23.0000	1.1463	1.0895	14.0000	13.0000
5	8.7726	9.0032	8.7579	8.9881	1.2965	1.3498	21.0000	23.0000	1.2181	1.1939	15.0000	15.0000	1.0557	1.0623	11.0000	13.0000
6	9.3054	9.6133	9.2597	9.5660	1.3732	1.4005	16.0000	17.0000	1.1140	1.2523	16.0000	16.0000	1.4994	1.4654	19.0000	18.0000
7	8.8019	9.1527	8.8119	9.1633	1.2510	1.3011	19.0000	19.0000	1.0227	1.1856	14.0000	19.0000	1.2402	1.3096	16.0000	17.0000
8	8.5583	8.8152	8.6372	8.8965	1.2222	1.2242	20.0000	17.0000	0.9558	1.0872	14.0000	17.0000	1.2584	1.2981	18.0000	19.0000
9	8.4914	8.7958	8.5053	8.8101	1.2413	1.3019	20.0000	17.0000	0.9119	1.0746	14.0000	17.0000	1.1526	1.1833	15.0000	16.0000
10	8.7741	9.0851	8.7607	9.0713	1.2637	1.2958	15.0000	15.0000	1.0067	1.1739	14.0000	22.0000	1.3140	1.3210	15.0000	15.0000
11	8.9582	9.3235	8.9196	9.2830	1.3351	1.3740	17.0000	19.0000	1.0869	1.3351	21.0000	23.0000	1.1466	1.1634	12.0000	12.0000
12	8.5495	8.8292	8.5775	8.8580	1.2682	1.3264	19.0000	20.0000	1.0317	1.1652	17.0000	18.0000	1.0466	1.0670	13.0000	12.0000
13	8.8667	9.1494	8.8662	9.1486	1.2763	1.3145	24.0000	22.0000	1.0243	1.1897	19.0000	20.0000	1.3197	1.3489	15.0000	17.0000
14	8.8872	9.1571	8.8677	9.1371	1.3235	1.3668	17.0000	17.0000	1.0462	1.1843	13.0000	16.0000	1.2745	1.3113	18.0000	15.0000
Avg	8.7740	9.0668	8.7766	9.0693	1.2817	1.3169	18.9286	18.5714	1.0358	1.1765	15.2143	18.1429	1.2222	1.2339	15.1429	14.9286
[+ -] 20% PE	-1.4620		-1.4626		-0.2211		3.4286		-0.0664		-0.1143		-0.2328		2.8143	
[+ -] 15% PE	-1.0233		-1.0238		-0.1570		2.4821		-0.0146		0.6464		-0.1717		2.0571	
[+ -] 10% PE	-0.5846		-0.5849		-0.0929		1.5357		0.0371		1.4071		-0.1106		1.3000	
[+ -] 05% PE	-0.1459		-0.1461		-0.0288		0.5893		0.0889		2.1679		-0.0494		0.5429	
[+ -] 01% PE	0.2050		0.2049		0.0224		-0.1679		0.1304		2.7764		-0.0006		-0.0629	
[+ -] 20% TS	-104.6313		-110.4672		-43.3193		8.2717		-3.4795		-0.1644		-18.4677		7.4520	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000007742		0.0020356858		0.4359810847		0.0000000001		0.0000024099	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-84.3552		-87.1245		-31.5839		5.9481		-0.7946		0.9480		-14.9732		5.4438	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000241942		0.2205599797		0.8197861037		0.0000000007		0.0000562006	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-53.7167		-54.3291		-18.9343		3.6346		2.0854		2.1006		-10.5420		3.4133	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0015125010		0.9713452135		0.9721243526		0.0000000486		0.0023112510	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 05% TS	-13.9714		-14.0064		-5.8661		1.3701		5.1622		3.2883		-5.0868		1.4045	
P-Value	0.0000000017		0.0000000016		0.0000276840		0.0969200432		0.9999086342		0.9970606413		0.0001042669		0.0918047183	
Reject?	0		0		0		1		1		1		0		1	
[+ -] 01% TS	19.0692		19.1942		4.5094		-0.3835		7.7630		4.2593		-0.0595		-0.1600	
P-Value	1.0000000000		1.0000000000		0.9997064467		0.6462120166		0.9999984484		0.9995345470		0.4767132240		0.5623254010	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.2692		-0.2694		-0.0245				-0.1047				0.0082			
CI LL	-0.3163		-0.3161		-0.0460				-0.1768				-0.0316			
Avg Diff	0.2928		0.2927		0.0352		-0.3571		0.1407		2.9286		0.0117		-0.2143	
% Diff	3.34%		3.34%		2.75%		-1.89%		13.59%		19.25%		0.95%		-1.42%	

Table H.19 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 1 vs MEE with CV = 0.25, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.9980	10.2181	10.0219	10.2423	1.9467	1.9780	25.0000	26.0000	0.3133	0.3651	6.0000	7.0000	1.7554	1.8575	22.0000	20.0000
2	9.8719	9.9488	9.8817	9.9588	1.9770	1.9907	23.0000	26.0000	0.3113	0.3698	6.0000	7.0000	1.5752	1.6160	13.0000	17.0000
3	9.7943	9.9604	9.8103	9.9765	1.8428	1.8966	17.0000	21.0000	0.2956	0.3829	5.0000	7.0000	1.7442	1.7162	15.0000	18.0000
4	9.8768	10.0391	9.8558	10.0176	1.9478	1.9516	23.0000	21.0000	0.3035	0.3568	5.0000	6.0000	1.7165	1.7919	19.0000	21.0000
5	9.2499	9.6415	9.3014	9.6949	1.8728	1.8694	22.0000	20.0000	0.3145	0.3618	6.0000	6.0000	1.4290	1.5021	15.0000	17.0000
6	10.1231	10.3785	10.1121	10.3673	1.9424	1.9500	29.0000	25.0000	0.3065	0.3607	5.0000	6.0000	1.8777	1.9796	18.0000	17.0000
7	9.8989	10.1757	9.8954	10.1724	1.9841	1.9733	27.0000	22.0000	0.3213	0.3709	7.0000	6.0000	1.6935	1.7853	17.0000	19.0000
8	9.6903	10.0091	9.6982	10.0176	1.8319	1.8889	25.0000	26.0000	0.3150	0.3740	6.0000	7.0000	1.7863	1.9208	18.0000	21.0000
9	9.9909	10.2731	9.9485	10.2287	1.9958	2.0286	29.0000	28.0000	0.3198	0.3628	7.0000	7.0000	1.5939	1.7098	15.0000	15.0000
10	10.4779	10.7329	10.4060	10.6591	2.0515	2.0198	20.0000	20.0000	0.3263	0.3947	7.0000	7.0000	2.2510	2.2630	24.0000	25.0000
11	10.1418	10.4371	10.1525	10.4480	2.0087	2.0109	25.0000	24.0000	0.3056	0.3867	5.0000	8.0000	1.7684	1.8042	18.0000	18.0000
12	9.8250	10.1015	9.7630	10.0379	2.0770	2.0848	29.0000	25.0000	0.3194	0.3676	6.0000	7.0000	1.4785	1.4474	19.0000	19.0000
13	10.0444	10.1811	10.0629	10.1997	1.9499	1.9731	23.0000	22.0000	0.3190	0.3582	6.0000	7.0000	1.7679	1.8289	18.0000	19.0000
14	9.6134	9.6971	9.6729	9.7573	1.8698	1.9160	21.0000	18.0000	0.3038	0.3621	6.0000	8.0000	1.6736	1.6332	15.0000	14.0000
Avg	9.8997	10.1281	9.8988	10.1270	1.9499	1.9665	24.1429	23.1429	0.3125	0.3696	5.9286	6.8571	1.7222	1.7754	17.5714	18.5714
[+ -] 20% PE	-1.7516		-1.7515		-0.3733		3.8286		-0.0054		-0.2571		-0.2913		-2.5143	
[+ -] 15% PE	-1.2566		-1.2566		-0.2758		2.6214		0.0102		0.0393		-0.2051		-1.6357	
[+ -] 10% PE	-0.7616		-0.7616		-0.1783		1.4143		0.0258		0.3357		-0.1190		-0.7571	
[+ -] 05% PE	-0.2666		-0.2667		-0.0808		0.2071		0.0415		0.6321		-0.0329		0.1214	
[+ -] 01% PE	0.1294		0.1293		-0.0028		-0.7586		0.0540		0.8693		0.0360		0.8243	
[+ -] 20% TS	-57.4139		-57.6944		-37.5256		6.2677		-1.3798		-0.8663		-15.8445		-4.5434	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.000144451		0.0954566822		0.2010068988		0.0000000004		0.0002758893	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 15% TS	-44.3037		-44.3068		-30.2955		4.1628		2.6502		0.1359		-12.0256		-3.0914	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0005571393		0.9899984305		0.5530143432		0.0000000102		0.0042934837	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-28.6432		-28.5549		-21.5019		2.1704		6.8293		1.1930		-7.4127		-1.4942	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0245437068		0.9999939624		0.8729060591		0.0000025501		0.0795034149	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 05% TS	-10.5525		-10.5179		-10.7394		0.3063		11.1585		2.3080		-2.1319		0.2496	
P-Value	0.0000000480		0.0000000499		0.0000000391		0.3821010720		0.9999999751		0.9809555874		0.0263336025		0.5965918235	
Reject?	0		0		0		1		1		1		0		1	
[+ -] 01% TS	5.2651		5.2522		-0.4071		-1.0874		14.7298		3.2438		2.3573		1.7458	
P-Value	0.9999235878		0.9999218730		0.3452720860		0.8516856384		0.9999999991		0.9967976616		0.9826239039		0.9477943266	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.1756		-0.1754		-0.0019				-0.0492				-0.0202			
CI LL	-0.2812		-0.2811		-0.0314				-0.0650				-0.0862			
Avg Diff	0.2284		0.2282		0.0167		-1.0000		0.0571		0.9286		0.0532		1.0000	
% Diff	2.31%		2.31%		0.85%		-4.14%		18.27%		15.66%		3.09%		5.69%	

Table H.20 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 1 vs MEE with CV = 0.25, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.2227	9.3668	9.1961	9.3399	2.0491	2.0989	32.0000	30.0000	0.2431	0.2684	5.0000	6.0000	1.5922	1.5571	20.0000	21.0000
2	8.7392	8.9218	8.7530	8.9360	2.0014	2.0512	21.0000	22.0000	0.2445	0.2679	6.0000	5.0000	1.2795	1.3025	16.0000	14.0000
3	9.0127	9.1657	9.0085	9.1620	2.1170	2.1028	23.0000	22.0000	0.2562	0.2762	6.0000	5.0000	1.3548	1.3528	15.0000	15.0000
4	8.6557	8.7402	8.7105	8.7942	1.9667	1.9280	22.0000	24.0000	0.2314	0.2651	5.0000	7.0000	1.2926	1.2288	14.0000	13.0000
5	8.7906	9.0525	8.7758	9.0371	2.0800	2.0906	25.0000	25.0000	0.2616	0.2873	5.0000	6.0000	1.2050	1.2228	12.0000	13.0000
6	9.5676	9.6852	9.5203	9.6375	2.2082	2.1654	24.0000	27.0000	0.2524	0.2831	5.0000	6.0000	1.7402	1.7003	21.0000	20.0000
7	9.0315	9.2010	9.0417	9.2112	1.9970	2.0326	24.0000	24.0000	0.2323	0.2818	5.0000	7.0000	1.4249	1.4011	18.0000	19.0000
8	8.7725	8.8120	8.8535	8.8933	1.9171	1.9381	25.0000	21.0000	0.2284	0.2579	4.0000	6.0000	1.4461	1.4213	20.0000	20.0000
9	8.6968	8.8742	8.7109	8.8888	1.9234	1.9477	24.0000	25.0000	0.2321	0.2618	5.0000	6.0000	1.3140	1.3487	15.0000	15.0000
10	8.9818	9.2014	8.9668	9.1883	1.9803	2.0263	18.0000	21.0000	0.2436	0.2698	5.0000	6.0000	1.5252	1.5782	17.0000	19.0000
11	9.1505	9.3588	9.1109	9.3184	2.1335	2.2187	23.0000	28.0000	0.2507	0.2717	5.0000	6.0000	1.2898	1.3394	13.0000	14.0000
12	8.7334	8.8469	8.7620	8.8759	2.0203	2.0317	24.0000	23.0000	0.2347	0.2821	5.0000	7.0000	1.1767	1.1499	14.0000	13.0000
13	9.0766	9.2439	9.0762	9.2434	2.0320	2.0369	33.0000	30.0000	0.2426	0.2646	7.0000	5.0000	1.5237	1.5426	16.0000	17.0000
14	9.0681	9.0966	9.0483	9.0767	2.0574	2.0600	21.0000	22.0000	0.2607	0.2709	6.0000	5.0000	1.4622	1.4226	19.0000	15.0000
Avg	8.9642	9.1119	8.9667	9.1145	2.0345	2.0521	24.2143	24.5714	0.2439	0.2720	5.2857	5.9286	1.4019	1.3977	16.4286	16.2857
[+ -] 20% PE	-1.6452		-1.6456		-0.3894		-4.4857		-0.0206		-0.4143		0.2762		3.1429	
[+ -] 15% PE	-1.1969		-1.1973		-0.2876		-3.2750		-0.0084		-0.1500		0.2061		2.3214	
[+ -] 10% PE	-0.7487		-0.7489		-0.1859		-2.0643		0.0038		0.1143		0.1360		1.5000	
[+ -] 05% PE	-0.3005		-0.3006		-0.0842		-0.8536		0.0160		0.3786		0.0659		0.6786	
[+ -] 01% PE	0.0581		0.0581		-0.0028		0.1150		0.0257		0.5900		0.0098		0.0214	
[+ -] 20% TS	-73.4938		-73.8101		-35.0826		-5.5359		-6.4676		-1.0540		24.0794		7.5672	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000480564		0.0000105377		0.1555345858		0.0000000000		0.000020445	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-58.4347		-58.1890		-27.3011		-4.2538		-2.7371		-0.3906		19.6802		5.6524	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0004702500		0.0084759210		0.3512081539		0.0000000000		0.0000394902	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 10% TS	-39.4091		-39.0333		-18.4817		-2.8234		1.2751		0.3047		13.8283		3.6630	
P-Value	0.0000000000		0.0000000000		0.0000000001		0.0071860941		0.8877121362		0.6173066290		0.0000000019		0.0014327120	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 05% TS	-16.6634		-16.5112		-8.6954		-1.2294		5.5868		1.0342		6.8435		1.6479	
P-Value	0.0000000002		0.0000000002		0.0000004438		0.1203597795		0.9999559045		0.8400428604		0.0000059097		0.0616539204	
Reject?	0		0		0		1		1		1		0		1	
[+ -] 01% TS	3.2804		3.2702		-0.2968		0.1726		9.2625		1.6438		1.0022		0.0515	
P-Value	0.9970154717		0.9969564662		0.3856533832		0.5671710502		0.9999997828		0.9379148850		0.1672800798		0.4798525025	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.1095		-0.1095		0.0028				-0.0222				0.0256			
CI LL	-0.1859		-0.1860		-0.0379				-0.0341				-0.0171			
Avg Diff	0.1477		0.1477		0.0175		0.3571		0.0282		0.6429		-0.0042		-0.1429	
% Diff	1.65%		1.65%		0.86%		1.47%		11.55%		12.16%		-0.30%		-0.87%	

Table H.21 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 1 vs MEE with CV = 0.75, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	7.3627	7.8164	7.3803	7.8350	0.4902	0.4570	15.0000	14.0000	1.2666	1.5519	21.0000	27.0000	0.8335	0.9068	13.0000	14.0000
2	7.3235	7.6011	7.3314	7.6081	0.4962	0.4519	13.0000	11.0000	1.2572	1.5539	23.0000	27.0000	0.7354	0.7862	12.0000	12.0000
3	7.1866	7.5296	7.1984	7.5420	0.4745	0.4630	12.0000	15.0000	1.1884	1.4587	24.0000	25.0000	0.7985	0.8666	12.0000	14.0000
4	7.2662	7.5981	7.2505	7.5820	0.4904	0.4691	13.0000	13.0000	1.1857	1.4507	24.0000	24.0000	0.7954	0.8588	15.0000	17.0000
5	7.0383	7.4109	7.0774	7.4522	0.4911	0.4553	13.0000	11.0000	1.2336	1.4165	20.0000	26.0000	0.6829	0.7436	11.0000	10.0000
6	7.3562	7.7613	7.3490	7.7549	0.4827	0.4585	11.0000	11.0000	1.2624	1.5177	19.0000	22.0000	0.8195	0.8601	16.0000	17.0000
7	7.3421	7.5551	7.3387	7.5522	0.4824	0.4508	13.0000	13.0000	1.3212	1.4081	30.0000	22.0000	0.7893	0.8219	14.0000	13.0000
8	7.2242	7.7341	7.2302	7.7410	0.4716	0.4632	13.0000	15.0000	1.2232	1.4441	20.0000	23.0000	0.8641	0.9624	15.0000	16.0000
9	7.4128	7.7219	7.3812	7.6890	0.4960	0.4930	15.0000	16.0000	1.2914	1.5343	27.0000	24.0000	0.7973	0.7890	13.0000	13.0000
10	7.5296	7.8317	7.4786	7.7776	0.4977	0.4621	12.0000	12.0000	1.2884	1.4675	18.0000	25.0000	0.9297	0.9356	17.0000	14.0000
11	7.2509	7.8090	7.2586	7.8171	0.4834	0.4759	13.0000	13.0000	1.1785	1.5706	20.0000	26.0000	0.7940	0.8718	12.0000	14.0000
12	7.3002	7.6691	7.2541	7.6204	0.5077	0.4754	13.0000	13.0000	1.2691	1.4375	19.0000	24.0000	0.7055	0.8173	14.0000	13.0000
13	7.3543	7.7393	7.3681	7.7535	0.4878	0.4652	10.0000	13.0000	1.2663	1.4734	26.0000	19.0000	0.8340	0.8661	17.0000	15.0000
14	7.2412	7.3982	7.2860	7.4440	0.4753	0.4451	12.0000	12.0000	1.2192	1.4307	17.0000	20.0000	0.8123	0.8170	15.0000	12.0000
Avg	7.2992	7.6554	7.2987	7.6549	0.4877	0.4632	12.7143	13.0000	1.2465	1.4797	22.0000	23.8571	0.7994	0.8502	14.0000	13.8571
[+ -] 20% PE	-1.1036		-1.1036		0.0731		-2.2571		-0.0161		-2.5429		-0.1090		2.6571	
[+ -] 15% PE	-0.7387		-0.7386		0.0487		-1.6214		0.0462		-1.4429		-0.0691		1.9571	
[+ -] 10% PE	-0.3737		-0.3737		0.0244		-0.9857		0.1085		-0.3429		-0.0291		1.2571	
[+ -] 05% PE	-0.0088		-0.0088		0.0000		-0.3500		0.1709		0.7571		0.0109		0.5571	
[+ -] 01% PE	0.2832		0.2832		-0.0195		0.1586		0.2207		1.6371		0.0428		-0.0029	
[+ -] 20% TS	-36.3863		-36.4364		23.0673		-5.0671		-0.7750		-1.7399		-9.8402		6.1446	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0001079383		0.2260903262		0.0527415080		0.0000001084		0.0000175914	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 15% TS	-24.7799		-24.7631		15.1796		-3.7172		2.2652		-1.0187		-6.5190		4.4570	
P-Value	0.0000000000		0.0000000000		0.0000000006		0.0012919604		0.9793818203		0.1634611800		0.0000097258		0.0003231473	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-12.7291		-12.7022		7.4787		-2.3059		5.4259		-0.2500		-2.8661		2.8113	
P-Value	0.0000000051		0.0000000053		0.0000023194		0.0191181917		0.9999420546		0.4032563385		0.0066215026		0.0073543514	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 05% TS	-0.3021		-0.3014		-0.0075		-0.8347		8.7102		0.5705		1.1116		1.2204	
P-Value	0.3836605933		0.3839197130		0.5029386957		0.2094818644		0.9999995646		0.7109624028		0.8567870398		0.1220025910	
Reject?	1		1		1		1		1		1		1		1	
[+ -] 01% TS	9.8548		9.8253		-5.8268		0.3837		11.4282		1.2671		4.5090		-0.0061	
P-Value	0.9999998934		0.9999998897		0.9999704637		0.6463153380		0.9999999813		0.8863296607		0.9997062583		0.5024050217	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.2942		-0.2940		0.0317				-0.1916				-0.0304			
CI LL	-0.4182		-0.4183		0.0171				-0.2747				-0.0712			
Avg Diff	0.3562		0.3562		-0.0244		0.2857		0.2332		1.8571		0.0508		-0.1429	
% Diff	4.88%		4.88%		-5.01%		2.25%		18.71%		8.44%		6.36%		-1.02%	

Table H.22 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 1 vs MEE with CV = 0.75, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.1831	9.4817	9.1560	9.4546	1.1406	1.2081	19.0000	17.0000	1.3704	1.4309	24.0000	22.0000	1.5908	1.8098	18.0000	28.0000
2	8.8885	9.0548	8.9006	9.0686	1.1652	1.2389	18.0000	21.0000	1.3810	1.4313	21.0000	20.0000	1.4220	1.3910	15.0000	20.0000
3	9.1070	9.4988	9.1017	9.4939	1.1782	1.2511	21.0000	24.0000	1.4920	1.4602	22.0000	23.0000	1.4357	1.7725	17.0000	22.0000
4	8.7637	8.9635	8.8186	9.0168	1.1475	1.1816	22.0000	23.0000	1.2548	1.5112	17.0000	22.0000	1.3983	1.3865	21.0000	16.0000
5	8.9861	9.2819	8.9710	9.2662	1.1476	1.2033	19.0000	22.0000	1.4953	1.4646	20.0000	19.0000	1.4451	1.6711	20.0000	18.0000
6	9.5390	9.8554	9.4927	9.8066	1.2522	1.2667	23.0000	21.0000	1.4752	1.4576	19.0000	20.0000	1.7519	1.9928	22.0000	25.0000
7	9.1338	9.4834	9.1444	9.4947	1.1570	1.2108	23.0000	19.0000	1.3543	1.5608	20.0000	25.0000	1.5714	1.7406	22.0000	23.0000
8	8.8581	9.2551	8.9403	9.3408	1.1249	1.1525	23.0000	19.0000	1.2812	1.4193	17.0000	19.0000	1.5127	1.7181	16.0000	18.0000
9	8.9485	9.0169	8.9626	9.0314	1.1468	1.1852	20.0000	22.0000	1.3463	1.4353	20.0000	19.0000	1.4478	1.4568	15.0000	18.0000
10	9.0279	9.5315	9.0160	9.5176	1.1355	1.1996	20.0000	17.0000	1.3670	1.4214	20.0000	23.0000	1.5580	1.9445	22.0000	21.0000
11	9.3989	9.3121	9.3579	9.2719	1.2007	1.2282	18.0000	17.0000	1.4456	1.5207	23.0000	24.0000	1.6515	1.4935	17.0000	16.0000
12	8.6968	9.1061	8.7255	9.1370	1.1637	1.2088	21.0000	20.0000	1.3540	1.4948	22.0000	21.0000	1.2387	1.4851	22.0000	17.0000
13	9.1154	9.3637	9.1158	9.3613	1.1718	1.1951	26.0000	19.0000	1.3696	1.4673	23.0000	22.0000	1.5346	1.6668	18.0000	19.0000
14	9.3690	9.3886	9.3445	9.3606	1.1902	1.2767	16.0000	22.0000	1.3985	1.4392	19.0000	19.0000	1.7363	1.6343	22.0000	21.0000
Avg	9.0726	9.3281	9.0748	9.3302	1.1658	1.2148	20.6429	20.2143	1.3846	1.4653	20.5000	21.2857	1.5211	1.6545	19.0714	20.1429
[+ -] 20% PE	-1.5590		-1.5596		-0.1843		3.7000		-0.1963		-3.3143		-0.1707		-2.7429	
[+ -] 15% PE	-1.1053		-1.1059		-0.1260		2.6679		-0.1270		-2.2893		-0.0947		-1.7893	
[+ -] 10% PE	-0.6517		-0.6522		-0.0677		1.6357		-0.0578		-1.2643		-0.0186		-0.8357	
[+ -] 05% PE	-0.1981		-0.1984		-0.0094		0.6036		0.0114		-0.2393		0.0574		0.1179	
[+ -] 01% PE	0.1648		0.1646		0.0373		-0.2221		0.0668		0.5807		0.1183		0.8807	
[+ -] 20% TS	-30.8979		-31.3486		-28.0283		4.3489		-7.5694		-4.8979		-3.6877		-2.3375	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0003943049		0.0000020381		0.0001456022		0.0013667039		0.0180276989	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-22.7035		-22.9288		-19.7783		3.0473		-5.0679		-3.4826		-2.0729		-1.5552	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0046737810		0.0001077836		0.0020236188		0.0293132019		0.0719529025	
Reject?	0		0		0		0		0		0		0		1	
[+ -] 10% TS	-13.8440		-13.9230		-10.9369		1.8158		-2.3871		-1.9794		-0.4129		-0.7406	
P-Value	0.0000000018		0.0000000017		0.0000000315		0.0462641872		0.0164338082		0.0346761119		0.3432168842		0.2360517779	
Reject?	0		0		0		0		0		0		1		1	
[+ -] 05% TS	-4.3399		-4.3524		-1.5551		0.6512		0.4899		-0.3854		1.2864		0.1065	
P-Value	0.0004008799		0.0003917771		0.0719612231		0.2631220851		0.6838291503		0.3530839357		0.8896248676		0.5415755024	
Reject?	0		0		1		1		1		1		1		1	
[+ -] 01% TS	3.6931		3.6820		6.2839		-0.2343		2.9455		0.9564		2.6694		0.8075	
P-Value	0.9986474142		0.9986182490		0.9999859214		0.5908068778		0.9943152249		0.8218512399		0.9903572113		0.7830364771	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.1596		-0.1592		-0.0362				-0.0320				-0.0379			
CI LL	-0.3515		-0.3514		-0.0617				-0.1293				-0.2290			
Avg Diff	0.2556		0.2553		0.0489		-0.4286		0.0807		0.7857		0.1335		1.0714	
% Diff	2.82%		2.81%		4.20%		-2.08%		5.83%		3.83%		8.78%		5.62%	

Table H.23 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 1 vs MEE with CV = 0.75, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	12.0238	11.8647	12.0446	11.8932	1.7057	1.8000	23.0000	25.0000	1.6495	1.7120	25.0000	23.0000	2.4724	2.0941	24.0000	20.0000
2	12.0418	12.1349	12.0527	12.1467	1.7168	1.8220	23.0000	23.0000	1.6459	1.7287	24.0000	23.0000	2.3771	2.1914	37.0000	19.0000
3	11.6717	11.7788	11.6908	11.7977	1.5846	1.7798	17.0000	24.0000	1.6926	1.6780	26.0000	26.0000	2.2721	2.1102	21.0000	23.0000
4	11.7784	11.9462	11.7523	11.9201	1.7066	1.7971	26.0000	20.0000	1.6343	1.6182	20.0000	25.0000	2.2539	2.1513	23.0000	22.0000
5	11.2504	11.4823	11.3128	11.5460	1.6596	1.7259	24.0000	22.0000	1.5590	1.5944	17.0000	20.0000	2.1441	2.0116	26.0000	19.0000
6	12.1528	12.4142	12.1435	12.4026	1.6652	1.7821	21.0000	23.0000	1.6477	1.6923	23.0000	30.0000	2.6295	2.4284	30.0000	24.0000
7	11.8871	12.1407	11.8834	12.1371	1.7015	1.8179	24.0000	22.0000	1.6502	1.6663	23.0000	22.0000	2.4208	2.2491	25.0000	20.0000
8	11.6241	11.8032	11.6345	11.8125	1.6189	1.7486	21.0000	25.0000	1.6162	1.6852	22.0000	27.0000	2.4746	2.1787	28.0000	21.0000
9	11.7812	11.9847	11.7296	11.9288	1.7145	1.8078	26.0000	26.0000	1.6251	1.7546	21.0000	22.0000	2.1893	2.0467	20.0000	19.0000
10	12.1949	12.1701	12.1099	12.0882	1.7762	1.7819	24.0000	19.0000	1.6497	1.6513	19.0000	20.0000	2.7110	2.3273	33.0000	23.0000
11	11.9633	11.8568	11.9756	11.8693	1.7338	1.7141	28.0000	20.0000	1.6609	1.6996	29.0000	20.0000	2.2548	2.0723	20.0000	21.0000
12	11.9356	12.0018	11.8569	11.9258	1.7920	1.9452	28.0000	30.0000	1.7436	1.7011	23.0000	23.0000	2.1453	1.9792	31.0000	23.0000
13	12.1127	12.2040	12.1343	12.2260	1.6590	1.7583	22.0000	25.0000	1.6239	1.6631	23.0000	23.0000	2.6119	2.4128	25.0000	27.0000
14	11.4371	11.8822	11.5088	11.9561	1.6050	1.7312	20.0000	25.0000	1.6197	1.6147	25.0000	21.0000	2.1813	2.2075	17.0000	24.0000
Avg	11.8468	11.9760	11.8450	11.9750	1.6885	1.7866	23.3571	23.5000	1.6442	1.6757	22.8571	23.2143	2.3670	2.1758	25.7143	21.7857
[+ -] 20% PE	-2.2401		-2.2390		-0.2397		-4.5286		-0.2973		-4.2143		0.2822		1.2143	
[+ -] 15% PE	-1.6478		-1.6467		-0.1552		-3.3607		-0.2151		-3.0714		0.1638		-0.0714	
[+ -] 10% PE	-1.0554		-1.0545		-0.0708		-2.1929		-0.1329		-1.9286		0.0455		-1.3571	
[+ -] 05% PE	-0.4631		-0.4622		0.0136		-1.0250		-0.0507		-0.7857		-0.0729		-2.6429	
[+ -] 01% PE	0.0108		0.0116		0.0812		-0.0907		0.0150		0.1286		-0.1676		-3.6714	
[+ -] 20% TS	-43.2663		-44.3795		-14.5813		-3.5241		-22.1787		-3.5251		12.5418		0.8695	
P-Value	0.0000000000		0.0000000000		0.000000010		0.0018684973		0.0000000000		0.0018649799		0.0000000061		0.2001592066	
Reject?	0		0		0		0		0		0		0		1	
[+ -] 15% TS	-33.5480		-34.2625		-9.7485		-2.6837		-16.4369		-2.6365		6.9173		-0.0488	
P-Value	0.0000000000		0.0000000000		0.0000001208		0.0093834299		0.0000000002		0.0102654289		0.0000052867		0.5190910298	
Reject?	0		0		0		0		0		0		0		1	
[+ -] 10% TS	-22.6490		-23.0243		-4.5872		-1.7974		-10.3961		-1.6991		1.8134		-0.8862	
P-Value	0.0000000000		0.0000000000		0.0002547277		0.0477623649		0.0000000572		0.0565405371		0.0464550147		0.8041902165	
Reject?	0		0		0		0		0		1		0		1	
[+ -] 05% TS	-10.4661		-10.5823		0.9085		-0.8626		-4.0571		-0.7105		-2.7374		-1.6519	
P-Value	0.0000000529		0.0000000465		0.8099366133		0.2020009247		0.0006790564		0.2449577046		0.9915295167		0.9387513910	
Reject?	0		0		1		1		0		1		1		1	
[+ -] 01% TS	0.2538		0.2750		5.5453		-0.0780		1.2250		0.1187		-5.9890		-2.2183	
P-Value	0.5982068032		0.6061926903		0.9999527028		0.4695172954		0.8788392640		0.5463467752		0.9999773685		0.9775191051	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.0383		-0.0399		-0.0666				-0.0051				0.2524			
CI LL	-0.2202		-0.2202		-0.1295				-0.0579				0.1300			
Avg Diff	0.1293		0.1300		0.0980		0.1429		0.0315		0.3571		-0.1912		-3.9286	
% Diff	1.09%		1.10%		5.81%		0.61%		1.92%		1.56%		-8.08%		-15.28%	

Table H.24 Best Fit Rank 1 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 1 vs MEE with CV = 0.75, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	13.6462	13.8626	13.6066	13.8218	4.9390	5.0171	44.0000	43.0000	1.3397	1.3514	31.0000	19.0000	1.0898	1.2065	13.0000	16.0000
2	13.7862	13.7812	13.8079	13.8033	5.2031	4.8283	45.0000	41.0000	1.3283	1.3816	18.0000	22.0000	0.9719	1.0688	14.0000	15.0000
3	13.8027	14.1428	13.7961	14.1377	5.2510	5.1067	44.0000	46.0000	1.2938	1.3928	18.0000	23.0000	1.0222	1.1070	15.0000	16.0000
4	13.4758	13.9210	13.5593	14.0073	5.0989	5.1415	54.0000	47.0000	1.2679	1.4529	21.0000	23.0000	0.9853	1.0678	17.0000	15.0000
5	13.5279	13.9609	13.5047	13.9372	5.1282	5.0676	51.0000	42.0000	1.3017	1.4703	18.0000	22.0000	0.9975	1.0414	14.0000	12.0000
6	14.4457	14.3096	14.3751	14.2393	5.6839	4.8865	42.0000	37.0000	1.2752	1.5454	21.0000	29.0000	1.2178	1.2895	17.0000	22.0000
7	13.8328	14.4901	13.8484	14.5064	5.0517	5.2428	41.0000	46.0000	1.2851	1.4165	18.0000	18.0000	1.0826	1.2465	18.0000	17.0000
8	13.2596	13.1767	13.3828	13.2987	4.6539	4.4186	46.0000	42.0000	1.2430	1.3836	18.0000	23.0000	1.1200	1.1922	15.0000	22.0000
9	13.6627	13.5367	13.6837	13.5480	4.8153	4.8738	42.0000	38.0000	1.3917	1.3630	19.0000	22.0000	1.0458	1.0897	15.0000	18.0000
10	13.2639	14.4237	13.2485	14.4050	4.7381	5.1722	38.0000	61.0000	1.2857	1.3712	16.0000	20.0000	1.1115	1.3348	21.0000	20.0000
11	14.2368	15.0792	14.1755	15.0148	5.2999	5.6764	46.0000	57.0000	1.3179	1.4433	20.0000	22.0000	1.1453	1.2521	15.0000	19.0000
12	13.6567	13.6450	13.7014	13.6905	5.0622	5.0079	58.0000	50.0000	1.3124	1.3350	17.0000	20.0000	0.8807	0.9698	17.0000	15.0000
13	13.9295	14.0825	13.9301	14.0826	5.1686	4.9508	49.0000	44.0000	1.3401	1.4913	20.0000	28.0000	1.1132	1.1657	17.0000	14.0000
14	13.9110	13.9980	13.8786	13.9680	5.0922	4.9456	40.0000	47.0000	1.3392	1.4169	18.0000	18.0000	1.2234	1.2647	18.0000	16.0000
Avg	13.7455	14.0293	13.7499	14.0329	5.0847	5.0240	45.7143	45.7857	1.3087	1.4154	19.5000	22.0714	1.0719	1.1640	16.1429	16.9286
[+ -] 20% PE	-2.4653		-2.4670		0.9562		-9.0714		-0.1551		-1.3286		-0.1223		-2.4429	
[+ -] 15% PE	-1.7781		-1.7795		0.7020		-6.7857		-0.0896		-0.3536		-0.0687		-1.6357	
[+ -] 10% PE	-1.0908		-1.0920		0.4477		-4.5000		-0.0242		0.6214		-0.0151		-0.8286	
[+ -] 05% PE	-0.4035		-0.4045		0.1935		-2.2143		0.0412		1.5964		0.0385		-0.0214	
[+ -] 01% PE	0.1463		0.1455		-0.0099		-0.3857		0.0936		2.3764		0.0814		0.6243	
[+ -] 20% TS	-22.6353		-22.5739		12.5196		-3.5224		-6.9488		-0.9226		-8.5137		-2.7341	
P-Value	0.000000000		0.000000000		0.000000063		0.0018746727		0.0000050427		0.1865104073		0.0000005620		0.0085244092	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-16.5383		-16.5011		9.0152		-2.6907		-4.0832		-0.2522		-4.9174		-1.8608	
P-Value	0.000000002		0.000000002		0.0000002954		0.0092590464		0.0006466016		0.4024054430		0.0001406357		0.0427656945	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 10% TS	-10.2641		-10.2511		5.6337		-1.8222		-1.1203		0.4555		-1.1031		-0.9576	
P-Value	0.0000000664		0.0000000674		0.0000407478		0.0457500226		0.1414207048		0.6718736047		0.1449859451		0.1778594104	
Reject?	0		0		0		0		1		1		1		1	
[+ -] 05% TS	-3.8355		-3.8398		2.3831		-0.9156		1.9424		1.2027		2.8500		-0.0251	
P-Value	0.0010316694		0.0010232742		0.0165577746		0.1882701019		0.9629635164		0.8747353163		0.9931712135		0.4901599256	
Reject?	0		0		0		1		1		1		1		1	
[+ -] 01% TS	1.4004		1.3924		-0.1197		-0.1622		4.4660		1.8303		6.0469		0.7413	
P-Value	0.9075989022		0.9064227781		0.5467067368		0.4368290800		0.9996821756		0.9548922524		0.9999794022		0.7641400762	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.0584		-0.0577		0.2401				-0.0616				-0.0630			
CI LL	-0.5091		-0.5083		-0.1186				-0.1518				-0.1212			
Avg Diff	0.2838		0.2830		-0.0607		0.0714		0.1067		2.5714		0.0921		0.7857	
% Diff	2.06%		2.06%		-1.19%		0.16%		8.15%		13.19%		8.59%		4.87%	

H.4 Best Fit Rank 2 vs Mixed Empirical-Exponential

Table H.25 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 2 vs MEE with CV = 0.25, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.0127	9.5281	9.0342	9.5506	1.4934	1.5040	21.0000	19.0000	0.1679	0.2599	5.0000	9.0000	2.4825	2.7698	26.0000	25.0000
2	8.8328	9.0354	8.8419	9.0449	1.5056	1.5268	18.0000	18.0000	0.1642	0.2560	4.0000	7.0000	2.2622	2.2781	17.0000	18.0000
3	9.0972	9.3462	9.1120	9.3630	1.4254	1.4878	16.0000	17.0000	0.1602	0.2564	4.0000	7.0000	2.6720	2.6455	21.0000	22.0000
4	8.9603	9.3090	8.9412	9.2887	1.4978	1.5466	18.0000	18.0000	0.1607	0.2609	4.0000	7.0000	2.4364	2.5358	22.0000	27.0000
5	8.3244	8.6421	8.3707	8.6905	1.4630	1.5122	19.0000	18.0000	0.1665	0.2583	6.0000	6.0000	1.9576	2.0001	16.0000	20.0000
6	9.3678	9.5496	9.3569	9.5390	1.4981	1.5681	24.0000	26.0000	0.1635	0.2617	4.0000	7.0000	2.8136	2.7443	19.0000	22.0000
7	8.8886	9.1863	8.8852	9.1834	1.5095	1.5315	23.0000	22.0000	0.1675	0.2664	5.0000	6.0000	2.3775	2.4167	21.0000	20.0000
8	8.9737	9.4271	8.9810	9.4348	1.4166	1.5030	22.0000	24.0000	0.1658	0.2607	5.0000	6.0000	2.5866	2.7382	22.0000	24.0000
9	9.0114	9.5348	8.9721	9.4913	1.5335	1.5878	25.0000	29.0000	0.1694	0.2728	6.0000	14.0000	2.4118	2.6332	19.0000	20.0000
10	10.0999	10.4366	10.0316	10.3648	1.5548	1.5626	17.0000	16.0000	0.1698	0.2706	4.0000	8.0000	3.4846	3.5206	28.0000	32.0000
11	9.0422	9.4514	9.0518	9.4617	1.5219	1.5546	21.0000	18.0000	0.1625	0.2763	4.0000	6.0000	2.4758	2.6419	19.0000	20.0000
12	8.7151	9.0513	8.6602	8.9942	1.5897	1.5895	22.0000	22.0000	0.1705	0.2717	4.0000	7.0000	2.1066	2.1687	22.0000	23.0000
13	9.0473	9.6803	9.0637	9.6956	1.4864	1.5264	20.0000	19.0000	0.1691	0.2713	5.0000	7.0000	2.5111	2.8732	23.0000	23.0000
14	8.7775	9.0792	8.8318	9.1354	1.4310	1.4583	19.0000	19.0000	0.1622	0.2455	4.0000	6.0000	2.3670	2.4723	17.0000	20.0000
Avg	9.0108	9.3755	9.0096	9.3741	1.4948	1.5328	20.3571	20.3571	0.1657	0.2635	4.5714	7.3571	2.4961	2.6027	20.8571	22.5714
[+ -] 20% PE	-1.4374		-1.4374		-0.2609		-4.0714		0.0646		1.8714		-0.3926		-2.4571	
[+ -] 15% PE	-0.9869		-0.9869		-0.1862		-3.0536		0.0729		2.1000		-0.2678		-1.4143	
[+ -] 10% PE	-0.5363		-0.5364		-0.1114		-2.0357		0.0812		2.3286		-0.1430		-0.3714	
[+ -] 05% PE	-0.0858		-0.0859		-0.0367		-1.0179		0.0895		2.5571		-0.0182		0.6714	
[+ -] 01% PE	0.2746		0.2745		0.0231		-0.2036		0.0961		2.7400		0.0817		1.5057	
[+ -] 20% TS	-35.6108		-36.1211		-30.0925		-9.1381		34.2768		3.7237		-9.9279		-4.4506	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000002533		1.0000000000		0.9987240121		0.0000000978		0.0003269394	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 15% TS	-26.0434		-26.3161		-22.8347		-6.7818		38.5941		4.1767		-7.2493		-2.6536	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000064893		1.0000000000		0.9994570962		0.0000032322		0.0099371048	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-14.8918		-15.0020		-14.5532		-4.4474		42.8685		4.6273		-4.1090		-0.7183	
P-Value	0.0000000008		0.0000000007		0.0000000010		0.0003288719		1.0000000000		0.9997631946		0.00006160976		0.2426506477	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 05% TS	-2.4636		-2.4805		-5.1061		-2.1757		47.0928		5.0752		-0.5473		1.3299	
P-Value	0.0142380583		0.0137920895		0.0001007869		0.0243079503		1.0000000000		0.9998935887		0.2967115606		0.8967983280	
Reject?	0		0		0		0		1		1		1		1	
[+ -] 01% TS	7.9785		8.0158		3.3803		-0.4262		50.4317		5.4311		2.5219		3.0246	
P-Value	0.9999988484		0.9999989058		0.9975374352		0.3384805401		1.0000000000		0.9999425633		0.9872442554		0.9951174603	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.2904		-0.2906		-0.0235				-0.0937				-0.0370			
CI LL	-0.4391		-0.4385		-0.0526				-0.1019				-0.1763			
Avg Diff	0.3647		0.3646		0.0380		0.0000		0.0978		2.7857		0.1066		1.7143	
% Diff	4.05%		4.05%		2.55%		0.00%		59.01%		60.94%		4.27%		8.22%	

Table H.26 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 2 vs MEE with CV = 0.25, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	8.9886	9.2553	8.9628	9.2286	1.2932	1.3231	21.0000	22.0000	1.0011	1.1490	13.0000	17.0000	1.3826	1.3515	18.0000	17.0000
2	8.5786	8.8264	8.5921	8.8404	1.2643	1.2679	19.0000	18.0000	1.0092	1.0844	13.0000	13.0000	1.1070	1.0995	13.0000	12.0000
3	8.8164	9.1876	8.8129	9.1835	1.3196	1.3579	18.0000	18.0000	1.0716	1.2569	15.0000	18.0000	1.1699	1.2040	14.0000	13.0000
4	8.4291	8.7411	8.4822	8.7956	1.2105	1.2333	18.0000	16.0000	0.9288	1.1392	15.0000	23.0000	1.1409	1.0895	14.0000	13.0000
5	8.7547	9.0032	8.7400	8.9881	1.2999	1.3498	21.0000	23.0000	1.1818	1.1939	15.0000	15.0000	1.0605	1.0623	11.0000	13.0000
6	9.2919	9.6133	9.2464	9.5660	1.3719	1.4005	15.0000	17.0000	1.0981	1.2523	16.0000	16.0000	1.4987	1.4654	19.0000	18.0000
7	8.7885	9.1527	8.7985	9.1633	1.2499	1.3011	19.0000	19.0000	1.0070	1.1856	14.0000	19.0000	1.2408	1.3096	16.0000	17.0000
8	8.5368	8.8152	8.6155	8.8965	1.2191	1.2242	20.0000	17.0000	0.9351	1.0872	13.0000	17.0000	1.2580	1.2981	18.0000	19.0000
9	8.4749	8.7958	8.4887	8.8101	1.2403	1.3019	19.0000	17.0000	0.8925	1.0746	14.0000	17.0000	1.1490	1.1833	15.0000	16.0000
10	8.7583	9.0851	8.7447	9.0713	1.2656	1.2958	15.0000	15.0000	0.9790	1.1739	14.0000	22.0000	1.3125	1.3210	15.0000	15.0000
11	8.9418	9.3235	8.9032	9.2830	1.3372	1.3740	17.0000	19.0000	1.0602	1.3351	20.0000	23.0000	1.1457	1.1634	13.0000	12.0000
12	8.5416	8.8292	8.5695	8.8580	1.2685	1.3264	19.0000	20.0000	1.0136	1.1652	16.0000	18.0000	1.0532	1.0670	13.0000	12.0000
13	8.8521	9.1494	8.8517	9.1486	1.2790	1.3145	22.0000	22.0000	1.0031	1.1897	19.0000	20.0000	1.3216	1.3489	15.0000	17.0000
14	8.8682	9.1571	8.8488	9.1371	1.3262	1.3668	17.0000	17.0000	1.0324	1.1843	14.0000	16.0000	1.2688	1.3113	18.0000	15.0000
Avg	8.7587	9.0668	8.7612	9.0693	1.2818	1.3169	18.5714	18.5714	1.0153	1.1765	15.0714	18.1429	1.2221	1.2339	15.1429	14.9286
[+ -] 20% PE	-1.4436		-1.4442		-0.2212		-3.7143		-0.0418		0.0571		-0.2326		2.8143	
[+ -] 15% PE	-1.0057		-1.0061		-0.1571		-2.7857		0.0090		0.8107		-0.1715		2.0571	
[+ -] 10% PE	-0.5677		-0.5680		-0.0930		-1.8571		0.0597		1.5643		-0.1104		1.3000	
[+ -] 05% PE	-0.1298		-0.1300		-0.0290		-0.9286		0.1105		2.3179		-0.0493		0.5429	
[+ -] 01% PE	0.2205		0.2205		0.0223		-0.1857		0.1511		2.9207		-0.0004		-0.0629	
[+ -] 20% TS	-96.9743		-102.1673		-45.1801		-8.2270		-2.2662		0.0780		-19.1585		7.6429	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.000008220		0.0205777874		0.5304867572		0.0000000000		0.000018367	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-77.1972		-79.7036		-33.3656		-6.3171		0.5028		1.1217		-15.5337		5.6018	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000133554		0.6882512325		0.8588544919		0.0000000004		0.0000429974	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-48.4310		-49.0462		-20.2369		-4.2984		3.4517		2.1915		-10.9190		3.5231	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0004329255		0.9978528397		0.9763845713		0.0000000321		0.0018721511	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 05% TS	-11.6231		-11.6630		-6.3399		-2.1859		6.5772		3.2837		-5.2429		1.4536	
P-Value	0.0000000153		0.0000000147		0.0000128819		0.0238591658		0.9999911153		0.9970344016		0.0000794010		0.0848875410	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 01% TS	19.4382		19.5476		4.8503		-0.4419		9.1992		4.1707		-0.0451		-0.1659	
P-Value	1.0000000000		1.0000000000		0.9998415150		0.3329133977		0.9999997652		0.9994510006		0.4823512992		0.5645984496	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.2833		-0.2835		-0.0252				-0.1260				0.0076			
CI LL	-0.3329		-0.3327		-0.0451				-0.1966				-0.0312			
Avg Diff	0.3081		0.3081		0.0351		0.0000		0.1613		3.0714		0.0118		-0.2143	
% Diff	3.52%		3.52%		2.74%		0.00%		15.88%		20.38%		0.97%		-1.42%	

Table H.27 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 2 vs MEE with CV = 0.25, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	10.0510	10.2181	10.0749	10.2423	1.9574	1.9780	25.0000	26.0000	0.3240	0.3651	7.0000	7.0000	1.7595	1.8575	23.0000	20.0000
2	9.8942	9.9488	9.9040	9.9588	1.9832	1.9907	23.0000	26.0000	0.3205	0.3698	6.0000	7.0000	1.5713	1.6160	13.0000	17.0000
3	9.8239	9.9604	9.8401	9.9765	1.8462	1.8966	17.0000	21.0000	0.3030	0.3829	5.0000	7.0000	1.7379	1.7162	15.0000	18.0000
4	9.9182	10.0391	9.8970	10.0176	1.9553	1.9516	23.0000	21.0000	0.3099	0.3568	5.0000	6.0000	1.7286	1.7919	20.0000	21.0000
5	9.2550	9.6415	9.3067	9.6949	1.8768	1.8694	22.0000	20.0000	0.3216	0.3618	6.0000	6.0000	1.4160	1.5021	14.0000	17.0000
6	10.1445	10.3785	10.1335	10.3673	1.9517	1.9500	29.0000	25.0000	0.3158	0.3607	5.0000	6.0000	1.8712	1.9796	19.0000	17.0000
7	9.9110	10.1757	9.9075	10.1724	1.9866	1.9733	27.0000	22.0000	0.3300	0.3709	8.0000	6.0000	1.6905	1.7853	17.0000	19.0000
8	9.7362	10.0091	9.7441	10.0176	1.8372	1.8889	24.0000	26.0000	0.3237	0.3740	6.0000	7.0000	1.7840	1.9208	18.0000	21.0000
9	10.0066	10.2731	9.9642	10.2287	2.0058	2.0286	29.0000	28.0000	0.3333	0.3628	7.0000	7.0000	1.5910	1.7098	15.0000	15.0000
10	10.5251	10.7329	10.4529	10.6591	2.0581	2.0198	21.0000	20.0000	0.3395	0.3947	7.0000	7.0000	2.2499	2.2630	24.0000	25.0000
11	10.1383	10.4371	10.1491	10.4480	2.0160	2.0109	26.0000	24.0000	0.3132	0.3867	5.0000	8.0000	1.7704	1.8042	18.0000	18.0000
12	9.8640	10.1015	9.8018	10.0379	2.0785	2.0848	28.0000	25.0000	0.3309	0.3676	7.0000	7.0000	1.4862	1.4474	19.0000	19.0000
13	10.0723	10.1811	10.0908	10.1997	1.9550	1.9731	23.0000	22.0000	0.3283	0.3582	6.0000	7.0000	1.7695	1.8289	18.0000	19.0000
14	9.6444	9.6971	9.7042	9.7573	1.8715	1.9160	20.0000	18.0000	0.3128	0.3621	6.0000	8.0000	1.6698	1.6332	15.0000	14.0000
Avg	9.9275	10.1281	9.9265	10.1270	1.9557	1.9665	24.0714	23.1429	0.3219	0.3696	6.1429	6.8571	1.7211	1.7754	17.7143	18.5714
[+ -] 20% PE	-1.7848		-1.7848		-0.3803		3.8857		-0.0167		-0.5143		-0.2899		-2.6857	
[+ -] 15% PE	-1.2885		-1.2884		-0.2825		2.6821		-0.0006		-0.2071		-0.2039		-1.8000	
[+ -] 10% PE	-0.7921		-0.7921		-0.1847		1.4786		0.0155		0.1000		-0.1178		-0.9143	
[+ -] 05% PE	-0.2957		-0.2958		-0.0869		0.2750		0.0316		0.4071		-0.0318		-0.0286	
[+ -] 01% PE	0.1014		0.1013		-0.0087		-0.6879		0.0445		0.6529		0.0371		0.6800	
[+ -] 20% TS	-54.6776		-55.0711		-37.7260		6.4265		-3.9723		-1.4075		-15.4990		-4.1200	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000112389		0.0007965411		0.0913624922		0.0000000005		0.0006034943	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-42.3726		-42.4721		-30.6231		4.3117		-0.1451		-0.5846		-11.7435		-2.8937	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0004224116		0.4434281194		0.2844074230		0.0000000135		0.0062788947	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-27.7748		-27.7415		-21.9844		2.3014		3.8569		0.2912		-7.2145		-1.5397	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0192796897		0.9990093198		0.6122610738		0.0000034007		0.0738106903	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 05% TS	-10.9336		-10.9079		-11.4051		0.4132		8.0382		1.2242		-2.0260		-0.0503	
P-Value	0.0000000316		0.0000000325		0.0000000192		0.3431052480		0.9999989387		0.8787082265		0.0318980127		0.4803050014	
Reject?	0		0		0		1		1		1		0		1	
[+ -] 01% TS	3.8670		3.8563		-1.2344		-1.0030		11.5145		2.0149		2.3974		1.2411	
P-Value	0.9990281251		0.9990082243		0.1194429850		0.8329107019		0.9999999829		0.9674621081		0.9838796349		0.8817435048	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.1444		-0.1442		0.0040				-0.0394				-0.0209			
CI LL	-0.2570		-0.2569		-0.0258				-0.0560				-0.0877			
Avg Diff	0.2007		0.2005		0.0109		-0.9286		0.0477		0.7143		0.0543		0.8571	
% Diff	2.02%		2.02%		0.56%		-3.86%		14.81%		11.63%		3.15%		4.84%	

Table H.28 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 2 vs MEE with CV = 0.25, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.2521	9.3668	9.2254	9.3399	2.0306	2.0989	28.0000	30.0000	0.2399	0.2684	5.0000	6.0000	1.5847	1.5571	19.0000	21.0000
2	8.7531	8.9218	8.7669	8.9360	1.9904	2.0512	22.0000	22.0000	0.2355	0.2679	6.0000	5.0000	1.2829	1.3025	15.0000	14.0000
3	8.9952	9.1657	8.9906	9.1620	2.0557	2.1028	22.0000	22.0000	0.2469	0.2762	6.0000	5.0000	1.3515	1.3528	15.0000	15.0000
4	8.6665	8.7402	8.7208	8.7942	1.9538	1.9280	24.0000	24.0000	0.2222	0.2651	5.0000	7.0000	1.2972	1.2288	15.0000	13.0000
5	8.8010	9.0525	8.7862	9.0371	2.0959	2.0906	25.0000	25.0000	0.2579	0.2873	5.0000	6.0000	1.2077	1.2228	12.0000	13.0000
6	9.5613	9.6852	9.5142	9.6375	2.1051	2.1654	25.0000	27.0000	0.2498	0.2831	5.0000	6.0000	1.7422	1.7003	20.0000	20.0000
7	9.0189	9.2010	9.0289	9.2112	1.9676	2.0326	23.0000	24.0000	0.2277	0.2818	6.0000	7.0000	1.4241	1.4011	18.0000	19.0000
8	8.7526	8.8120	8.8334	8.8933	1.8740	1.9381	25.0000	21.0000	0.2219	0.2579	4.0000	6.0000	1.4501	1.4213	20.0000	20.0000
9	8.7360	8.8742	8.7501	8.8888	1.9230	1.9477	26.0000	25.0000	0.2262	0.2618	5.0000	6.0000	1.3146	1.3487	15.0000	15.0000
10	8.9895	9.2014	8.9746	9.1883	1.9553	2.0263	18.0000	21.0000	0.2394	0.2698	5.0000	6.0000	1.5353	1.5782	16.0000	19.0000
11	9.1314	9.3588	9.0919	9.3184	2.1361	2.2187	29.0000	28.0000	0.2441	0.2717	5.0000	6.0000	1.2897	1.3394	13.0000	14.0000
12	8.7192	8.8469	8.7476	8.8759	1.9588	2.0317	22.0000	23.0000	0.2347	0.2821	5.0000	7.0000	1.1871	1.1499	14.0000	13.0000
13	9.0811	9.2439	9.0800	9.2434	1.9966	2.0369	31.0000	30.0000	0.2357	0.2646	7.0000	5.0000	1.5195	1.5426	17.0000	17.0000
14	9.0798	9.0966	9.0600	9.0767	2.0788	2.0600	22.0000	22.0000	0.2523	0.2709	6.0000	5.0000	1.4509	1.4226	19.0000	15.0000
Avg	8.9670	9.1119	8.9693	9.1145	2.0087	2.0521	24.4286	24.5714	0.2382	0.2720	5.3571	5.9286	1.4027	1.3977	16.2857	16.2857
[+ -] 20% PE	-1.6484		-1.6487		-0.3584		-4.7429		-0.0138		-0.5000		0.2756		-3.2571	
[+ -] 15% PE	-1.2001		-1.2003		-0.2579		-3.5214		-0.0018		-0.2321		0.2055		-2.4429	
[+ -] 10% PE	-0.7517		-0.7518		-0.1575		-2.3000		0.0101		0.0357		0.1353		-1.6286	
[+ -] 05% PE	-0.3034		-0.3033		-0.0571		-1.0786		0.0220		0.3036		0.0652		-0.8143	
[+ -] 01% PE	0.0553		0.0554		0.0233		-0.1014		0.0315		0.5179		0.0091		-0.1629	
[+ -] 20% TS	-75.8597		-76.4281		-33.4671		-8.5845		-4.8500		-1.3214		23.7145		-6.6339	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.000005124		0.0001585683		0.1045842786		0.0000000000		0.0000081398	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 15% TS	-60.1878		-60.0725		-25.0824		-6.7192		-0.6775		-0.6283		19.4546		-5.1002	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000071398		0.2549727257		0.2703547249		0.0000000000		0.0001018441	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 10% TS	-40.4519		-40.1266		-15.8335		-4.6173		3.8457		0.0990		13.7584		-3.4709	
P-Value	0.0000000000		0.0000000000		0.0000000004		0.0002411552		0.9989880892		0.5386866913		0.0000000020		0.0020694161	
Reject?	0		0		0		0		1		1		0		0	
[+ -] 05% TS	-17.0791		-16.9354		-5.8775		-2.2705		8.7425		0.8628		6.8460		-1.7632	
P-Value	0.0000000001		0.0000000002		0.0000271654		0.0204137090		0.9999995823		0.7980492718		0.0000058874		0.0506709741	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 01% TS	3.1523		3.1513		2.4281		-0.2210		12.9413		1.5016		0.9469		-0.3558	
P-Value	0.9961813644		0.9961735680		0.9847805744		0.4142519729		0.9999999958		0.9214516708		0.1804722476		0.3638455662	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.1071		-0.1072		-0.0227				-0.0287				0.0258			
CI LL	-0.1829		-0.1831		-0.0641				-0.0391				-0.0159			
Avg Diff	0.1450		0.1451		0.0434		0.1429		0.0339		0.5714		-0.0049		0.0000	
% Diff	1.62%		1.62%		2.16%		0.58%		14.22%		10.67%		-0.35%		0.00%	

Table H.29 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 2 vs MEE with CV = 0.75, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	7.4375	7.8164	7.4551	7.8350	0.4586	0.4570	15.0000	14.0000	1.2668	1.5519	19.0000	27.0000	0.9685	0.9068	16.0000	14.0000
2	7.4345	7.6011	7.4429	7.6081	0.4652	0.4519	13.0000	11.0000	1.2448	1.5539	22.0000	27.0000	0.9209	0.7862	14.0000	12.0000
3	7.4007	7.5296	7.4129	7.5420	0.4457	0.4630	12.0000	15.0000	1.2929	1.4587	23.0000	25.0000	0.9625	0.8666	15.0000	14.0000
4	7.4422	7.5981	7.4264	7.5820	0.4590	0.4691	13.0000	13.0000	1.2658	1.4507	19.0000	24.0000	0.9503	0.8588	16.0000	17.0000
5	7.1152	7.4109	7.1548	7.4522	0.4604	0.4553	12.0000	11.0000	1.2128	1.4165	17.0000	26.0000	0.8428	0.7436	14.0000	10.0000
6	7.4884	7.7613	7.4810	7.7549	0.4529	0.4585	11.0000	11.0000	1.2762	1.5177	21.0000	22.0000	0.9931	0.8601	17.0000	17.0000
7	7.4373	7.5551	7.4335	7.5522	0.4533	0.4508	12.0000	13.0000	1.2989	1.4081	21.0000	22.0000	0.9694	0.8219	17.0000	13.0000
8	7.3919	7.7341	7.3980	7.7410	0.4422	0.4632	11.0000	15.0000	1.2533	1.4441	21.0000	23.0000	1.0536	0.9624	20.0000	16.0000
9	7.4405	7.7219	7.4088	7.6890	0.4658	0.4930	15.0000	16.0000	1.2384	1.5343	16.0000	24.0000	0.9451	0.7890	18.0000	13.0000
10	7.6557	7.8317	7.6038	7.7776	0.4661	0.4621	11.0000	12.0000	1.2662	1.4675	18.0000	25.0000	1.1413	0.9356	20.0000	14.0000
11	7.4696	7.8090	7.4774	7.8171	0.4525	0.4759	12.0000	13.0000	1.3060	1.5706	18.0000	26.0000	0.9442	0.8718	14.0000	14.0000
12	7.4355	7.6691	7.3885	7.6204	0.4744	0.4754	13.0000	13.0000	1.3023	1.4375	20.0000	24.0000	0.8746	0.8173	18.0000	13.0000
13	7.4038	7.7393	7.4173	7.7535	0.4569	0.4652	10.0000	13.0000	1.2356	1.4734	18.0000	19.0000	0.9823	0.8661	18.0000	15.0000
14	7.3540	7.3982	7.3996	7.4440	0.4446	0.4451	11.0000	12.0000	1.2336	1.4307	27.0000	20.0000	0.9724	0.8170	15.0000	12.0000
Avg	7.4219	7.6554	7.4214	7.6549	0.4570	0.4632	12.2143	13.0000	1.2638	1.4797	20.0000	23.8571	0.9658	0.8502	16.5714	13.8571
[+ -] 20% PE	-1.2509		-1.2508		-0.0851		-1.6571		-0.0369		-0.1429		0.0776		0.6000	
[+ -] 15% PE	-0.8798		-0.8797		-0.0623		-1.0464		0.0263		0.8571		0.0293		-0.2286	
[+ -] 10% PE	-0.5087		-0.5086		-0.0394		-0.4357		0.0895		1.8571		-0.0190		-1.0571	
[+ -] 05% PE	-0.1376		-0.1376		-0.0166		-0.1750		0.1527		2.8571		-0.0673		-1.8857	
[+ -] 01% PE	0.1593		0.1593		0.0017		0.6636		0.2032		3.6571		-0.1059		-2.5486	
[+ -] 20% TS	-43.7030		-43.7995		-24.7215		-3.3690		-2.2248		-0.1118		7.9951		1.1664	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0025167531		0.0222103040		0.4563385552		0.0000011257		0.1322046336	
Reject?	0		0		0		0		0		1		0		1	
[+ -] 15% TS	-31.2070		-31.1915		-18.3910		-2.1809		1.6015		0.6887		2.9348		-0.4343	
P-Value	0.0000000000		0.0000000000		0.0000000001		0.0240799756		0.9333632178		0.7484261196		0.0058030636		0.6643943269	
Reject?	0		0		0		0		1		1		0		1	
[+ -] 10% TS	-18.2749		-18.2294		-11.8306		-0.9304		5.5096		1.5323		-1.8403		-1.9598	
P-Value	0.0000000001		0.0000000001		0.0000000124		0.1845518659		0.9999497507		0.9252891189		0.9556739069		0.9640949591	
Reject?	0		0		0		1		1		1		1		1	
[+ -] 05% TS	-4.9935		-4.9746		-5.0501		0.3827		9.4965		2.4220		-6.2554		-3.4066	
P-Value	0.0001228791		0.0001270682		0.0001112028		0.6459239558		0.9999998367		0.9846049410		0.9999852680		0.9976587600	
Reject?	0		0		0		1		1		1		1		1	
[+ -] 01% TS	5.8150		5.7928		0.5240		1.4780		12.7406		3.1690		-9.5020		-4.5062	
P-Value	0.9999698803		0.9999687524		0.6954407696		0.9183849101		0.9999999949		0.9963021031		0.9999998378		0.9997047081	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.1744		-0.1742		0.0007				-0.1815				0.1399			
CI LL	-0.2926		-0.2928		-0.0133				-0.2502				0.0913			
Avg Diff	0.2335		0.2335		0.0063		0.7857		0.2159		3.8571		-0.1156		-2.7143	
% Diff	3.15%		3.15%		1.37%		6.43%		17.08%		19.29%		-11.97%		-16.38%	

Table H.30 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 2 vs MEE with CV = 0.75, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	9.8465	9.4817	9.8184	9.4546	1.2663	1.2081	22.0000	17.0000	1.6655	1.4309	26.0000	22.0000	1.9736	1.8098	20.0000	28.0000
2	9.5233	9.0548	9.5385	9.0686	1.3045	1.2389	20.0000	21.0000	1.6802	1.4313	24.0000	20.0000	1.6089	1.3910	20.0000	20.0000
3	9.5818	9.4988	9.5771	9.4939	1.3141	1.2511	22.0000	24.0000	1.8218	1.4602	25.0000	23.0000	1.4874	1.7725	17.0000	22.0000
4	9.4997	8.9635	9.5590	9.0168	1.2937	1.1816	26.0000	23.0000	1.5258	1.5112	21.0000	22.0000	1.7757	1.3865	21.0000	16.0000
5	9.4855	9.2819	9.4707	9.2662	1.2677	1.2033	19.0000	22.0000	1.7801	1.4646	25.0000	19.0000	1.4595	1.6711	15.0000	18.0000
6	10.4265	9.8554	10.3751	9.8066	1.3961	1.2667	24.0000	21.0000	1.8616	1.4576	23.0000	20.0000	2.1082	1.9928	26.0000	25.0000
7	9.5488	9.4834	9.5598	9.4947	1.2959	1.2108	28.0000	19.0000	1.6421	1.5608	22.0000	25.0000	1.7197	1.7406	18.0000	23.0000
8	9.4610	9.2551	9.5482	9.3408	1.2488	1.1525	24.0000	19.0000	1.4953	1.4193	22.0000	19.0000	1.8569	1.7181	27.0000	18.0000
9	9.3707	9.0169	9.3850	9.0314	1.2851	1.1852	23.0000	22.0000	1.6224	1.4353	24.0000	19.0000	1.6379	1.4568	18.0000	18.0000
10	9.8280	9.5315	9.8146	9.5176	1.2641	1.1996	23.0000	17.0000	1.6707	1.4214	25.0000	23.0000	1.9641	1.9445	20.0000	21.0000
11	9.4482	9.3121	9.4075	9.2719	1.3294	1.2282	20.0000	17.0000	1.7299	1.5207	26.0000	24.0000	1.4815	1.4935	15.0000	16.0000
12	9.4235	9.1061	9.4544	9.1370	1.3042	1.2088	23.0000	20.0000	1.6812	1.4948	30.0000	21.0000	1.5304	1.4851	16.0000	17.0000
13	9.7175	9.3637	9.7133	9.3613	1.3055	1.1951	28.0000	19.0000	1.6882	1.4673	22.0000	22.0000	1.7842	1.6668	21.0000	19.0000
14	9.6953	9.3886	9.6745	9.3606	1.3201	1.2767	19.0000	22.0000	1.6581	1.4392	19.0000	19.0000	1.7396	1.6343	25.0000	21.0000
Avg	9.6326	9.3281	9.6354	9.3302	1.2997	1.2148	22.9286	20.2143	1.6802	1.4653	23.8571	21.2857	1.7234	1.6545	19.9286	20.1429
[+ -] 20% PE	1.6220		1.6218		0.1750		1.8714		0.1212		2.2000		0.2758		-3.7714	
[+ -] 15% PE	1.1404		1.1400		0.1100		0.7250		0.0372		1.0071		0.1896		-2.7750	
[+ -] 10% PE	0.6588		0.6583		0.0450		-0.4214		-0.0469		-0.1857		0.1035		-1.7786	
[+ -] 05% PE	0.1771		0.1765		-0.0199		-1.5679		-0.1309		-1.3786		0.0173		-0.7821	
[+ -] 01% PE	-0.2082		-0.2089		-0.0719		-2.4850		-0.1981		-2.3329		-0.0516		0.0150	
[+ -] 20% TS	43.7207		43.9706		28.4071		1.9991		5.0874		3.0823		6.6387		-2.8529	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0334714180		0.0001041479		0.0043699424		0.0000080800		0.0067910804	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	30.2083		30.2450		17.6018		0.7502		1.4863		1.3642		4.4790		-2.1608	
P-Value	0.0000000000		0.0000000000		0.0000000001		0.2332514132		0.0805218346		0.0978259296		0.0003103647		0.0249816234	
Reject?	0		0		0		1		1		1		0		0	
[+ -] 10% TS	17.0075		16.9744		7.0633		-0.4225		-1.7890		-0.2432		2.3902		-1.4256	
P-Value	0.0000000001		0.0000000001		0.0000042504		0.6602320875		0.9515391900		0.5941736394		0.0163399626		0.0887692176	
Reject?	0		0		0		1		1		1		0		1	
[+ -] 05% TS	4.4260		4.3989		-3.0517		-1.5238		-4.7764		-1.7453		0.3897		-0.6454	
P-Value	0.0003420883		0.0003595286		0.9953653625		0.9242492600		0.9998190686		0.9477476264		0.3515221830		0.2649592754	
Reject?	0		0		1		1		1		1		1		1	
[+ -] 01% TS	-5.0450		-5.0515		-10.7587		-2.3566		-6.9812		-2.8752		-1.1385		0.0127	
P-Value	0.9998877972		0.9998890682		0.9999999617		0.9826021438		0.9999951960		0.9934936653		0.8622714804		0.5049565443	
Reject?	1		1		1		1		1		1		1		1	
CI UL	0.3943		0.3954		0.0995				0.2767				0.1674			
CI LL	0.2146		0.2152		0.0704				0.1531				-0.0297			
Avg Diff	-0.3045		-0.3053		-0.0849		-2.7143		-0.2149		-2.5714		-0.0689		0.2143	
% Diff	-3.16%		-3.17%		-6.53%		-11.84%		-12.79%		-10.78%		-4.00%		1.08%	

Table H.31 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 2 vs MEE with CV = 0.75, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	11.6348	11.8647	11.6623	11.8932	1.6786	1.8000	24.0000	25.0000	1.7636	1.7120	27.0000	23.0000	2.2635	2.0941	23.0000	20.0000
2	11.6679	12.1349	11.6818	12.1467	1.6459	1.8220	22.0000	23.0000	1.7842	1.7287	27.0000	23.0000	2.1953	2.1914	25.0000	19.0000
3	11.7263	11.7788	11.7457	11.7977	1.6480	1.7798	22.0000	24.0000	1.6501	1.6780	20.0000	26.0000	2.5164	2.1102	20.0000	23.0000
4	11.4973	11.9462	11.4722	11.9201	1.6724	1.7971	20.0000	20.0000	1.7091	1.6182	29.0000	25.0000	2.1477	2.1513	20.0000	22.0000
5	11.1511	11.4823	11.2130	11.5460	1.6264	1.7259	21.0000	22.0000	1.7029	1.5944	22.0000	20.0000	1.9305	2.0116	21.0000	19.0000
6	12.2951	12.4142	12.2823	12.4026	1.7357	1.7821	23.0000	23.0000	1.8054	1.6923	21.0000	30.0000	2.6612	2.4284	23.0000	24.0000
7	11.8981	12.1407	11.8937	12.1371	1.6079	1.8179	20.0000	22.0000	1.9173	1.6663	40.0000	22.0000	2.2411	2.2491	20.0000	20.0000
8	12.0116	11.8032	12.0213	11.8125	1.7145	1.7486	26.0000	25.0000	1.6807	1.6852	21.0000	27.0000	2.5216	2.1787	27.0000	21.0000
9	12.0631	11.9847	12.0113	11.9288	1.7433	1.8078	23.0000	26.0000	1.8899	1.7546	31.0000	22.0000	2.2696	2.0467	20.0000	19.0000
10	12.8742	12.1701	12.7875	12.0882	1.6668	1.7819	22.0000	19.0000	1.8214	1.6513	20.0000	20.0000	3.1170	2.3273	26.0000	23.0000
11	11.9508	11.8568	11.9629	11.8693	1.6752	1.7141	25.0000	20.0000	1.7421	1.6996	23.0000	20.0000	2.3335	2.0723	21.0000	21.0000
12	11.7693	12.0018	11.6950	11.9258	1.6668	1.9452	20.0000	30.0000	1.7922	1.7011	28.0000	23.0000	1.9937	1.9792	27.0000	23.0000
13	11.8470	12.2040	11.8696	12.2260	1.6944	1.7583	24.0000	25.0000	1.8163	1.6631	20.0000	23.0000	2.2438	2.4128	27.0000	27.0000
14	11.5521	11.8822	11.6239	11.9561	1.5572	1.7312	18.0000	25.0000	1.7173	1.6147	19.0000	21.0000	2.4357	2.2075	19.0000	24.0000
Avg	11.8528	11.9760	11.8516	11.9750	1.6667	1.7866	22.1429	23.5000	1.7709	1.6757	24.8571	23.2143	2.3479	2.1758	22.7857	21.7857
[+ -] 20% PE	-2.2473		-2.2469		-0.2134		-3.0714		0.2589		3.3286		0.2974		3.5571	
[+ -] 15% PE	-1.6546		-1.6544		-0.1301		-1.9643		0.1704		2.0857		0.1801		2.4179	
[+ -] 10% PE	-1.0620		-1.0618		-0.0468		-0.8571		0.0819		0.8429		0.0627		1.2786	
[+ -] 05% PE	-0.4694		-0.4692		0.0366		0.2500		-0.0067		-0.4000		-0.0547		0.1393	
[+ -] 01% PE	0.0047		0.0049		0.1032		1.1357		-0.0775		-1.3943		-0.1487		-0.7721	
[+ -] 20% TS	-21.8622		-22.2071		-10.3306		-2.8672		16.2169		2.1275		5.7339		4.7053	
P-Value	0.0000000000		0.0000000000		0.0000000616		0.0066067483		0.0000000003		0.0265439885		0.0000344613		0.0002056189	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-16.8802		-17.0954		-6.4347		-1.8693		10.1871		1.2770		3.2647		3.0945	
P-Value	0.0000000002		0.0000000001		0.0000110954		0.0421345185		0.0000000725		0.1119782374		0.0030759020		0.0042681516	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 10% TS	-11.3798		-11.4880		-2.3629		-0.8315		4.6737		0.4949		1.0708		1.5825	
P-Value	0.0000000197		0.0000000176		0.0171944730		0.2103486289		0.0002177044		0.3144588178		0.1518744290		0.0687743666	
Reject?	0		0		0		1		0		1		1		1	
[+ -] 05% TS	-5.2913		-5.3227		1.8888		0.2472		-0.3650		-0.2255		-0.8836		0.1667	
P-Value	0.0000730242		0.0000691703		0.9592854502		0.5956930745		0.6395267802		0.5874705844		0.8035158133		0.4350955292	
Reject?	0		0		1		1		1		1		1		1	
[+ -] 01% TS	0.0558		0.0574		5.4217		1.1402		-4.0827		-0.7618		-2.2960		-0.8993	
P-Value	0.5218350330		0.5224515700		0.9999416391		0.8626099208		0.9993528219		0.7701101462		0.9805256918		0.8075747257	
Reject?	1		1		1		1		1		1		1		1	
CI UL	0.0586		0.0580		-0.0789				0.1366				0.3135			
CI LL	-0.3051		-0.3048		-0.1609				0.0538				0.0307			
Avg Diff	0.1233		0.1234		0.1199		1.3571		-0.0952		-1.6429		-0.1721		-1.0000	
% Diff	1.04%		1.04%		7.19%		6.13%		-5.38%		-6.61%		-7.33%		-4.39%	

Table H.32 Best Fit Rank 2 vs Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 2 vs MEE with CV = 0.75, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	13.5727	13.8626	13.5338	13.8218	4.8111	5.0171	49.0000	43.0000	1.3160	1.3514	19.0000	19.0000	1.1953	1.2065	16.0000	16.0000
2	13.4437	13.7812	13.4650	13.8033	4.8225	4.8283	40.0000	41.0000	1.3591	1.3816	18.0000	22.0000	1.0200	1.0688	17.0000	15.0000
3	13.6658	14.1428	13.6603	14.1377	4.9609	5.1067	42.0000	46.0000	1.4419	1.3928	25.0000	23.0000	1.0058	1.1070	14.0000	16.0000
4	13.0323	13.9210	13.1129	14.0073	4.3809	5.1415	38.0000	47.0000	1.2674	1.4529	17.0000	23.0000	1.1378	1.0678	14.0000	15.0000
5	13.6988	13.9609	13.6759	13.9372	5.0623	5.0676	48.0000	42.0000	1.4466	1.4703	25.0000	22.0000	0.9814	1.0414	13.0000	12.0000
6	13.7340	14.3096	13.6660	14.2393	4.4375	4.8865	40.0000	37.0000	1.4424	1.5454	19.0000	29.0000	1.3588	1.2895	21.0000	22.0000
7	13.6981	14.4901	13.7133	14.5064	4.9954	5.2428	45.0000	46.0000	1.3124	1.4165	17.0000	18.0000	1.0943	1.2465	16.0000	17.0000
8	13.0226	13.1767	13.1427	13.2987	4.3839	4.4186	41.0000	42.0000	1.2627	1.3836	24.0000	23.0000	1.1829	1.1922	20.0000	22.0000
9	13.7814	13.5367	13.8038	13.5480	4.8224	4.8738	63.0000	38.0000	1.3063	1.3630	20.0000	22.0000	1.0765	1.0897	16.0000	18.0000
10	13.6189	14.4237	13.6002	14.4050	4.7293	5.1722	37.0000	61.0000	1.3958	1.3712	22.0000	20.0000	1.2817	1.3348	17.0000	20.0000
11	14.2459	15.0792	14.1849	15.0148	5.4090	5.6764	59.0000	57.0000	1.3761	1.4433	20.0000	22.0000	1.0131	1.2521	17.0000	19.0000
12	13.8581	13.6450	13.9037	13.6905	5.1623	5.0079	59.0000	50.0000	1.3456	1.3350	25.0000	20.0000	1.0105	0.9698	13.0000	15.0000
13	13.4528	14.0825	13.4512	14.0826	4.6577	4.9508	47.0000	44.0000	1.3413	1.4913	17.0000	28.0000	1.1664	1.1657	15.0000	14.0000
14	14.3182	13.9980	14.2875	13.9680	5.2119	4.9456	57.0000	47.0000	1.4518	1.4169	23.0000	18.0000	1.1420	1.2647	18.0000	16.0000
Avg	13.6531	14.0293	13.6572	14.0329	4.8462	5.0240	47.5000	45.7857	1.3618	1.4154	20.7857	22.0714	1.1190	1.1640	16.2143	16.9286
[+ -] 20% PE	-2.3544		-2.3558		-0.7915		7.7857		-0.2188		-2.8714		-0.1788		-2.5286	
[+ -] 15% PE	-1.6718		-1.6729		-0.5492		5.4107		-0.1507		-1.8321		-0.1229		-1.7179	
[+ -] 10% PE	-0.9891		-0.9901		-0.3069		3.0357		-0.0826		-0.7929		-0.0669		-0.9071	
[+ -] 05% PE	-0.3064		-0.3072		-0.0646		0.6607		-0.0145		0.2464		-0.0110		-0.0964	
[+ -] 01% PE	0.2397		0.2391		0.1293		-1.2393		0.0399		1.0779		0.0338		0.5521	
[+ -] 20% TS	-19.9401		-19.8582		-9.7068		3.0509		-10.1176		-1.9475		-6.7888		-5.6013	
P-Value	0.0000000000		0.0000000000		0.000001269		0.0046417202		0.0000000785		0.0367007772		0.0000064210		0.0000430292	
Reject?	0		0		0		0		0		0		0		0	
[+ -] 15% TS	-14.4149		-14.3536		-6.9801		2.0521		-7.1783		-1.2722		-4.8270		-3.8640	
P-Value	0.0000000011		0.0000000012		0.0000048118		0.0304306286		0.0000035862		0.1127999731		0.0001652198		0.0009775316	
Reject?	0		0		0		0		0		1		0		0	
[+ -] 10% TS	-8.6729		-8.6390		-4.0409		1.1146		-4.0533		-0.5638		-2.7172		-2.0619	
P-Value	0.0000004569		0.0000004774		0.0006999887		0.1426094411		0.0006839796		0.2912547008		0.0088036040		0.0299013856	
Reject?	0		0		0		1		0		1		0		0	
[+ -] 05% TS	-2.7289		-2.7235		-0.8804		0.2349		-0.7339		0.1795		-0.4595		-0.2203	
P-Value	0.0086090043		0.0086986127		0.1973131491		0.4089769118		0.2380190814		0.5698367881		0.3267287367		0.4145142501	
Reject?	0		0		1		1		1		1		1		1	
[+ -] 01% TS	2.1587		2.1451		1.8112		-0.4295		2.0663		0.8004		1.4497		1.2622	
P-Value	0.9749234725		0.9742951644		0.9533682161		0.6626921343		0.9703391231		0.7810678788		0.9145873756		0.8854733715	
Reject?	1		1		1		1		1		1		1		1	
CI UL	-0.1370		-0.1356		-0.0246				-0.0120				0.0051			
CI LL	-0.6154		-0.6158		-0.3309				-0.0951				-0.0951			
Avg Diff	0.3762		0.3757		0.1777		-1.7143		0.0536		1.2857		0.0450		0.7143	
% Diff	2.76%		2.75%		3.67%		-3.61%		3.93%		6.19%		4.02%		4.41%	

H.5 Best Fit Rank 1 vs Best Fit Rank 2

Table H.33 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 30 Observations, 1st Replicate

Ist	Best Fit R1 vs Best Fit R2 with CV = 0.25, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	9.0233	9.0127	9.0449	9.0342	1.4983	1.4934	21.0000	21.0000	0.1730	0.1679	4.0000	5.0000	2.4860	2.4825	25.0000	26.0000
2	8.8485	8.8328	8.8576	8.8419	1.5056	1.5056	18.0000	18.0000	0.1686	0.1642	5.0000	4.0000	2.2659	2.2622	17.0000	17.0000
3	9.1026	9.0972	9.1174	9.1120	1.4236	1.4254	16.0000	16.0000	0.1633	0.1602	4.0000	4.0000	2.6764	2.6720	21.0000	21.0000
4	8.9490	8.9603	8.9298	8.9412	1.5040	1.4978	20.0000	18.0000	0.1635	0.1607	4.0000	4.0000	2.4195	2.4364	22.0000	22.0000
5	8.3504	8.3244	8.3968	8.3707	1.4613	1.4630	18.0000	19.0000	0.1700	0.1665	5.0000	6.0000	1.9821	1.9576	16.0000	16.0000
6	9.3909	9.3678	9.3806	9.3569	1.4971	1.4981	23.0000	24.0000	0.1684	0.1635	4.0000	4.0000	2.8233	2.8136	20.0000	19.0000
7	8.8987	8.8886	8.8953	8.8852	1.5004	1.5095	21.0000	23.0000	0.1729	0.1675	5.0000	5.0000	2.3793	2.3775	21.0000	21.0000
8	8.9821	8.9737	8.9893	8.9810	1.4142	1.4166	21.0000	22.0000	0.1709	0.1658	5.0000	5.0000	2.5896	2.5866	22.0000	22.0000
9	9.0130	9.0114	8.9732	8.9721	1.5372	1.5335	25.0000	25.0000	0.1725	0.1694	5.0000	6.0000	2.3985	2.4118	18.0000	19.0000
10	10.1015	10.0999	10.0332	10.0316	1.5582	1.5548	17.0000	17.0000	0.1758	0.1698	4.0000	4.0000	3.4797	3.4846	28.0000	28.0000
11	9.0455	9.0422	9.0551	9.0518	1.5291	1.5219	22.0000	21.0000	0.1645	0.1625	4.0000	4.0000	2.4627	2.4758	19.0000	19.0000
12	8.7194	8.7151	8.6642	8.6602	1.5897	1.5897	21.0000	22.0000	0.1743	0.1705	4.0000	4.0000	2.1017	2.1066	23.0000	22.0000
13	9.0440	9.0473	9.0605	9.0637	1.4868	1.4864	20.0000	20.0000	0.1733	0.1691	5.0000	5.0000	2.5037	2.5111	24.0000	23.0000
14	8.7936	8.7775	8.8480	8.8318	1.4331	1.4310	19.0000	19.0000	0.1668	0.1622	4.0000	4.0000	2.3729	2.3670	17.0000	17.0000
Avg	9.0187	9.0108	9.0176	9.0096	1.4956	1.4948	20.1429	20.3571	0.1698	0.1657	4.4286	4.5714	2.4958	2.4961	20.9286	20.8571
PE	0.0080		0.0080		0.0009		-0.2143		0.0041		-0.1429		-0.0003		0.0714	
TS	2.961353675		2.934176269		0.76947722		-0.822374962		13.50205629		-1		-0.1036104		0.434057366	
P-Value	0.011028586		0.011619785		0.455364684		0.425690929		5.01794E-09		0.335561278		0.919059885		0.671363619	
Reject?	0		0		1		1		0		1		1		1	
Avg Diff	0.0080		0.0080		0.0009		-0.2143		0.0041		-0.1429		-0.0003		0.0714	
% Diff	0.09%		0.09%		0.06%		-1.06%		2.44%		-3.23%		-0.01%		0.34%	

Table H.34 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit R1 vs Best Fit R2 with CV = 0.25, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	8.9913	8.9886	8.9655	8.9628	1.2924	1.2932	22.0000	21.0000	1.0091	1.0011	13.0000	13.0000	1.3850	1.3826	18.0000	18.0000
2	8.5850	8.5786	8.5985	8.5921	1.2673	1.2643	19.0000	19.0000	1.0240	1.0092	12.0000	13.0000	1.1067	1.1070	14.0000	13.0000
3	8.8409	8.8164	8.8373	8.8129	1.3174	1.3196	18.0000	18.0000	1.1051	1.0716	15.0000	15.0000	1.1656	1.1699	14.0000	14.0000
4	8.4540	8.4291	8.5072	8.4822	1.2155	1.2105	18.0000	18.0000	0.9446	0.9288	16.0000	15.0000	1.1463	1.1409	14.0000	14.0000
5	8.7726	8.7547	8.7579	8.7400	1.2965	1.2999	21.0000	21.0000	1.2181	1.1818	15.0000	15.0000	1.0557	1.0605	11.0000	11.0000
6	9.3054	9.2919	9.2597	9.2464	1.3732	1.3719	16.0000	15.0000	1.1140	1.0981	16.0000	16.0000	1.4994	1.4987	19.0000	19.0000
7	8.8019	8.7885	8.8119	8.7985	1.2510	1.2499	19.0000	19.0000	1.0227	1.0070	14.0000	14.0000	1.2402	1.2408	16.0000	16.0000
8	8.5583	8.5368	8.6372	8.6155	1.2222	1.2191	20.0000	20.0000	0.9558	0.9351	14.0000	13.0000	1.2584	1.2580	18.0000	18.0000
9	8.4914	8.4749	8.5053	8.4887	1.2413	1.2403	20.0000	19.0000	0.9119	0.8925	14.0000	14.0000	1.1526	1.1490	15.0000	15.0000
10	8.7741	8.7583	8.7607	8.7447	1.2637	1.2656	15.0000	15.0000	1.0067	0.9790	14.0000	14.0000	1.3140	1.3125	15.0000	15.0000
11	8.9582	8.9418	8.9196	8.9032	1.3351	1.3372	17.0000	17.0000	1.0869	1.0602	21.0000	20.0000	1.1466	1.1457	12.0000	13.0000
12	8.5495	8.5416	8.5775	8.5695	1.2682	1.2685	19.0000	19.0000	1.0317	1.0136	17.0000	16.0000	1.0466	1.0532	13.0000	13.0000
13	8.8667	8.8521	8.8662	8.8517	1.2763	1.2790	24.0000	22.0000	1.0243	1.0031	19.0000	19.0000	1.3197	1.3216	15.0000	15.0000
14	8.8872	8.8682	8.8677	8.8488	1.3235	1.3262	17.0000	17.0000	1.0462	1.0324	13.0000	14.0000	1.2745	1.2688	18.0000	18.0000
Avg	8.7740	8.7587	8.7766	8.7612	1.2817	1.2818	18.9286	18.5714	1.0358	1.0153	15.2143	15.0714	1.2222	1.2221	15.1429	15.1429
PE	0.0154		0.0154		-0.0001		0.3571		0.0205		0.1429		0.0001		0.0000	
TS	8.942668413		8.923246672		-0.160017604		2.109989288		9.722267916		0.806225775		0.148125707		0	
P-Value	6.47283E-07		6.6338E-07		0.875326814		0.054809185		2.49222E-07		0.434613871		0.88451646		1	
Reject?	0		0		1		1		0		1		1		1	
Avg Diff	0.0154		0.0154		-0.0001		0.3571		0.0205		0.1429		0.0001		0.0000	
% Diff	0.18%		0.18%		-0.01%		1.89%		1.98%		0.94%		0.01%		0.00%	

Table H.35 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit R1 vs Best Fit R2 with CV = 0.25, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	9.9980	10.0510	10.0219	10.0749	1.9467	1.9574	25.0000	25.0000	0.3133	0.3240	6.0000	7.0000	1.7554	1.7595	22.0000	23.0000
2	9.8719	9.8942	9.8817	9.9040	1.9770	1.9832	23.0000	23.0000	0.3113	0.3205	6.0000	6.0000	1.5752	1.5713	13.0000	13.0000
3	9.7943	9.8239	9.8103	9.8401	1.8428	1.8462	17.0000	17.0000	0.2956	0.3030	5.0000	5.0000	1.7442	1.7379	15.0000	15.0000
4	9.8768	9.9182	9.8558	9.8970	1.9478	1.9553	23.0000	23.0000	0.3035	0.3099	5.0000	5.0000	1.7165	1.7286	19.0000	20.0000
5	9.2499	9.2550	9.3014	9.3067	1.8728	1.8768	22.0000	22.0000	0.3145	0.3216	6.0000	6.0000	1.4290	1.4160	15.0000	14.0000
6	10.1231	10.1445	10.1121	10.1335	1.9424	1.9517	29.0000	29.0000	0.3065	0.3158	5.0000	5.0000	1.8777	1.8712	18.0000	19.0000
7	9.8989	9.9110	9.8954	9.9075	1.9841	1.9866	27.0000	27.0000	0.3213	0.3300	7.0000	8.0000	1.6935	1.6905	17.0000	17.0000
8	9.6903	9.7362	9.6982	9.7441	1.8319	1.8372	25.0000	24.0000	0.3150	0.3237	6.0000	6.0000	1.7863	1.7840	18.0000	18.0000
9	9.9909	10.0066	9.9485	9.9642	1.9958	2.0058	29.0000	29.0000	0.3198	0.3333	7.0000	7.0000	1.5939	1.5910	15.0000	15.0000
10	10.4779	10.5251	10.4060	10.4529	2.0515	2.0581	20.0000	21.0000	0.3263	0.3395	7.0000	7.0000	2.2510	2.2499	24.0000	24.0000
11	10.1418	10.1383	10.1525	10.1491	2.0087	2.0160	25.0000	26.0000	0.3056	0.3132	5.0000	5.0000	1.7684	1.7704	18.0000	18.0000
12	9.8250	9.8640	9.7630	9.8018	2.0770	2.0785	29.0000	28.0000	0.3194	0.3309	6.0000	7.0000	1.4785	1.4862	19.0000	19.0000
13	10.0444	10.0723	10.0629	10.0908	1.9499	1.9550	23.0000	23.0000	0.3190	0.3283	6.0000	6.0000	1.7679	1.7695	18.0000	18.0000
14	9.6134	9.6444	9.6729	9.7042	1.8698	1.8715	21.0000	20.0000	0.3038	0.3128	6.0000	6.0000	1.6736	1.6698	15.0000	15.0000
Avg	9.8997	9.9275	9.8988	9.9265	1.9499	1.9557	24.1429	24.0714	0.3125	0.3219	5.9286	6.1429	1.7222	1.7211	17.5714	17.7143
PE	-0.0277		-0.0277		-0.0058		0.0714		-0.0094		-0.2143		0.0011		-0.1429	
TS	-6.224504448		-6.242308721		-7.279402175		0.434057366		-16.50293948		-1.882937743		0.650345087		-1	
P-Value	3.09517E-05		3.00844E-05		6.18637E-06		0.671363619		4.22749E-10		0.082276866		0.526796285		0.335561278	
Reject?	0		0		0		1		0		1		1		1	
Avg Diff	-0.0277		-0.0277		-0.0058		0.0714		-0.0094		-0.2143		0.0011		-0.1429	
% Diff	-0.28%		-0.28%		-0.30%		0.30%		-3.01%		-3.61%		0.06%		-0.81%	

Table H.36 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit R1 vs Best Fit R2 with CV = 0.25, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	9.2227	9.2521	9.1961	9.2254	2.0491	2.0306	32.0000	28.0000	0.2431	0.2399	5.0000	5.0000	1.5922	1.5847	20.0000	19.0000
2	8.7392	8.7531	8.7530	8.7669	2.0014	1.9904	21.0000	22.0000	0.2445	0.2355	6.0000	6.0000	1.2795	1.2829	16.0000	15.0000
3	9.0127	8.9952	9.0085	8.9906	2.1170	2.0557	23.0000	22.0000	0.2562	0.2469	6.0000	6.0000	1.3548	1.3515	15.0000	15.0000
4	8.6557	8.6665	8.7105	8.7208	1.9667	1.9538	22.0000	24.0000	0.2314	0.2222	5.0000	5.0000	1.2926	1.2972	14.0000	15.0000
5	8.7906	8.8010	8.7758	8.7862	2.0800	2.0959	25.0000	25.0000	0.2616	0.2579	5.0000	5.0000	1.2050	1.2077	12.0000	12.0000
6	9.5676	9.5613	9.5203	9.5142	2.2082	2.1051	24.0000	25.0000	0.2524	0.2498	5.0000	5.0000	1.7402	1.7422	21.0000	20.0000
7	9.0315	9.0189	9.0417	9.0289	1.9970	1.9676	24.0000	23.0000	0.2323	0.2277	5.0000	6.0000	1.4249	1.4241	18.0000	18.0000
8	8.7725	8.7526	8.8535	8.8334	1.9171	1.8740	25.0000	25.0000	0.2284	0.2219	4.0000	4.0000	1.4461	1.4501	20.0000	20.0000
9	8.6968	8.7360	8.7109	8.7501	1.9234	1.9230	24.0000	26.0000	0.2321	0.2262	5.0000	5.0000	1.3140	1.3146	15.0000	15.0000
10	8.9818	8.9895	8.9668	8.9746	1.9803	1.9553	18.0000	18.0000	0.2436	0.2394	5.0000	5.0000	1.5252	1.5353	17.0000	16.0000
11	9.1505	9.1314	9.1109	9.0919	2.1335	2.1361	23.0000	29.0000	0.2507	0.2441	5.0000	5.0000	1.2898	1.2897	13.0000	13.0000
12	8.7334	8.7192	8.7620	8.7476	2.0203	1.9588	24.0000	22.0000	0.2347	0.2347	5.0000	5.0000	1.1767	1.1871	14.0000	14.0000
13	9.0766	9.0811	9.0762	9.0800	2.0320	1.9966	33.0000	31.0000	0.2426	0.2357	7.0000	7.0000	1.5237	1.5195	16.0000	17.0000
14	9.0681	9.0798	9.0483	9.0600	2.0574	2.0788	21.0000	22.0000	0.2607	0.2523	6.0000	6.0000	1.4622	1.4509	19.0000	19.0000
Avg	8.9642	8.9670	8.9667	8.9693	2.0345	2.0087	24.2143	24.4286	0.2439	0.2382	5.2857	5.3571	1.4019	1.4027	16.4286	16.2857
PE	-0.0027		-0.0026		0.0258		-0.2143		0.0057		-0.0714		-0.0007		0.1429	
TS	-0.552516408		-0.529400543		2.867068421		-0.339850731		7.594879329		-1		-0.455300474		0.806225775	
P-Value	0.589968614		0.605450563		0.013217228		0.739397137		3.93142E-06		0.335561278		0.656404206		0.434613871	
Reject?	1		1		0		1		0		1		1		1	
Avg Diff	-0.0027		-0.0026		0.0258		-0.2143		0.0057		-0.0714		-0.0007		0.1429	
% Diff	-0.03%		-0.03%		1.27%		-0.88%		2.34%		-1.35%		-0.05%		0.87%	

Table H.37 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 30 Obs., 1st Replicate															
	WIP		ATS		Avg WS1		Max WS1		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	7.3627	7.4375	7.3803	7.4551	0.4902	0.4586	15.0000	15.0000	1.2666	1.2668	21.0000	19.0000	0.8335	0.9685	13.0000	16.0000
2	7.3235	7.4345	7.3314	7.4429	0.4962	0.4652	13.0000	13.0000	1.2572	1.2448	23.0000	22.0000	0.7354	0.9209	12.0000	14.0000
3	7.1866	7.4007	7.1984	7.4129	0.4745	0.4457	12.0000	12.0000	1.1884	1.2929	24.0000	23.0000	0.7985	0.9625	12.0000	15.0000
4	7.2662	7.4422	7.2505	7.4264	0.4904	0.4590	13.0000	13.0000	1.1857	1.2658	24.0000	19.0000	0.7954	0.9503	15.0000	16.0000
5	7.0383	7.1152	7.0774	7.1548	0.4911	0.4604	13.0000	12.0000	1.2336	1.2128	20.0000	17.0000	0.6829	0.8428	11.0000	14.0000
6	7.3562	7.4884	7.3490	7.4810	0.4827	0.4529	11.0000	11.0000	1.2624	1.2762	19.0000	21.0000	0.8195	0.9931	16.0000	17.0000
7	7.3421	7.4373	7.3387	7.4335	0.4824	0.4533	13.0000	12.0000	1.3212	1.2989	30.0000	21.0000	0.7893	0.9694	14.0000	17.0000
8	7.2242	7.3919	7.2302	7.3980	0.4716	0.4422	13.0000	11.0000	1.2232	1.2533	20.0000	21.0000	0.8641	1.0536	15.0000	20.0000
9	7.4128	7.4405	7.3812	7.4088	0.4960	0.4658	15.0000	15.0000	1.2914	1.2384	27.0000	16.0000	0.7973	0.9451	13.0000	18.0000
10	7.5296	7.6557	7.4786	7.6038	0.4977	0.4661	12.0000	11.0000	1.2884	1.2662	18.0000	18.0000	0.9297	1.1413	17.0000	20.0000
11	7.2509	7.4696	7.2586	7.4774	0.4834	0.4525	13.0000	12.0000	1.1785	1.3060	20.0000	18.0000	0.7940	0.9442	12.0000	14.0000
12	7.3002	7.4355	7.2541	7.3885	0.5077	0.4744	13.0000	13.0000	1.2691	1.3023	19.0000	20.0000	0.7055	0.8746	14.0000	18.0000
13	7.3543	7.4038	7.3681	7.4173	0.4878	0.4569	10.0000	10.0000	1.2663	1.2356	26.0000	18.0000	0.8340	0.9823	17.0000	18.0000
14	7.2412	7.3540	7.2860	7.3996	0.4753	0.4446	12.0000	11.0000	1.2192	1.2336	17.0000	27.0000	0.8123	0.9724	15.0000	15.0000
Avg	7.2992	7.4219	7.2987	7.4214	0.4877	0.4570	12.7143	12.2143	1.2465	1.2638	22.0000	20.0000	0.7994	0.9658	14.0000	16.5714
PE	-0.1227		-0.1227		0.0307		0.5000		-0.0173		2.0000		-0.1664		-2.5714	
TS	-8.033563654		-8.024007239		97.74574014		2.876234913		-1.212858061		1.422048601		-30.77778402		-6.394779424	
P-Value	2.13591E-06		2.16396E-06		5.03967E-20		0.012986865		0.246763832		0.178559353		1.56407E-13		2.36271E-05	
Reject?	0		0		0		0		1		1		0		0	
Avg Diff	-0.1227		-0.1227		0.0307		0.5000		-0.0173		2.0000		-0.1664		-2.5714	
% Diff	-1.68%		-1.68%		6.29%		3.93%		-1.39%		9.09%		-20.82%		-18.37%	

Table H.38 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 30 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	9.1831	9.8465	9.1560	9.8184	1.1406	1.2663	19.0000	22.0000	1.3704	1.6655	24.0000	26.0000	1.5908	1.9736	18.0000	20.0000
2	8.8885	9.5233	8.9006	9.5385	1.1652	1.3045	18.0000	20.0000	1.3810	1.6802	21.0000	24.0000	1.4220	1.6089	15.0000	20.0000
3	9.1070	9.5818	9.1017	9.5771	1.1782	1.3141	21.0000	22.0000	1.4920	1.8218	22.0000	25.0000	1.4357	1.4874	17.0000	17.0000
4	8.7637	9.4997	8.8186	9.5590	1.1475	1.2937	22.0000	26.0000	1.2548	1.5258	17.0000	21.0000	1.3983	1.7757	21.0000	21.0000
5	8.9861	9.4855	8.9710	9.4707	1.1476	1.2677	19.0000	19.0000	1.4953	1.7801	20.0000	25.0000	1.4451	1.4595	20.0000	15.0000
6	9.5390	10.4265	9.4927	10.3751	1.2522	1.3961	23.0000	24.0000	1.4752	1.8616	19.0000	23.0000	1.7519	2.1082	22.0000	26.0000
7	9.1338	9.5488	9.1444	9.5598	1.1570	1.2959	23.0000	28.0000	1.3543	1.6421	20.0000	22.0000	1.5714	1.7197	22.0000	18.0000
8	8.8581	9.4610	8.9403	9.5482	1.1249	1.2488	23.0000	24.0000	1.2812	1.4953	17.0000	22.0000	1.5127	1.8569	16.0000	27.0000
9	8.9485	9.3707	8.9626	9.3850	1.1468	1.2851	20.0000	23.0000	1.3463	1.6224	20.0000	24.0000	1.4478	1.6379	15.0000	18.0000
10	9.0279	9.8280	9.0160	9.8146	1.1355	1.2641	20.0000	23.0000	1.3670	1.6707	20.0000	25.0000	1.5580	1.9641	22.0000	20.0000
11	9.3989	9.4482	9.3579	9.4075	1.2007	1.3294	18.0000	20.0000	1.4456	1.7299	23.0000	26.0000	1.6515	1.4815	17.0000	15.0000
12	8.6968	9.4235	8.7255	9.4544	1.1637	1.3042	21.0000	23.0000	1.3540	1.6812	22.0000	30.0000	1.2387	1.5304	22.0000	16.0000
13	9.1154	9.7175	9.1158	9.7133	1.1718	1.3055	26.0000	28.0000	1.3696	1.6882	23.0000	22.0000	1.5346	1.7842	18.0000	21.0000
14	9.3690	9.6953	9.3445	9.6745	1.1902	1.3201	16.0000	19.0000	1.3985	1.6581	19.0000	19.0000	1.7363	1.7396	22.0000	25.0000
Avg	9.0726	9.6326	9.0748	9.6354	1.1658	1.2997	20.6429	22.9286	1.3846	1.6802	20.5000	23.8571	1.5211	1.7234	19.0714	19.9286
PE	-0.5600		-0.5606		-0.1338		-2.2857		-0.2956		-3.3571		-0.2023		-0.8571	
TS	-9.673626867		-9.712740209		-63.62144967		-6.449806199		-28.02101199		-5.608337558		-4.325309244		-0.706729356	
P-Value	2.64053E-07		2.52056E-07		1.32422E-17		2.16711E-05		5.20833E-13		8.50483E-05		0.000823753		0.492208551	
Reject?	0		0		0		0		0		0		0		1	
Avg Diff	-0.5600		-0.5606		-0.1338		-2.2857		-0.2956		-3.3571		-0.2023		-0.8571	
% Diff	-6.17%		-6.18%		-11.48%		-11.07%		-21.35%		-16.38%		-13.30%		-4.49%	

Table H.39 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 100 Obs., 1st Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	12.0238	11.6348	12.0446	11.6623	1.7057	1.6786	23.0000	24.0000	1.6495	1.7636	25.0000	27.0000	2.4724	2.2635	24.0000	23.0000
2	12.0418	11.6679	12.0527	11.6818	1.7168	1.6459	23.0000	22.0000	1.6459	1.7842	24.0000	27.0000	2.3771	2.1953	37.0000	25.0000
3	11.6717	11.7263	11.6908	11.7457	1.5846	1.6480	17.0000	22.0000	1.6926	1.6501	26.0000	20.0000	2.2721	2.5164	21.0000	20.0000
4	11.7784	11.4973	11.7523	11.4722	1.7066	1.6724	26.0000	20.0000	1.6343	1.7091	20.0000	29.0000	2.2539	2.1477	23.0000	20.0000
5	11.2504	11.1511	11.3128	11.2130	1.6596	1.6264	24.0000	21.0000	1.5590	1.7029	17.0000	22.0000	2.1441	1.9305	26.0000	21.0000
6	12.1528	12.2951	12.1435	12.2823	1.6652	1.7357	21.0000	23.0000	1.6477	1.8054	23.0000	21.0000	2.6295	2.6612	30.0000	23.0000
7	11.8871	11.8981	11.8834	11.8937	1.7015	1.6079	24.0000	20.0000	1.6502	1.9173	23.0000	40.0000	2.4208	2.2411	25.0000	20.0000
8	11.6241	12.0116	11.6345	12.0213	1.6189	1.7145	21.0000	26.0000	1.6162	1.6807	22.0000	21.0000	2.4746	2.5216	28.0000	27.0000
9	11.7812	12.0631	11.7296	12.0113	1.7145	1.7433	26.0000	23.0000	1.6251	1.8899	21.0000	31.0000	2.1893	2.2696	20.0000	20.0000
10	12.1949	12.8742	12.1099	12.7875	1.7762	1.6668	24.0000	22.0000	1.6497	1.8214	19.0000	20.0000	2.7110	3.1170	33.0000	26.0000
11	11.9633	11.9508	11.9756	11.9629	1.7338	1.6752	28.0000	25.0000	1.6609	1.7421	29.0000	23.0000	2.2548	2.3335	20.0000	21.0000
12	11.9356	11.7693	11.8569	11.6950	1.7920	1.6668	28.0000	20.0000	1.7436	1.7922	23.0000	28.0000	2.1453	1.9937	31.0000	27.0000
13	12.1127	11.8470	12.1343	11.8696	1.6590	1.6944	22.0000	24.0000	1.6239	1.8163	23.0000	20.0000	2.6119	2.2438	25.0000	27.0000
14	11.4371	11.5521	11.5088	11.6239	1.6050	1.5572	20.0000	18.0000	1.6197	1.7173	25.0000	19.0000	2.1813	2.4357	17.0000	19.0000
Avg	11.8468	11.8528	11.8450	11.8516	1.6885	1.6667	23.3571	22.1429	1.6442	1.7709	22.8571	24.8571	2.3670	2.3479	25.7143	22.7857
PE	-0.0060		-0.0066		0.0219		1.2143		-0.1267		-2.0000		0.0191		2.9286	
TS	-0.073468622		-0.08212578		1.169619921		1.187331503		-5.671373251		-1.101514109		0.326218921		2.733333333	
P-Value	0.94255162		0.93579771		0.263151952		0.256339756		7.65069E-05		0.290649798		0.749450698		0.01707279	
Reject?	1		1		1		1		0		1		1		0	
Avg Diff	-0.0060		-0.0066		0.0219		1.2143		-0.1267		-2.0000		0.0191		2.9286	
% Diff	-0.05%		-0.06%		1.30%		5.20%		-7.71%		-8.75%		0.81%		11.39%	

Table H.40 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 100 Obs., 2nd Replicate															
	WIP		ATS		Avg WSI		Max WSI		Avg WS3		Max WS3		Avg Rework		Max Rework	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	13.6462	13.5727	13.6066	13.5338	4.9390	4.8111	44.0000	49.0000	1.3397	1.3160	31.0000	19.0000	1.0898	1.1953	13.0000	16.0000
2	13.7862	13.4437	13.8079	13.4650	5.2031	4.8225	45.0000	40.0000	1.3283	1.3591	18.0000	18.0000	0.9719	1.0200	14.0000	17.0000
3	13.8027	13.6658	13.7961	13.6603	5.2510	4.9609	44.0000	42.0000	1.2938	1.4419	18.0000	25.0000	1.0222	1.0058	15.0000	14.0000
4	13.4758	13.0323	13.5593	13.1129	5.0989	4.3809	54.0000	38.0000	1.2679	1.2674	21.0000	17.0000	0.9853	1.1378	17.0000	14.0000
5	13.5279	13.6988	13.5047	13.6759	5.1282	5.0623	51.0000	48.0000	1.3017	1.4466	18.0000	25.0000	0.9975	0.9814	14.0000	13.0000
6	14.4457	13.7340	14.3751	13.6660	5.6839	4.4375	42.0000	40.0000	1.2752	1.4424	21.0000	19.0000	1.2178	1.3588	17.0000	21.0000
7	13.8328	13.6981	13.8484	13.7133	5.0517	4.9954	41.0000	45.0000	1.2851	1.3124	18.0000	17.0000	1.0826	1.0943	18.0000	16.0000
8	13.2596	13.0226	13.3828	13.1427	4.6539	4.3839	46.0000	41.0000	1.2430	1.2627	18.0000	24.0000	1.1200	1.1829	15.0000	20.0000
9	13.6627	13.7814	13.6837	13.8038	4.8153	4.8224	42.0000	63.0000	1.3917	1.3063	19.0000	20.0000	1.0458	1.0765	15.0000	16.0000
10	13.2639	13.6189	13.2485	13.6002	4.7381	4.7293	38.0000	37.0000	1.2857	1.3958	16.0000	22.0000	1.1115	1.2817	21.0000	17.0000
11	14.2368	14.2459	14.1755	14.1849	5.2999	5.4090	46.0000	59.0000	1.3179	1.3761	20.0000	20.0000	1.1453	1.0131	15.0000	17.0000
12	13.6567	13.8581	13.7014	13.9037	5.0622	5.1623	58.0000	59.0000	1.3124	1.3456	17.0000	25.0000	0.8807	1.0105	17.0000	13.0000
13	13.9295	13.4528	13.9301	13.4512	5.1686	4.6577	49.0000	47.0000	1.3401	1.3413	20.0000	17.0000	1.1132	1.1664	17.0000	15.0000
14	13.9110	14.3182	13.8786	14.2875	5.0922	5.2119	40.0000	57.0000	1.3392	1.4518	18.0000	23.0000	1.2234	1.1420	18.0000	18.0000
Avg	13.7455	13.6531	13.7499	13.6572	5.0847	4.8462	45.7143	47.5000	1.3087	1.3618	19.5000	20.7857	1.0719	1.1190	16.1429	16.2143
PE	0.0924		0.0927		0.2385		-1.7857		-0.0531		-1.2857		-0.0471		-0.0714	
TS	1.053164869		1.055020184		2.336593548		-0.688483612		-2.69624553		-0.855726029		-1.973007672		-0.089886331	
P-Value	0.311447627		0.310629748		0.036116907		0.503250077		0.018324672		0.407645249		0.07014378		0.929747666	
Reject?	1		1		0		1		0		1		1		1	
Avg Diff	0.0924		0.0927		0.2385		-1.7857		-0.0531		-1.2857		-0.0471		-0.0714	
% Diff	0.67%		0.67%		4.69%		-3.91%		-4.06%		-6.59%		-4.40%		-0.44%	

I Complex Model Statistical Comparisons

I.1 Best Fit Rank 1 vs Less Fit Lognormal

Table I.1 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55762	55887	10.4591	10.4398	88.1985	87.9453	12.2451	12.2733	35.1888	35.1741	8.3498	8.3906	17.8973	17.9456
2	54485	54610	9.8009	9.8138	91.3538	90.8015	12.1896	12.1002	35.3447	35.0901	8.1142	8.1491	17.6814	17.7068
3	55861	55898	9.5348	9.5404	88.7276	88.2008	12.1435	12.0199	35.7149	35.4814	8.6008	8.5883	17.6572	17.5891
4	54752	54749	10.1703	10.0642	87.8669	86.8719	12.4190	12.5496	35.5346	35.9078	7.9767	7.9327	17.6806	17.5778
5	54574	54613	9.8649	10.0379	88.9195	89.5981	11.8809	11.8399	34.9414	34.8929	8.0726	8.1009	17.4681	17.5151
6	55518	55485	9.6641	9.6620	89.2756	89.5476	12.4809	12.5254	35.6636	35.6490	8.3944	8.3293	17.8237	17.7447
7	55589	55233	8.9002	8.8829	85.6244	85.6752	12.3158	12.2752	35.6985	35.8455	8.3734	8.3493	17.3985	17.4633
8	57078	57474	9.7975	9.7121	87.7760	85.8063	12.8232	12.9130	35.4240	35.5140	8.5920	8.6709	17.8434	17.8762
9	55820	55940	9.6453	9.6396	88.8623	88.2395	12.0423	12.0729	34.6120	34.8794	8.4332	8.4602	17.6507	17.5960
10	55330	55035	9.8813	9.7830	90.9297	90.1483	11.8559	11.9585	34.4403	35.0829	8.3576	8.3522	17.6751	17.7146
11	55066	54591	10.1546	10.2024	87.0592	88.1520	12.6012	12.5495	36.2264	36.2469	8.1466	8.0927	17.8168	17.9200
12	54407	54442	10.6530	10.6914	89.0166	88.4602	11.4457	11.5626	34.5464	34.8497	8.1257	8.0731	17.6977	17.6230
13	54350	54580	10.0364	10.0707	89.4515	89.5379	12.2835	12.3930	35.8408	35.9585	8.1898	8.1584	18.0181	17.8813
14	56523	56834	9.8423	9.7638	86.1072	85.3293	12.1691	12.2370	34.6996	34.7884	8.5011	8.5471	17.6803	17.6282
15	56321	56385	9.3124	9.2758	87.9195	87.7957	12.9063	12.9631	35.5387	35.6761	8.2625	8.2926	17.4460	17.4686
16	53478	53319	10.4377	10.3988	89.5772	88.8002	11.9449	11.8920	35.5456	35.6437	7.8829	7.8757	17.8279	17.8445
17	57843	57882	9.5053	9.6393	85.9458	86.6330	13.5009	13.5792	35.6498	35.7258	8.4383	8.4536	17.6286	17.7140
18	55213	54998	10.8192	10.8360	89.4900	89.8037	11.9717	11.9697	34.5574	34.6745	8.2053	8.1105	17.9765	17.8533
19	55175	55499	10.4257	10.4417	89.1620	88.6153	12.0603	12.1438	35.1759	35.1724	8.1120	8.1294	17.5006	17.4595
20	54802	54570	9.8598	9.8933	87.7759	87.8910	11.8922	11.9437	35.2848	35.5458	8.3449	8.3063	17.8360	17.8711
21	55906	55777	9.6479	9.6957	89.6298	90.1995	12.2008	12.0472	34.8672	34.4898	8.4652	8.4581	17.7015	17.7297
Avg	55421.5714	55419.0952	9.9244	9.9278	88.5080	88.2882	12.2558	12.2766	35.2617	35.3471	8.2828	8.2772	17.7098	17.7011
[+ -] 20% PE	11081.8381		-1.9815		17.4818		-2.4304		-6.9669		1.6509		3.5332	
[+ -] 15% PE	8310.7595		-1.4853		13.0564		-1.8176		-5.2039		1.2368		2.6477	
[+ -] 10% PE	5539.6810		-0.9890		8.6310		-1.2048		-3.4408		0.8226		1.7622	
[+ -] 05% PE	2768.6024		-0.4928		4.2056		-0.5920		-1.6777		0.4085		0.8768	
[+ -] 01% PE	551.7395		-0.0958		0.6652		-0.1018		-0.2672		0.0772		0.1684	
[+ -] 20% TS	147.3714		-78.0384		110.7349		-97.7839		-118.5089		112.9341		241.0494	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	123.7740		-68.9909		84.5645		-83.4340		-93.5192		95.1608		182.5466	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	92.3248		-54.1849		56.5644		-62.0078		-65.0788		71.2431		120.8710	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	51.1470		-30.9331		27.5769		-32.7600		-33.2035		39.5008		58.9235	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	10.8934		-6.3606		4.3286		-5.6997		-5.4529		8.0277		11.0238	
P-Value	0.0000000004		0.000016546		0.0001631525		0.000070388		0.000122453		0.000000553		0.0000000003	
Reject?	0		0		0		0		0		0		0	
CI UL	106.7307		0.0279		0.5414		0.0167		0.0161		0.0254		0.0408	
CI LL	-101.7783		-0.0347		-0.1017		-0.0582		-0.1869		-0.0141		-0.0234	
Avg Diff	-2.4762		0.0034		-0.2198		0.0207		0.0854		-0.0056		-0.0087	
% Diff	0.00%		0.03%		-0.25%		0.17%		0.24%		-0.07%		-0.05%	

Table I.2 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 1 vs Lognormal with CV = 0.25, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	55089	55179	10.3691	10.4524	91.5369	91.9862	11.3369	11.1993	33.6067	33.1822	8.2650	8.2884	17.5391	17.5506
2	55845	55888	10.8719	10.7958	91.4963	90.4604	11.6833	11.5885	33.6564	33.3954	8.0544	8.1087	17.1830	17.2908
3	53709	53439	10.9363	10.9792	91.9511	92.9021	11.3854	11.4049	33.2265	33.4564	7.6574	7.6401	17.5101	17.5530
4	55139	55045	10.4109	10.3877	91.5285	92.1669	11.5765	11.6248	33.5727	33.8026	8.1508	8.0960	17.5598	17.4155
5	53863	53543	10.5898	10.7213	90.6239	92.2298	11.3322	11.2910	33.7629	33.7776	7.8208	7.7538	17.4160	17.4004
6	54430	54251	10.3075	10.3530	91.6206	91.7198	11.5891	11.5923	33.8101	34.0252	7.9291	7.8767	17.4054	17.3400
7	54440	54160	10.1897	10.3360	91.6200	93.7390	11.3709	11.2162	33.6808	33.4676	8.0799	8.0410	17.4791	17.4455
8	54936	54621	11.6387	11.6235	95.7370	95.9814	11.5979	11.6481	33.4864	33.8098	7.9339	7.8334	17.5668	17.4644
9	54555	54592	11.0691	11.0356	92.2105	91.8688	10.7935	10.8641	32.9744	33.1640	8.1163	8.0696	17.4380	17.3309
10	55072	54933	10.1971	10.2213	92.1689	92.1338	11.3953	11.3350	33.6933	33.5823	8.2500	8.2371	17.4425	17.4813
11	54291	54056	11.2866	11.4081	93.2372	94.5418	10.8865	10.7819	33.3679	33.2881	8.1277	8.0781	17.6281	17.5645
12	55222	55202	10.7045	10.7224	90.5623	90.0246	11.3933	11.4184	33.0402	33.2807	7.9161	7.9163	17.1663	17.1494
13	54096	53808	10.6069	10.7248	93.1023	94.1902	12.1005	12.1001	34.3344	34.5281	7.7069	7.6884	17.5585	17.6306
14	54253	54389	11.0300	11.0276	92.2958	92.2751	10.5638	10.5599	32.6260	32.5089	8.1612	8.1673	17.5559	17.5265
15	55921	55735	10.6345	10.5725	94.7924	94.3889	11.7778	11.8148	33.2275	33.5169	8.0926	8.1170	17.2555	17.3312
16	54869	54871	10.6809	10.7238	93.8229	93.8373	12.0112	12.0629	34.0020	34.0928	7.8667	7.7895	17.4452	17.3154
17	56192	55874	9.7703	9.8182	91.1215	91.5276	12.2651	12.0552	34.3239	33.9926	8.2278	8.3088	17.2994	17.5664
18	54037	53678	10.3685	10.3194	95.4227	95.4260	11.2396	11.1654	33.4568	33.6911	8.1033	8.0097	17.6226	17.4588
19	54531	54419	10.0510	10.0283	92.8761	92.8299	11.6775	11.6914	33.7508	33.8177	7.9221	7.8944	17.2840	17.2735
20	55067	54746	10.3668	10.3240	93.5838	93.5007	12.3533	12.2978	34.4596	34.4713	7.8551	7.8322	17.3615	17.4362
21	54676	54922	10.3252	10.2991	90.6608	90.0345	11.7243	11.7699	33.5545	33.6406	7.8558	7.8560	17.3845	17.2717
Avg	54773.0000	54635.7619	10.5907	10.6130	92.4748	92.7507	11.5264	11.4991	33.6007	33.6425	8.0044	7.9811	17.4334	17.4189
[+ -] 20% PE	10817.3619		-2.0958		-18.2191		2.2780		-6.6783		1.5775		3.4722	
[+ -] 15% PE	8078.7119		-1.5663		-13.5954		1.7017		-4.9983		1.1773		2.6005	
[+ -] 10% PE	5340.0619		-1.0368		-8.9716		1.1254		-3.3182		0.7771		1.7288	
[+ -] 05% PE	2601.4119		-0.5072		-4.3479		0.5491		-1.6382		0.3769		0.8572	
[+ -] 01% PE	410.4919		-0.0836		-0.6489		0.0880		-0.2942		0.0567		0.1598	
[+ -] 20% TS	206.9238		-84.0133		-96.8601		91.6985		-120.8044		110.5573		173.1314	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	169.8187		-73.7003		-74.8968		79.0727		-94.7623		91.0549		127.0118	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	122.5166		-57.3610		-50.9027		59.5197		-65.6232		66.1505		82.3597	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	64.1832		-32.2483		-25.2192		31.6883		-33.5775		34.9809		39.6865	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	10.5506		-5.6767		-3.8076		5.1761		-6.1688		5.5657		7.2176	
P-Value	0.0000000006		0.0000074100		0.0005513690		0.0000229577		0.0000025048		0.0000094989		0.0000002751	
Reject?	0		0		0		0		0		0		0	
CI UL	217.8147		0.0082		0.0789		0.0628		0.0572		0.0444		0.0610	
CI LL	56.6615		-0.0528		-0.6306		-0.0084		-0.1408		0.0024		-0.0320	
Avg Diff	-137.2381		0.0223		0.2759		-0.0272		0.0418		-0.0234		-0.0145	
% Diff	-0.25%		0.21%		0.30%		-0.24%		0.12%		-0.29%		-0.08%	

Table I.3 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	54940	54783	10.9097	10.9707	91.5096	92.3220	12.1261	12.0028	35.6351	35.4433	8.3117	8.2919	18.0644	18.0573
2	53493	53454	10.1250	10.2453	93.9072	95.1168	11.9384	11.9532	35.6457	35.7028	8.0980	8.0681	17.9124	17.8710
3	54778	54709	9.9163	9.8756	91.6266	91.5532	11.7195	11.6905	35.5088	35.4834	8.5304	8.5702	17.8398	17.9279
4	53638	53797	10.7157	10.6397	92.0224	91.1400	12.2923	12.3197	36.3496	36.2957	7.9636	7.9927	17.9657	17.9849
5	53821	53782	10.4625	10.4796	93.2199	93.0436	11.6588	11.6476	35.2170	35.1688	8.1228	8.1466	17.7580	17.8626
6	54569	54529	10.0620	10.0873	92.7180	92.9125	12.1951	12.2698	35.7389	35.9802	8.5020	8.4030	18.3394	18.1454
7	54489	54245	9.3377	9.3228	89.3275	89.5600	11.9016	11.9209	35.4474	35.8514	8.4399	8.3696	17.8807	17.7657
8	56449	56333	10.1353	10.2197	89.6431	89.9929	12.6662	12.5850	35.7098	35.6486	8.5821	8.5608	17.9977	17.9762
9	54824	55063	10.0875	10.0490	92.0593	91.5320	11.8320	11.8782	35.2226	35.1355	8.4003	8.4232	17.7910	17.7749
10	54082	54299	10.2646	10.2669	94.8188	94.1131	11.6110	11.7016	34.8890	35.0715	8.3399	8.3448	17.9797	17.9171
11	53836	53807	10.7144	10.6950	92.0423	91.7839	12.2814	12.2142	36.3976	36.2278	8.0318	8.0778	17.9657	18.0821
12	53423	53606	11.1423	11.2233	92.3121	92.9062	11.3925	11.4010	35.4449	35.2407	8.0802	8.1186	17.8908	17.9392
13	53511	53503	10.4903	10.4866	92.9844	92.9059	12.0330	12.0602	36.0258	36.2114	8.2164	8.1690	18.3141	18.1769
14	55791	55665	10.2340	10.2678	88.2820	89.0206	12.2015	12.1168	35.5728	35.3870	8.5218	8.5422	17.9563	18.0335
15	55146	55407	9.8139	9.7466	93.1394	91.9315	12.6594	12.6609	35.9660	35.8291	8.2242	8.2853	17.6588	17.7034
16	52381	52563	11.0080	11.1071	93.6597	93.9967	11.6732	11.6874	36.0028	36.1117	7.8247	7.8602	18.0089	17.9655
17	56775	56720	10.0927	9.9978	90.5337	89.4585	13.2510	13.3780	35.9582	36.2562	8.4072	8.3714	17.8878	17.8758
18	54243	54159	11.3958	11.4483	93.5096	94.2376	11.7986	11.8081	35.0628	35.0342	8.1157	8.1032	18.0661	18.1008
19	54391	54266	10.8148	10.8542	92.2476	92.3896	11.9210	11.8992	35.5767	35.5956	8.1364	8.1408	17.7661	17.8406
20	53969	53826	10.2929	10.2352	90.2740	89.7286	11.8317	11.7837	35.9834	36.0404	8.2995	8.3361	18.0223	18.1201
21	54661	54905	10.0972	10.0097	92.1566	92.2039	11.8377	11.9193	34.9853	35.0574	8.4612	8.5171	18.1123	18.1040
Avg	54438.5714	54448.6190	10.3863	10.3918	91.9997	91.9928	12.0392	12.0428	35.6352	35.6558	8.2671	8.2711	17.9609	17.9631
[+ -] 20% PE	-10877.6667		-2.0717		18.3931		-2.4042		-7.1065		-1.6495		-3.5899	
[+ -] 15% PE	-8155.7381		-1.5524		13.7931		-1.8023		-5.3247		-1.2361		-2.6919	
[+ -] 10% PE	-5433.8095		-1.0331		9.1931		-1.2003		-3.5429		-0.8228		-1.7939	
[+ -] 05% PE	-2711.8810		-0.5138		4.5931		-0.5983		-1.7612		-0.4094		-0.8958	
[+ -] 01% PE	-534.3381		-0.0983		0.9131		-0.1168		-0.3358		-0.0787		-0.1774	
[+ -] 20% TS	-170.7720		-103.8197		119.0281		-106.6620		-168.2146		-109.9500		-154.7524	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-149.9838		-96.2022		92.9785		-94.6442		-132.4302		-93.4067		-123.4531	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-118.3228		-76.9106		63.7929		-74.3742		-91.7864		-70.6542		-87.5978	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-69.7071		-40.8373		32.3491		-42.1410		-46.9916		-39.6759		-46.5803	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-15.3048		-7.2854		6.4359		-8.5699		-9.0839		-8.2691		-9.6913	
P-Value	0.0000000000		0.000002397		0.000014078		0.000000198		0.000000078		0.000000348		0.000000027	
Reject?	0		0		0		0		0		0		0	
CI UL	61.3193		0.0235		0.3032		0.0248		0.0564		0.0156		0.0355	
CI LL	-81.4146		-0.0346		-0.2895		-0.0321		-0.0975		-0.0235		-0.0399	
Avg Diff	10.0476		0.0055		-0.0069		0.0036		0.0206		0.0039		0.0022	
% Diff	0.02%		0.05%		-0.01%		0.03%		0.06%		0.05%		0.01%	

Table I.4 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 1 vs Lognormal with CV = 0.25, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55143	54957	10.0671	10.0223	89.2798	89.1191	12.3231	12.3028	36.3015	36.2434	8.4755	8.4597	18.0114	18.0866
2	55647	55804	10.4584	10.4614	88.9803	88.5268	12.7050	12.8585	36.5233	36.8591	8.1820	8.2315	17.5692	17.6337
3	53198	53400	10.6550	10.6762	90.4884	90.7386	12.4482	12.3719	36.4401	36.0171	7.7202	7.7637	17.9138	17.9467
4	55074	55268	10.1492	10.1564	89.9418	89.8628	12.6466	12.6734	36.5100	36.5075	8.2617	8.2666	17.8560	17.7803
5	53483	53594	10.4235	10.4205	90.1516	90.0533	12.3339	12.3674	36.7297	36.6728	7.9275	7.9251	17.8670	17.8462
6	54231	54473	10.0880	10.0120	90.1059	88.9511	12.6147	12.7448	36.7366	37.0685	8.0055	8.0561	17.7084	17.7023
7	54403	54373	9.9448	9.9063	90.3462	89.6379	12.2288	12.3276	36.0167	36.3167	8.1914	8.2071	17.7665	17.8337
8	55009	55094	11.2455	11.2281	92.2863	92.1805	12.8647	12.9074	36.9480	37.0806	8.0812	8.0823	17.9292	17.8712
9	54832	54568	10.5533	10.6634	88.2159	88.9812	11.8448	11.7868	35.8254	35.8089	8.3697	8.2734	17.9113	17.8245
10	55323	55233	9.7742	9.8116	88.2820	88.9755	12.5778	12.5617	36.7913	36.7418	8.4835	8.4991	17.9264	17.9943
11	54296	54657	10.9295	11.0386	90.5939	90.6328	11.9573	11.9850	36.3196	36.2327	8.2135	8.2763	17.9089	17.9165
12	55348	55400	10.4600	10.4550	89.0972	88.6190	12.3896	12.3947	35.7500	35.7117	8.1332	8.1256	17.5928	17.5863
13	54154	54176	10.3176	10.2271	91.1201	90.8166	13.2794	13.4108	37.2865	37.7562	7.8488	7.8838	17.9610	17.9623
14	54318	54261	10.6858	10.6881	89.8436	89.8251	11.4960	11.4649	35.2875	35.1753	8.3328	8.3649	17.9395	18.0480
15	55827	56016	10.2420	10.1539	91.7868	91.1940	12.8542	12.9735	36.1298	36.2142	8.2740	8.2795	17.7248	17.6965
16	54838	54818	10.2477	10.2668	90.3780	90.6713	13.2276	13.3162	37.2244	37.3671	7.9991	8.0325	17.8267	17.9413
17	55921	55993	9.5950	9.4858	90.7469	89.1985	13.1741	13.2951	36.9548	37.2651	8.4594	8.4556	17.8743	17.8495
18	53856	53663	10.0427	10.0204	93.3127	93.5274	12.2477	12.1665	36.5205	36.3904	8.2019	8.2122	17.8942	17.9776
19	54573	54568	9.7142	9.6577	89.9409	89.3608	12.8345	12.8177	36.7858	36.8361	8.0323	8.0915	17.5967	17.6962
20	54917	55020	10.0685	10.0470	91.5691	90.8772	13.5528	13.6004	37.6726	37.7476	8.0440	8.0208	17.8996	17.8192
21	54701	54627	10.0255	9.9534	89.0758	88.5930	12.9171	12.9382	36.6611	36.8050	8.0247	8.0010	17.7992	17.7408
Avg	54718.6667	54760.1429	10.2708	10.2549	90.2640	90.0163	12.5961	12.6317	36.5436	36.6104	8.1553	8.1671	17.8322	17.8454
[+ -] 20% PE	-10902.2571		2.0382		17.8051		-2.4836		-7.2419		-1.6193		-3.5533	
[+ -] 15% PE	-8166.3238		1.5247		13.2919		-1.8538		-5.4147		-1.2116		-2.6617	
[+ -] 10% PE	-5430.3905		1.0111		8.7787		-1.2240		-3.5876		-0.8038		-1.7701	
[+ -] 05% PE	-2694.4571		0.4976		4.2655		-0.5942		-1.7604		-0.3960		-0.8784	
[+ -] 01% PE	-505.7105		0.0867		0.6550		-0.0904		-0.2986		-0.0698		-0.1652	
[+ -] 20% TS	-229.7905		77.0652		145.4558		-130.9630		-172.1525		-116.6717		-222.2510	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-192.7575		67.7098		110.9939		-119.6408		-130.7142		-100.6336		-172.7181	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-142.0214		53.8002		73.9706		-90.9899		-86.1240		-77.5887		-118.4760	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-76.1360		32.2530		35.7766		-44.0147		-41.1813		-44.3414		-60.2201	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-14.7622		6.5825		5.4210		-6.0002		-6.7567		-8.6613		-11.4732	
P-Value	0.0000000000		0.0000010303		0.0000131598		0.0000036202		0.0000007133		0.0000000167		0.0000000001	
Reject?	0		0		0		0		0		0		0	
CI UL	29.7576		0.0425		0.5009		-0.0030		0.0263		0.0047		0.0168	
CI LL	-112.7099		-0.0105		-0.0055		-0.0682		-0.1599		-0.0282		-0.0431	
Avg Diff	41.4762		-0.0160		-0.2477		0.0356		0.0668		0.0117		0.0132	
% Diff	0.08%		-0.16%		-0.27%		0.28%		0.18%		0.14%		0.07%	

Table I.5 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55474	56341	9.6410	9.7039	78.1543	77.3762	10.9378	11.2053	31.5126	31.7920	8.2436	8.3279	18.0051	17.9119
2	54584	54584	9.0662	9.0735	80.0533	80.7232	11.1085	11.0301	31.9313	31.6477	8.1262	8.0636	17.9773	17.8421
3	55251	56110	8.7490	8.7797	78.3377	78.0494	10.7591	10.7757	31.8968	31.4416	8.4845	8.5133	17.8477	17.6077
4	54311	54809	9.3794	9.4053	78.7361	78.2270	11.3111	11.3730	32.4476	32.3840	7.9515	7.9342	18.0212	17.7979
5	54398	54656	9.2990	9.2351	79.6717	79.2729	10.7456	10.5934	31.5781	31.1937	8.0931	8.1298	17.8581	17.7388
6	55152	55313	8.9366	8.9210	79.6956	79.1224	11.1380	11.2148	31.7773	31.7803	8.2672	8.2444	17.9535	17.9155
7	54343	54788	8.1705	8.1141	76.0332	75.4533	10.8446	10.8870	31.9344	31.8976	8.3202	8.2888	17.9923	17.7156
8	57044	57152	9.0027	8.9992	77.0720	77.3193	11.3372	11.3347	31.2186	31.1352	8.5737	8.5143	18.0565	17.8808
9	55050	55408	8.9268	8.9558	79.5781	79.4239	10.6361	10.8476	30.9968	31.3545	8.3800	8.3168	17.9749	17.7401
10	54984	55134	9.0912	9.0871	80.1640	80.2456	10.6664	10.5943	31.0012	30.7913	8.3504	8.2701	18.0535	17.7834
11	54324	54755	9.5995	9.6252	79.8825	79.3832	11.2053	11.3005	32.5170	32.4570	8.0586	8.0589	18.1293	18.0352
12	54038	54573	9.9826	9.9551	80.2432	79.2579	10.3021	10.4308	30.9547	31.2189	8.0309	8.0779	17.9713	17.8166
13	54110	54419	9.3319	9.3570	79.7546	79.5358	11.0125	10.9150	32.0849	31.6601	8.1436	8.0865	18.2905	18.0413
14	56071	56081	9.1742	9.1423	76.9713	76.8050	11.0522	10.8083	31.5352	30.9203	8.3811	8.3969	17.8870	17.8765
15	56002	56282	8.6329	8.5154	78.5274	77.3875	11.3605	11.4788	31.3841	31.6465	8.2815	8.2657	17.9722	17.6138
16	53367	53851	9.6992	9.7046	79.6819	78.5896	10.6998	10.7818	31.7984	31.8598	7.8466	7.9218	18.0537	18.0450
17	57536	57616	8.8636	8.8946	76.8755	77.5544	12.0650	12.0682	31.7316	31.8721	8.3959	8.3322	17.9639	17.6971
18	54673	55138	10.0990	10.0632	79.9623	79.2546	10.5672	10.6933	30.8326	30.8777	8.0522	8.0319	18.0648	17.8710
19	55172	55482	9.5980	9.6501	78.6896	78.4493	10.9260	10.7825	31.7942	31.2576	8.1147	8.0828	17.7331	17.5499
20	53935	54102	9.1517	9.1266	78.3996	78.2297	10.5851	10.6756	31.7578	32.0180	8.2142	8.1939	18.1479	17.9883
21	54990	55479	8.9560	8.8765	80.2045	78.9485	10.6861	10.6907	30.8160	30.6378	8.3558	8.3742	18.0846	17.9188
Avg	54990.9048	55336.8095	9.2072	9.1993	78.8899	78.5052	10.9498	10.9753	31.5953	31.5164	8.2222	8.2108	17.9933	17.8280
[+ -] 20% PE	-10652.2762		1.8336		15.3932		-2.1645		6.2401		1.6330		3.4334	
[+ -] 15% PE	-7902.7310		1.3732		11.4487		-1.6170		4.6604		1.2219		2.5337	
[+ -] 10% PE	-5153.1857		0.9128		7.5042		-1.0695		3.0806		0.8108		1.6340	
[+ -] 05% PE	-2403.6405		0.4525		3.5597		-0.5220		1.5008		0.3997		0.7344	
[+ -] 01% PE	-204.0043		0.0842		0.4041		-0.0840		0.2370		0.0708		0.0146	
[+ -] 20% TS	-136.2495		73.4733		135.7890		-63.8766		102.0022		156.1366		189.0304	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-112.9330		67.2834		102.7900		-51.3203		76.3921		124.5277		141.3019	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-82.2360		56.5618		67.5420		-36.2140		50.2522		84.9091		91.7839	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-42.4765		36.3967		31.6284		-18.6131		24.1835		41.2048		41.3005	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-3.8558		8.1800		3.5173		-3.0819		3.7632		7.0057		0.8205	
P-Value	0.0004927126		0.0000000413		0.0010833992		0.0029406303		0.0006115677		0.0000004248		0.2107910966	
Reject?	0		0		0		0		0		0		1	
CI UL	-237.0515		0.0286		0.6260		0.0311		0.2109		0.0328		0.2026	
CI LL	-454.7580		-0.0129		0.1435		-0.0821		-0.0530		-0.0100		0.1280	
Avg Diff	345.9048		-0.0079		-0.3848		0.0255		-0.0789		-0.0114		-0.1653	
% Diff	0.63%		-0.09%		-0.49%		0.23%		-0.25%		-0.14%		-0.92%	

Table I.6 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	56336	56396	8.8302	8.8198	76.6370	76.2480	10.6827	10.6426	30.2568	30.2040	9.1538	9.2154	19.3027	19.3912
2	56951	57458	9.3160	9.2799	77.1794	76.5297	11.0010	11.0511	30.4226	30.2484	9.1295	9.2969	19.4167	19.5983
3	54770	54900	9.4665	9.3346	78.2177	77.2622	10.8058	10.6693	30.2027	29.8333	8.5071	8.5277	19.4156	19.3659
4	56310	56437	8.8708	8.7959	76.7527	75.1460	11.1137	10.8343	30.7305	30.0934	9.0779	8.9703	19.4869	19.1886
5	54672	54902	9.1473	9.1873	77.4193	77.1107	10.7305	10.7698	30.8981	30.8679	8.6394	8.7628	19.2208	19.4506
6	55538	55577	8.7335	8.8463	76.0350	76.9671	10.7134	10.7723	30.1292	30.0439	8.9076	8.8923	19.4076	19.4786
7	55747	55765	8.6505	8.6992	76.1353	76.7254	10.8193	10.6286	30.6702	30.2229	8.9116	9.0041	19.1013	19.2312
8	56579	57014	9.8044	9.8495	78.3280	78.1551	11.4044	11.4590	31.3517	31.3186	8.9233	9.0594	19.4699	19.5927
9	55391	55803	9.4413	9.3419	77.4291	75.8894	10.0781	9.9686	29.6678	29.1703	8.8524	8.8708	19.0280	18.9224
10	56561	56514	8.7480	8.6567	77.0742	76.3870	10.7578	10.9421	30.1671	30.9925	9.3674	9.3257	19.6583	19.4466
11	55488	55413	9.5428	9.6676	77.1641	78.1334	10.5284	10.3023	31.1708	30.4053	9.0327	8.9721	19.3380	19.3117
12	56270	56559	9.1888	9.1081	76.3240	75.7866	10.7790	10.6343	30.2044	29.5086	8.9223	8.8311	19.2083	18.9531
13	55649	55879	9.2013	9.1354	78.8356	78.5580	11.8619	11.8652	31.9132	31.9229	8.8312	8.7869	19.9435	19.6525
14	55020	55156	9.4399	9.3313	77.6172	76.9240	9.8672	9.8338	29.6717	29.3778	8.9804	9.0377	19.2278	19.3382
15	57253	57393	9.1204	9.0286	79.2653	78.0133	11.1852	11.1307	30.2316	29.9219	9.0844	9.0460	19.2176	19.1327
16	56404	56309	9.0619	9.1626	77.7991	79.0637	11.5908	11.4209	31.1742	30.8613	8.8419	8.8362	19.4086	19.3604
17	57207	57377	8.3853	8.3707	77.6192	76.4516	11.4770	11.5534	30.8544	31.1639	9.3569	9.3022	19.6143	19.3899
18	55378	55077	8.9257	8.7605	80.0439	78.7499	10.7132	10.5889	30.6670	30.4608	8.9711	8.8633	19.2469	19.1446
19	55739	56063	8.6294	8.5194	77.4977	76.8045	11.2178	11.1397	30.9214	30.6607	8.7734	8.8266	19.1325	19.0260
20	56565	56545	8.9202	8.8055	78.2766	77.5977	11.7659	11.7429	31.2597	31.3229	8.8902	8.9136	19.4555	19.4629
21	56189	56303	8.8658	8.8450	76.1658	76.4826	11.3283	11.1574	30.8620	30.2483	8.7489	8.8055	19.1554	19.2406
Avg	56000.8095	56135.2381	9.0614	9.0260	77.5151	77.0946	10.9724	10.9099	30.6394	30.4214	8.9478	8.9594	19.3551	19.3180
[+ -] 20% PE	-11065.7333		1.7768		15.0825		2.1319		5.9099		-1.7780		3.8340	
[+ -] 15% PE	-8265.6929		1.3238		11.2068		1.5833		4.3779		-1.3306		2.8662	
[+ -] 10% PE	-5465.6524		0.8707		7.3310		1.0347		2.8460		-0.8832		1.8985	
[+ -] 05% PE	-2665.6119		0.4176		3.4553		0.4860		1.3140		-0.4358		0.9307	
[+ -] 01% PE	-425.5795		0.0552		0.3547		0.0472		0.0884		-0.0779		0.1565	
[+ -] 20% TS	-221.5290		72.2797		90.6062		60.6501		69.5981		-82.2422		121.0112	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-179.3620		59.5411		66.4238		50.1563		52.8111		-65.7261		89.0998	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-125.9052		42.7706		42.6941		36.1673		35.0042		-46.3823		57.8578	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-63.2254		21.8690		19.6985		18.3529		16.3928		-24.1513		27.6954	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-10.0671		2.9636		1.9831		1.8471		1.1113		-4.4718		4.5582	
P-Value	0.0000000014		0.0038392303		0.0306292341		0.0397940178		0.1398196722		0.0001168153		0.0000955337	
Reject?	0		0		0		0		1		0		0	
CI UL	-45.8614		0.0742		0.7955		0.1156		0.3838		0.0245		0.1091	
CI LL	-222.9957		-0.0033		0.0455		0.0096		0.0522		-0.0476		-0.0350	
Avg Diff	134.4286		-0.0354		-0.4205		-0.0626		-0.2180		0.0116		-0.0370	
% Diff	0.24%		-0.39%		-0.54%		-0.57%		-0.71%		0.13%		-0.19%	

Table I.7 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	50562	51227	11.0105	11.0837	98.5298	98.5201	11.9020	12.1369	37.4508	37.7709	8.6500	8.7944	20.7689	20.7625
2	49260	49358	10.3647	10.3782	102.6837	102.2402	11.8492	11.7108	37.7565	37.3511	8.5243	8.4491	20.8410	20.5901
3	50487	50862	9.9910	10.0004	97.8413	97.7079	11.7455	11.6454	38.0320	37.3215	8.8592	8.8802	20.4298	20.3439
4	49510	49775	10.8506	10.8504	99.6362	99.0341	12.1421	12.2330	38.2268	38.1906	8.3564	8.2862	20.7913	20.5383
5	49870	50111	10.7180	10.7181	100.1722	100.7834	11.5524	11.7788	37.1185	37.5632	8.5235	8.4459	20.4787	20.1836
6	50286	50858	10.1915	10.2836	100.0005	99.9094	12.1250	12.1406	37.8418	37.6250	8.6621	8.7142	20.6579	20.4774
7	50054	50594	9.3726	9.6301	95.3571	96.3056	11.7479	11.8646	37.7016	37.5977	8.7216	8.7629	20.3907	20.3249
8	51699	52271	10.3338	10.3450	97.8852	96.6897	12.3052	12.3531	37.2704	36.9426	8.8560	8.9120	20.6181	20.5656
9	50337	50391	10.3194	10.3677	100.1331	100.2896	11.6215	11.6936	37.0237	37.2343	8.7356	8.7542	20.5389	20.5551
10	50077	50649	10.4819	10.3966	102.0172	100.6494	11.5310	11.7230	36.7064	36.9734	8.7137	8.8506	20.7006	20.7254
11	49781	49769	10.9975	11.0721	100.2227	100.9112	12.2756	12.2715	38.7793	38.6980	8.3776	8.3794	20.5905	20.6290
12	49300	49189	11.4146	11.4245	100.3743	101.3265	11.3665	11.1969	37.5555	36.9870	8.4166	8.3875	20.5992	20.5767
13	49401	49388	10.7206	10.6533	100.2909	100.6269	12.0292	11.9448	38.2231	38.0560	8.4895	8.5085	20.9479	20.9075
14	51640	51718	10.5984	10.5908	95.8671	96.5961	11.8859	11.9827	36.9182	37.2607	8.8911	8.8832	20.5918	20.4589
15	51205	51203	9.9102	9.8866	99.3050	98.8527	12.5831	12.5688	37.7504	37.9909	8.6789	8.6484	20.4659	20.2859
16	48606	48492	11.0429	11.2258	99.8215	100.8810	11.6852	11.7091	38.1363	38.4156	8.1999	8.1575	20.6945	20.6447
17	52670	52940	10.0957	10.0761	95.4905	94.8937	13.2293	13.2463	38.0424	37.9396	8.8768	8.8305	20.7327	20.5033
18	50152	50518	11.5807	11.6415	100.6674	101.6108	11.5614	11.7628	36.5592	36.8226	8.4375	8.3996	20.6938	20.4287
19	50012	50438	11.0150	11.0476	99.7130	99.2822	11.7160	11.9631	37.4529	38.1110	8.4308	8.5222	20.3771	20.3503
20	49891	49824	10.6043	10.5274	98.0121	97.9373	11.7036	11.5673	38.0795	37.3554	8.6198	8.6767	20.5403	20.8080
21	50714	50781	10.3111	10.2876	100.2685	99.8768	11.7139	11.8347	36.6463	37.0236	8.8863	8.7692	20.8352	20.5111
Avg	50262.5714	50493.1429	10.5679	10.5946	99.2519	99.2821	11.9177	11.9680	37.5844	37.5824	8.6146	8.6196	20.6326	20.5319
[+ -] 20% PE	-9821.9429		-2.0868		-19.8201		-2.3332		7.5149		-1.7179		4.0259	
[+ -] 15% PE	-7308.8143		-1.5584		-14.8575		-1.7373		5.6357		-1.2872		2.9942	
[+ -] 10% PE	-4795.6857		-1.0300		-9.8949		-1.1415		3.7565		-0.8564		1.9626	
[+ -] 05% PE	-2282.5571		-0.5016		-4.9323		-0.5456		1.8773		-0.4257		0.9310	
[+ -] 01% PE	-272.0543		-0.0789		-0.9623		-0.0689		0.3739		-0.0811		0.1057	
[+ -] 20% TS	-168.8772		-68.3525		-106.6055		-65.1207		99.3740		-104.7586		134.4728	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-133.4157		-59.7884		-84.9398		-52.5003		72.9266		-82.2547		99.5318	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-90.1520		-46.4456		-59.6438		-37.0488		47.2878		-56.4098		64.7217	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-42.6171		-26.1031		-30.9812		-18.7552		22.8762		-28.3302		30.3669	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-4.9253		-4.4245		-6.1793		-2.4432		4.4267		-5.3609		3.4098	
P-Value	0.0000408142		0.0001304410		0.0000024486		0.0119792611		0.0001297778		0.0000150757		0.0013889274	
Reject?	0		0		0		0		0		0		0	
CI UL	-114.0990		0.0101		0.2933		0.0082		0.1795		0.0267		0.1655	
CI LL	-347.0438		-0.0636		-0.3539		-0.1088		-0.1756		-0.0367		0.0358	
Avg Diff	230.5714		0.0268		0.0303		0.0503		-0.0019		0.0050		-0.1007	
% Diff	0.46%		0.25%		0.03%		0.42%		-0.01%		0.06%		-0.49%	

Table I.8 Best Fit Rank 1 vs Less Fit Lognormal with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 1 vs Lognormal with CV = 0.75, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	49107	49283	10.1094	10.2271	95.2844	95.8041	12.4487	12.3161	41.8964	41.1837	8.0593	7.9236	19.2570	18.9161
2	49802	50225	10.6875	10.6831	96.1914	96.0200	12.6294	12.7080	41.2998	40.9938	7.8106	7.8106	18.7690	18.6407
3	48012	47839	10.7834	10.8804	96.3369	98.3406	12.3574	12.2191	40.8346	40.5055	7.4206	7.4055	19.0737	19.0707
4	49199	49652	10.1585	10.2644	95.5490	95.8792	12.7715	12.7420	41.6933	41.5270	7.8359	7.8713	19.0674	18.8546
5	47909	48159	10.4034	10.6469	95.3529	97.3021	12.4747	12.5678	42.2426	42.2117	7.5687	7.5150	19.0527	18.8453
6	48631	48829	10.1566	10.1613	95.8956	95.5628	12.7632	12.8101	42.0896	42.2320	7.6595	7.7107	18.9300	18.9245
7	48846	49052	10.0702	10.0333	97.2331	96.4456	12.3606	12.5160	41.1514	41.5043	7.8590	7.8634	19.0033	18.9393
8	49349	49228	11.4242	11.4382	98.9012	100.1829	13.0818	13.1450	42.4231	42.5667	7.7340	7.6359	19.2434	19.0489
9	49082	49239	10.8067	10.7895	95.9503	94.8483	11.9626	11.9771	40.9672	40.9057	7.8921	7.8383	18.9427	18.7856
10	49229	49383	10.0727	9.9916	96.4439	95.4070	12.6774	12.8054	42.4370	42.7126	8.0211	7.9535	19.0539	18.8392
11	48493	49087	11.1641	11.0986	98.5816	96.8852	12.0470	12.0293	41.7594	41.2460	7.7534	7.8853	18.9251	18.9936
12	49646	49939	10.7235	10.6768	95.4918	94.5980	12.5488	12.4943	40.9971	40.6272	7.7186	7.7086	18.7060	18.5597
13	48442	48271	10.4341	10.4176	97.9451	98.1780	13.3685	13.4952	42.5501	42.9943	7.5171	7.5082	19.2721	19.3568
14	48861	49150	10.7968	10.7959	96.0350	95.9413	11.5452	11.6234	39.7758	39.7334	7.8864	7.9246	18.9934	18.9789
15	50001	50008	10.3226	10.3126	97.2342	97.6118	12.8331	12.8511	41.0563	40.9040	7.8618	7.8323	18.8179	18.7672
16	49084	49403	10.4127	10.4396	96.9948	96.5566	13.1670	13.4518	41.8445	42.3884	7.5345	7.6100	18.8717	18.9529
17	49655	49961	9.5436	9.5069	94.5529	95.0021	13.3194	13.3076	42.5408	42.3508	7.9511	7.9820	19.0725	18.9314
18	48496	48334	10.0334	10.0138	97.9210	98.8938	12.5323	12.4498	42.2542	41.8234	7.8596	7.8069	19.0555	19.0395
19	48649	49022	9.6180	9.7292	94.0557	95.1589	13.1884	13.1493	43.0831	42.6385	7.5858	7.6745	18.6931	18.7297
20	48924	49139	10.1661	10.1241	97.7162	97.5362	13.5767	13.5912	43.0454	42.9468	7.6824	7.6455	19.2314	19.0083
21	48944	49281	10.0767	10.0719	94.7589	94.2830	12.8373	13.0482	41.4062	41.6390	7.6018	7.5772	18.8673	18.7360
Avg	48969.5714	49165.9048	10.3793	10.3954	96.4012	96.4970	12.6900	12.7285	41.7785	41.6969	7.7530	7.7468	18.9952	18.9009
[+ -] 20% PE	-9597.5810		-2.0597		-19.1845		-2.4996		8.2741		1.5444		3.7047	
[+ -] 15% PE	-7149.1024		-1.5408		-14.3644		-1.8651		6.1852		1.1567		2.7550	
[+ -] 10% PE	-4700.6238		-1.0218		-9.5443		-1.2306		4.0963		0.7691		1.8052	
[+ -] 05% PE	-2252.1452		-0.5028		-4.7243		-0.5961		2.0073		0.3814		0.8555	
[+ -] 01% PE	-293.3624		-0.0877		-0.8682		-0.0885		0.3362		0.0713		0.0957	
[+ -] 20% TS	-199.8358		-74.2515		-83.3150		-87.0022		99.9181		114.7091		153.0613	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-153.5710		-64.4734		-63.8082		-72.2397		78.2915		87.8509		112.9994	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-102.5957		-49.5986		-43.2249		-51.6947		53.8597		58.5357		73.0906	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-49.1128		-27.7031		-21.7330		-25.9973		27.1012		28.5072		34.0108	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-6.3162		-5.1421		-4.0327		-3.8239		4.5913		5.1834		3.7350	
P-Value	0.000018207		0.0000248128		0.0003259023		0.0005307529		0.0000884419		0.0000225747		0.0006530653	
Reject?	0		0		0		0		0		0		0	
CI UL	-98.9831		0.0192		0.3524		0.0102		0.2341		0.0352		0.1480	
CI LL	-293.6836		-0.0514		-0.5440		-0.0871		-0.0710		-0.0227		0.0406	
Avg Diff	196.3333		0.0161		0.0958		0.0384		-0.0816		-0.0062		-0.0943	
% Diff	0.40%		0.16%		0.10%		0.30%		-0.20%		-0.08%		-0.50%	

I.2 Best Fit Rank 2 vs Less Fit Lognormal

Table I.9 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55653	55887	10.3968	10.4398	87.9156	87.9453	12.2045	12.2733	35.1276	35.1741	8.3296	8.3906	17.8882	17.9456
2	54585	54610	9.7018	9.8138	90.4580	90.8015	12.0767	12.1002	34.9749	35.0901	8.1673	8.1491	17.7357	17.7068
3	55802	55898	9.5252	9.5404	88.6038	88.2008	11.9931	12.0199	35.4051	35.4814	8.5636	8.5883	17.5727	17.5891
4	54906	54749	10.1444	10.0642	87.6777	86.8719	12.4909	12.5496	35.6484	35.9078	7.9665	7.9327	17.5835	17.5778
5	54699	54613	9.9770	10.0379	89.4339	89.5981	11.9207	11.8399	35.0119	34.8929	8.0891	8.1009	17.4581	17.5151
6	55577	55485	9.5896	9.6620	89.0241	89.5476	12.4416	12.5254	35.5275	35.6490	8.3829	8.3293	17.7500	17.7447
7	55436	55233	8.9082	8.8829	85.9867	85.6752	12.2531	12.2752	35.5838	35.8455	8.4047	8.3493	17.5209	17.4633
8	57375	57474	9.7075	9.7121	86.4874	85.8063	12.8983	12.9130	35.5247	35.5140	8.6182	8.6709	17.7774	17.8762
9	55895	55940	9.6859	9.6396	88.8423	88.2395	11.9724	12.0729	34.5328	34.8794	8.4935	8.4602	17.7043	17.5960
10	55459	55035	9.7440	9.7830	89.5436	90.1483	11.9302	11.9585	34.6009	35.0829	8.5244	8.3522	17.9705	17.7146
11	54712	54591	10.2310	10.2024	88.5645	88.1520	12.5602	12.5495	36.3198	36.2469	8.1201	8.0927	17.8717	17.9200
12	54468	54442	10.7112	10.6914	89.1732	88.4602	11.4662	11.5626	34.4892	34.8497	8.1156	8.0731	17.6918	17.6230
13	54705	54580	9.9872	10.0707	88.9316	89.5379	12.3504	12.3930	35.8137	35.9585	8.1934	8.1584	17.8766	17.8813
14	56561	56834	9.8971	9.7638	86.0063	85.3293	12.2181	12.2370	34.7293	34.7884	8.5437	8.5471	17.8138	17.6282
15	56543	56385	9.3538	9.2758	88.3658	87.7957	12.8735	12.9631	35.3822	35.6761	8.3430	8.2926	17.5019	17.4686
16	53651	53319	10.5190	10.3988	89.6591	88.8002	11.8790	11.8920	35.3176	35.6437	7.9048	7.8757	17.8061	17.8445
17	57957	57882	9.6240	9.6393	86.2147	86.6330	13.4926	13.5792	35.6127	35.7258	8.4953	8.4536	17.7148	17.7140
18	55093	54998	10.8289	10.8360	89.8218	89.8037	12.0555	11.9697	34.8350	34.6745	8.1342	8.1105	17.8731	17.8533
19	55257	55499	10.4657	10.4417	89.8947	88.6153	12.0891	12.1438	35.1139	35.1724	8.1208	8.1294	17.5043	17.4595
20	54790	54570	9.8734	9.8933	87.1313	87.8910	12.0076	11.9437	35.6373	35.5458	8.2955	8.3063	17.7681	17.8711
21	55883	55777	9.6521	9.6957	89.5151	90.1995	12.0645	12.0472	34.5761	34.4898	8.4982	8.4581	17.7515	17.7297
Avg	55476.5238	55419.0952	9.9297	9.9278	88.4405	88.2882	12.2494	12.2766	35.2269	35.3471	8.3002	8.2772	17.7207	17.7011
[+ -] 20% PE	11037.8762		1.9841		17.5358		-2.4227		-6.9251		1.6370		3.5245	
[+ -] 15% PE	8264.0500		1.4876		13.1138		-1.8103		-5.1638		1.2220		2.6385	
[+ -] 10% PE	5490.2238		0.9911		8.6917		-1.1978		-3.4025		0.8070		1.7524	
[+ -] 05% PE	2716.3976		0.4946		4.2697		-0.5853		-1.6411		0.3920		0.8664	
[+ -] 01% PE	497.3367		0.0974		0.7321		-0.0953		-0.2320		0.0600		0.1576	
[+ -] 20% TS	161.1280		85.4044		116.2091		-122.2742		-142.2625		119.7574		186.9471	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	138.9733		76.7740		90.8253		-111.8252		-113.3334		99.2791		141.7068	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	107.1943		60.9964		62.4506		-89.9384		-79.3366		71.7033		94.6181	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	61.4483		34.5085		31.5273		-49.7345		-40.2869		36.9841		46.6787	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	12.4548		6.9474		5.4811		-8.0458		-5.8817		5.7608		8.4299	
P-Value	0.0000000000		0.0000004793		0.0000114903		0.0000000534		0.0000047000		0.0000061438		0.0000000257	
Reject?	0		0		0		0		0		0		0	
CI UL	138.9940		0.0314		0.4303		-0.0020		-0.0385		0.0447		0.0587	
CI LL	-24.1369		-0.0276		-0.1256		-0.0523		-0.2020		0.0013		-0.0194	
Avg Diff	-57.4286		-0.0019		-0.1523		0.0272		0.1202		-0.0230		-0.0196	
% Diff	-0.10%		-0.02%		-0.17%		0.22%		0.34%		-0.28%		-0.11%	

Table I.10 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 2 vs Lognormal with CV = 0.25, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	54954	55179	10.4439	10.4524	92.3464	91.9862	11.1547	11.1993	33.1552	33.1822	8.2979	8.2884	17.6515	17.5506
2	55732	55888	10.7484	10.7958	91.0459	90.4604	11.7076	11.5885	33.8988	33.3954	8.0506	8.1087	17.1574	17.2908
3	53319	53439	11.0076	10.9792	93.5065	92.9021	11.3674	11.4049	33.4983	33.4564	7.6509	7.6401	17.5750	17.5530
4	55103	55045	10.3896	10.3877	91.6966	92.1669	11.6776	11.6248	33.9998	33.8026	8.0857	8.0960	17.3658	17.4155
5	53473	53543	10.8052	10.7213	92.8393	92.2298	11.2039	11.2910	33.6674	33.7776	7.7518	7.7538	17.3873	17.4004
6	54137	54251	10.3590	10.3530	92.4535	91.7198	11.4828	11.5923	33.6599	34.0252	7.8556	7.8767	17.3546	17.3400
7	54140	54160	10.2840	10.3360	92.8031	93.7390	11.2259	11.2162	33.4581	33.4676	7.9781	8.0410	17.3524	17.4455
8	54579	54621	11.6755	11.6235	96.7048	95.9814	11.6214	11.6481	33.7870	33.8098	7.8434	7.8334	17.4743	17.4644
9	54422	54592	11.0241	11.0356	92.1483	91.8688	10.7785	10.8641	33.0643	33.1640	8.1219	8.0696	17.4722	17.3309
10	55127	54933	10.2545	10.2213	92.5315	92.1338	11.3129	11.3350	33.4295	33.5823	8.3238	8.2371	17.5807	17.4813
11	54313	54056	11.3410	11.4081	93.5510	94.5418	10.8746	10.7819	33.2224	33.2881	8.0806	8.0781	17.5581	17.5645
12	55059	55202	10.7498	10.7224	91.2435	90.0246	11.4375	11.4184	33.3253	33.2807	7.9248	7.9163	17.2133	17.1494
13	54011	53808	10.6251	10.7248	93.4890	94.1902	12.0951	12.1001	34.3600	34.5281	7.7252	7.6884	17.6284	17.6306
14	54362	54389	11.0715	11.0276	92.7347	92.2751	10.5727	10.5599	32.4953	32.5089	8.1743	8.1673	17.5716	17.5265
15	55623	55735	10.5753	10.5725	94.5437	94.3889	11.8085	11.8148	33.5366	33.5169	8.0417	8.1170	17.2187	17.3312
16	54887	54871	10.6883	10.7238	93.6417	93.8373	12.0008	12.0629	33.9696	34.0928	7.8350	7.7895	17.3738	17.3154
17	56117	55874	9.8164	9.8182	91.3140	91.5276	12.1839	12.0552	34.2018	33.9926	8.2841	8.3088	17.4232	17.5664
18	54131	53678	10.3331	10.3194	94.8331	95.4260	11.2611	11.1654	33.5476	33.6911	8.1032	8.0097	17.5605	17.4588
19	54508	54419	10.0741	10.0283	92.9446	92.8299	11.6258	11.6914	33.6143	33.8177	7.9201	7.8944	17.2946	17.2735
20	55178	54746	10.2622	10.3240	92.7078	93.5007	12.3709	12.2978	34.3174	34.4713	7.8877	7.8322	17.4393	17.4362
21	54436	54922	10.3036	10.2991	91.1818	90.0345	11.6894	11.7699	33.6537	33.6406	7.8520	7.8560	17.4116	17.2717
Avg	54648.1429	54635.7619	10.6111	10.6130	92.8696	92.7507	11.4978	11.4991	33.6125	33.6425	7.9899	7.9811	17.4316	17.4189
[+ -] 20% PE	10917.2476		-2.1202		18.4550		-2.2982		-6.6925		1.5891		3.4736	
[+ -] 15% PE	8184.8405		-1.5897		13.8116		-1.7233		-5.0119		1.1896		2.6020	
[+ -] 10% PE	5452.4333		-1.0591		9.1681		-1.1484		-3.3313		0.7901		1.7304	
[+ -] 05% PE	2720.0262		-0.5286		4.5246		-0.5735		-1.6507		0.3906		0.8588	
[+ -] 01% PE	534.1005		-0.1041		0.8098		-0.1136		-0.3062		0.0710		0.1616	
[+ -] 20% TS	196.9891		-94.2732		109.6309		-82.1135		-148.1902		128.5311		214.5677	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	156.7054		-86.8918		85.8408		-71.9645		-116.8814		106.4028		157.5932	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	108.9746		-73.1307		59.3302		-56.4439		-81.1795		76.8279		101.9937	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	55.5513		-46.1923		30.2930		-32.8449		-41.5888		40.0437		48.9542	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	10.9062		-10.3552		5.5397		-7.1285		-7.8487		7.3712		8.9328	
P-Value	0.0000000004		0.0000000009		0.0000100697		0.0000003300		0.0000000782		0.0000002015		0.0000000102	
Reject?	0		0		0		0		0		0		0	
CI UL	114.7915		0.0187		0.4224		0.0314		0.0512		0.0290		0.0508	
CI LL	-90.0296		-0.0227		-0.1847		-0.0341		-0.1111		-0.0113		-0.0253	
Avg Diff	-12.3810		0.0020		-0.1189		0.0014		0.0300		-0.0089		-0.0128	
% Diff	-0.02%		0.02%		-0.13%		0.01%		0.09%		-0.11%		-0.07%	

Table I.11 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55125	54783	10.8957	10.9707	91.3413	92.3220	12.1460	12.0028	35.5805	35.4433	8.3644	8.2919	18.1031	18.0573
2	53531	53454	10.2300	10.2453	94.7113	95.1168	12.0882	11.9532	35.9777	35.7028	8.0728	8.0681	17.8913	17.8710
3	54902	54709	9.9532	9.8756	91.7854	91.5532	11.7535	11.6905	35.6277	35.4834	8.5499	8.5702	17.7971	17.9279
4	53856	53797	10.6173	10.6397	91.0325	91.1400	12.3466	12.3197	36.3193	36.2957	7.9720	7.9927	17.9175	17.9849
5	53909	53782	10.5088	10.4796	93.1240	93.0436	11.6499	11.6476	35.0963	35.1688	8.2004	8.1466	17.9332	17.8626
6	54708	54529	10.0590	10.0873	92.6572	92.9125	12.3050	12.2698	35.9909	35.9802	8.4651	8.4030	18.1955	18.1454
7	54551	54245	9.2378	9.3228	88.3152	89.5600	12.0337	11.9209	35.9509	35.8514	8.4156	8.3696	17.7627	17.7657
8	56362	56333	10.1738	10.2197	89.7964	89.9929	12.5697	12.5850	35.6288	35.6486	8.5654	8.5608	17.9510	17.9762
9	54925	55063	10.0847	10.0490	92.0177	91.5320	11.8484	11.8782	35.1890	35.1355	8.4650	8.4232	17.8919	17.7749
10	54339	54299	10.2094	10.2669	93.2294	94.1131	11.7000	11.7016	35.1388	35.0715	8.3732	8.3448	17.9415	17.9171
11	53659	53807	10.7281	10.6950	92.2273	91.7839	12.2345	12.2142	36.4802	36.2278	8.0348	8.0778	18.0055	18.0821
12	53426	53606	11.1907	11.2233	92.8775	92.9062	11.2535	11.4010	34.8893	35.2407	8.0993	8.1186	17.9664	17.9392
13	53561	53503	10.5131	10.4866	93.3068	92.9059	12.1975	12.0602	36.5112	36.2114	8.1954	8.1690	18.2280	18.1769
14	55799	55665	10.2867	10.2678	89.2304	89.0206	12.2529	12.1168	35.5669	35.3870	8.5484	8.5422	18.0409	18.0335
15	55429	55407	9.7132	9.7466	91.8773	91.9315	12.6035	12.6609	35.7421	35.8291	8.2708	8.2853	17.6174	17.7034
16	52525	52563	11.0017	11.1071	93.1842	93.9967	11.6718	11.6874	36.0225	36.1117	7.8508	7.8602	17.9809	17.9655
17	56724	56720	10.0321	9.9978	89.9913	89.4585	13.3287	13.3780	36.2209	36.2562	8.3804	8.3714	17.8379	17.8758
18	54236	54159	11.4194	11.4483	93.4324	94.2376	11.9860	11.8081	35.6656	35.0342	8.0878	8.1032	18.0088	18.1008
19	54099	54266	10.9036	10.8542	93.2341	92.3896	11.8738	11.8992	35.5725	35.5956	8.0463	8.1408	17.7025	17.8406
20	53885	53826	10.2777	10.2352	89.9953	89.7286	11.7784	11.7837	35.9318	36.0404	8.2950	8.3361	18.0387	18.1201
21	54904	54905	9.9967	10.0097	91.8419	92.2039	11.8676	11.9193	34.9631	35.0574	8.5125	8.5171	18.0813	18.1040
Avg	54497.8571	54448.6190	10.3825	10.3918	91.8671	91.9928	12.0709	12.0428	35.7174	35.6558	8.2746	8.2711	17.9473	17.9631
[+ -] 20% PE	10850.3333		-2.0672		-18.2477		2.3860		7.0819		1.6514		-3.5737	
[+ -] 15% PE	8125.4405		-1.5481		-13.6543		1.7825		5.2960		1.2377		-2.6763	
[+ -] 10% PE	5400.5476		-1.0290		-9.0610		1.1789		3.5102		0.8240		-1.7789	
[+ -] 05% PE	2675.6548		-0.5098		-4.4676		0.5754		1.7243		0.4102		-0.8816	
[+ -] 01% PE	495.7405		-0.0945		-0.7930		0.0926		0.2956		0.0793		-0.1637	
[+ -] 20% TS	228.5546		-84.3709		-126.1437		95.8597		174.0887		172.2635		-188.8536	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	206.3860		-79.1282		-100.1688		81.2167		130.7718		146.4978		-150.3992	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	163.2110		-67.9607		-69.7592		59.7763		85.6661		104.8822		-106.1952	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	89.7663		-43.1283		-35.5472		31.1392		40.9692		51.7164		-55.7584	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	16.5035		-8.8438		-6.3914		5.0500		6.8102		9.3595		-10.8080	
P-Value	0.0000000000		0.000000120		0.0000015489		0.0000306403		0.0000006378		0.0000000048		0.0000000004	
Reject?	0		0		0		0		0		0		0	
CI UL	112.8734		0.0130		0.1328		0.0666		0.1529		0.0216		0.0155	
CI LL	-14.3972		-0.0316		-0.3842		-0.0103		-0.0297		-0.0146		-0.0471	
Avg Diff	-49.2381		0.0093		0.1257		-0.0282		-0.0616		-0.0035		0.0158	
% Diff	-0.09%		0.09%		0.14%		-0.23%		-0.17%		-0.04%		0.09%	

Table I.12 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 2 vs Lognormal with CV = 0.25, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55200	54957	10.0592	10.0223	89.5285	89.1191	12.4013	12.3028	36.4921	36.2434	8.4618	8.4597	17.9447	18.0866
2	55988	55804	10.4487	10.4614	88.3946	88.5268	12.7722	12.8585	36.4745	36.8591	8.2729	8.2315	17.6589	17.6337
3	53375	53400	10.6369	10.6762	90.2905	90.7386	12.5056	12.3719	36.5546	36.0171	7.7697	7.7637	17.9246	17.9467
4	55244	55268	10.1358	10.1564	89.6543	89.8628	12.7312	12.6734	36.6554	36.5075	8.2701	8.2666	17.8095	17.7803
5	53669	53594	10.3851	10.4205	89.5528	90.0533	12.3605	12.3674	36.7188	36.6728	7.9222	7.9251	17.7698	17.8462
6	54194	54473	10.1264	10.0120	90.4988	88.9511	12.5545	12.7448	36.5985	37.0685	8.0442	8.0561	17.8014	17.7023
7	54428	54373	9.8775	9.9063	89.4785	89.6379	12.2676	12.3276	36.1798	36.3167	8.2459	8.2071	17.8683	17.8337
8	55244	55094	11.2226	11.2281	92.4026	92.1805	12.8861	12.9074	36.7407	37.0806	8.0849	8.0823	17.8674	17.8712
9	54507	54568	10.5093	10.6634	88.5663	88.9812	11.8693	11.7868	36.1669	35.8089	8.2580	8.2734	17.7545	17.8245
10	55156	55233	9.8757	9.8116	89.4986	88.9755	12.5840	12.5617	37.0061	36.7418	8.4599	8.4991	17.8875	17.9943
11	54279	54657	10.9995	11.0386	91.0124	90.6328	11.9300	11.9850	36.3605	36.2327	8.2096	8.2763	17.8754	17.9165
12	55562	55400	10.4040	10.4550	87.7857	88.6190	12.4707	12.3947	35.7876	35.7117	8.1611	8.1256	17.6271	17.5863
13	53992	54176	10.2105	10.2271	90.7234	90.8166	13.2342	13.4108	37.2925	37.7562	7.9082	7.8838	18.1284	17.9623
14	54218	54261	10.6610	10.6881	89.7342	89.8251	11.5477	11.4649	35.5116	35.1753	8.2653	8.3649	17.8339	18.0480
15	55910	56016	10.2929	10.1539	92.6654	91.1940	12.8704	12.9735	35.9443	36.2142	8.2901	8.2795	17.7775	17.6965
16	55090	54818	10.2958	10.2668	90.4783	90.6713	13.2854	13.3162	37.1268	37.3671	7.9613	8.0325	17.6872	17.9413
17	56000	55993	9.5454	9.4858	89.9974	89.1985	13.3883	13.2951	37.4850	37.2651	8.4877	8.4556	17.9160	17.8495
18	54248	53663	9.9937	10.0204	92.1539	93.5274	12.3364	12.1665	36.4313	36.3904	8.2846	8.2122	17.9783	17.9776
19	54565	54568	9.6524	9.6577	89.6909	89.3608	12.8681	12.8177	36.8487	36.8361	8.0399	8.0915	17.6169	17.6962
20	54900	55020	9.9389	10.0470	90.0414	90.8772	13.6583	13.6004	37.9219	37.7476	7.9887	8.0208	17.8179	17.8192
21	54744	54627	10.0336	9.9534	88.5302	88.5930	12.8679	12.9382	36.5402	36.8050	8.0455	8.0010	17.8481	17.7408
Avg	54786.3333	54760.1429	10.2526	10.2549	90.0323	90.0163	12.6376	12.6317	36.6113	36.6104	8.1634	8.1671	17.8282	17.8454
[+ -] 20% PE	10931.0762		-2.0483		17.9905		2.5216		7.3213		-1.6290		-3.5485	
[+ -] 15% PE	8191.7595		-1.5356		13.4888		1.8897		5.4908		-1.2209		-2.6571	
[+ -] 10% PE	5452.4429		-1.0230		9.8972		1.2578		3.6602		-0.8127		-1.7657	
[+ -] 05% PE	2713.1262		-0.5104		4.4856		0.6260		1.8296		-0.4045		-0.8742	
[+ -] 01% PE	521.6729		-0.1003		0.8843		0.1205		0.3652		-0.0780		-0.1611	
[+ -] 20% TS	217.5419		-102.6394		120.7473		73.6875		103.8576		-121.2954		-142.4552	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	174.2901		-89.5252		90.9183		63.0782		80.6875		-101.5897		-109.3400	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	121.2024		-67.3762		60.3031		47.9767		55.3862		-74.9531		-74.3377	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	61.1435		-35.4594		29.7077		26.9217		28.3034		-40.4933		-37.5757	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	11.6097		-6.7993		5.7629		5.5633		5.7155		-8.1248		-7.0276	
P-Value	0.0000000001		0.0000006525		0.0000061152		0.0000095519		0.0000067947		0.000000458		0.0000004061	
Reject?	0		0		0		0		0		0		0	
CI UL	120.5139		0.0290		0.3376		0.0505		0.1339		0.0163		0.0305	
CI LL	-68.1330		-0.0335		-0.3056		-0.0387		-0.1321		-0.0236		-0.0648	
Avg Diff	-26.1905		0.0023		-0.0160		-0.0059		-0.0009		0.0036		0.0172	
% Diff	-0.05%		0.02%		-0.02%		-0.05%		0.00%		0.04%		0.10%	

Table I.13 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55503	56341	9.6961	9.7039	78.7258	77.3762	10.8485	11.2053	31.2384	31.7920	8.2169	8.3279	17.9310	17.9119
2	54271	54584	9.0083	9.0735	79.7022	80.7232	11.1288	11.0301	32.1845	31.6477	8.0991	8.0636	18.0334	17.8421
3	55201	56110	8.7746	8.7797	78.4384	78.0494	10.8069	10.7757	32.1661	31.4416	8.4340	8.5133	17.7328	17.6077
4	54818	54809	9.4392	9.4053	78.0201	78.2270	11.3847	11.3730	32.4499	32.3840	7.9519	7.9342	17.8516	17.7979
5	54400	54656	9.3132	9.2351	80.0241	79.2729	10.7944	10.5934	31.8577	31.1937	8.0897	8.1298	17.7732	17.7388
6	55039	55313	8.9680	8.9210	79.7564	79.1224	11.2127	11.2148	32.0003	31.7803	8.2208	8.2444	17.9323	17.9155
7	54844	54788	8.1869	8.1141	76.1957	75.4533	10.9560	10.8870	32.0551	31.8976	8.3180	8.2888	17.7531	17.7156
8	56934	57152	8.8976	8.9992	76.0918	77.3193	11.4219	11.3347	31.4963	31.1352	8.5162	8.5143	18.0026	17.8808
9	55253	55408	8.9290	8.9558	78.5072	79.4239	10.7787	10.8476	31.4229	31.3545	8.3889	8.3168	17.9205	17.7401
10	54814	55134	9.0961	9.0871	80.2983	80.2456	10.6223	10.5943	31.0116	30.7913	8.2918	8.2701	17.9731	17.7834
11	54337	54755	9.5896	9.6252	79.6772	79.3832	11.3182	11.3005	32.9183	32.4570	8.0000	8.0589	17.9742	18.0352
12	54161	54573	9.8647	9.9551	79.4430	79.2579	10.4079	10.4308	31.5620	31.2189	8.0695	8.0779	17.8429	17.8166
13	54168	54419	9.2915	9.3570	79.4977	79.5358	10.9671	10.9150	31.9579	31.6601	8.1467	8.0865	18.2515	18.0413
14	56275	56081	9.1448	9.1423	76.9553	76.8050	10.7827	10.8083	30.8047	30.9203	8.4729	8.3969	17.9240	17.8765
15	55896	56282	8.7227	8.5154	79.5862	77.3875	11.4720	11.4788	31.6583	31.6465	8.1805	8.2657	17.6390	17.6138
16	53434	53851	9.7066	9.7046	79.6122	78.5896	10.8878	10.7818	32.3687	31.8598	7.7964	7.9218	17.8962	18.0450
17	57423	57616	8.8378	8.8946	77.0486	77.5544	12.0535	12.0682	31.9229	31.8721	8.3502	8.3322	17.8179	17.6971
18	54811	55138	9.9552	10.0632	78.8915	79.2546	10.7966	10.6933	31.3310	30.8777	8.0385	8.0319	18.0033	17.8710
19	54991	55482	9.6611	9.6501	79.1708	78.4493	11.0335	10.7825	32.2678	31.2576	8.0923	8.0828	17.7373	17.5499
20	54009	54102	9.1693	9.1266	78.7769	78.2297	10.6663	10.6756	32.0797	32.0180	8.1742	8.1939	17.9662	17.9883
21	55201	55479	8.9394	8.8765	79.0138	78.9485	10.7671	10.6907	31.0976	30.6378	8.3822	8.3742	18.0417	17.9188
Avg	55037.2857	55336.8095	9.1996	9.1993	78.7349	78.5052	11.0051	10.9753	31.8025	31.5164	8.2015	8.2108	17.9047	17.8280
[+ -] 20% PE	-10707.9333		1.8396		15.5172		2.1712		6.0744		-1.6310		3.5042	
[+ -] 15% PE	-7956.0690		1.3796		11.5805		1.6209		4.4843		-1.2209		2.6090	
[+ -] 10% PE	-5204.2048		0.9197		7.6437		1.0707		2.8942		-0.8108		1.7138	
[+ -] 05% PE	-2452.3405		0.4597		3.7070		0.5204		1.3040		-0.4008		0.8185	
[+ -] 01% PE	-250.8490		0.0917		0.5576		0.0802		0.0319		-0.0727		0.1023	
[+ -] 20% TS	-144.9606		61.9141		92.8973		72.8531		90.8429		-95.0264		178.2073	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-118.1837		53.8137		69.0084		58.0456		66.2294		-77.7392		132.5677	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-84.0923		42.0776		45.0588		40.3517		41.9259		-56.3673		86.5119	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-42.3659		24.7806		21.4920		20.2446		18.4169		-30.2605		40.8268	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-4.4856		5.5769		3.1780		3.1472		0.4402		-5.8200		5.0374	
P-Value	0.0001131290		0.0000092638		0.0023639643		0.0025355278		0.3322518307		0.0000053873		0.0000315346	
Reject?	0		0		0		0		1		0		0	
CI UL	-183.4961		0.0337		0.5975		0.0830		0.4384		0.0164		0.1192	
CI LL	-415.5515		-0.0331		-0.1380		-0.0234		0.1338		-0.0350		0.0342	
Avg Diff	299.5238		-0.0003		-0.2298		-0.0298		-0.2861		0.0093		-0.0767	
% Diff	0.54%		0.00%		-0.29%		-0.27%		-0.90%		0.11%		-0.43%	

Table I.14 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55560	56396	8.9629	8.8198	77.3730	76.2480	10.4303	10.6426	30.0773	30.2040	9.3293	9.2154	19.9911	19.3912
2	56595	57458	9.2961	9.2799	77.4758	76.5297	10.6178	11.0511	29.6135	30.2484	9.1566	9.2969	19.5709	19.5983
3	54638	54900	9.4112	9.3346	77.3706	77.2622	10.5996	10.6693	29.8996	29.8333	8.6098	8.5277	19.6349	19.3659
4	55389	56437	8.8543	8.7959	76.5992	75.1460	10.5871	10.8343	29.8878	30.0934	9.1422	8.9703	19.9998	19.1886
5	54247	54902	9.1896	9.1873	77.2085	77.1107	10.5216	10.7698	30.4687	30.8679	8.6224	8.7628	19.4216	19.4506
6	54482	55577	8.8553	8.8463	77.8408	76.9671	10.5835	10.7723	30.1279	30.0439	8.7243	8.8923	19.5313	19.4786
7	54841	55765	8.7654	8.6992	77.8296	76.7254	10.5073	10.6286	30.3604	30.2229	9.0048	9.0041	19.6164	19.2312
8	55791	57014	9.8301	9.8495	79.3930	78.1551	11.0815	11.4590	30.8548	31.3186	9.0689	9.0594	20.1056	19.5927
9	55030	55803	9.4812	9.3419	78.0946	75.8894	9.8356	9.9686	29.1956	29.1703	8.9323	8.8708	19.3077	18.9224
10	55602	56514	8.6287	8.6567	77.2883	76.3870	10.8526	10.9421	31.0266	30.9925	9.3627	9.3257	19.9617	19.4466
11	54887	55413	9.7224	9.6676	78.4315	78.1334	10.0101	10.3023	29.7856	30.4053	9.0715	8.9721	19.7889	19.3117
12	55991	56559	9.1393	9.1081	75.8456	75.7866	10.6418	10.6343	29.9194	29.5086	8.8254	8.8311	19.1491	18.9531
13	54867	55879	9.0531	9.1354	79.4409	78.5580	11.4865	11.8652	31.1748	31.9229	8.9199	8.7869	20.4603	19.6525
14	54530	55156	9.4752	9.3313	78.4583	76.9240	9.8031	9.8338	29.5746	29.3778	9.0312	9.0377	19.6057	19.3382
15	56754	57393	9.0472	9.0286	78.9109	78.0133	10.9588	11.1307	29.6979	29.9219	9.1175	9.0460	19.5650	19.1327
16	55581	56309	8.9481	9.1626	77.5789	79.0637	11.3352	11.4209	30.9326	30.8613	8.9389	8.8362	19.9520	19.3604
17	56694	57377	8.5226	8.3707	78.3899	76.4516	11.2056	11.5534	30.5515	31.1639	9.4676	9.3022	20.0141	19.3899
18	54499	55077	8.7870	8.7605	78.9884	78.7499	10.4265	10.5889	30.1438	30.4608	8.9762	8.8633	19.7088	19.1446
19	54641	56063	8.6356	8.5194	79.1042	76.8045	10.7888	11.1397	30.2992	30.6607	8.7374	8.8266	19.4536	19.0260
20	55577	56545	8.9303	8.8055	79.9251	77.5977	11.3638	11.7429	30.5761	31.3229	8.7637	8.9136	19.6076	19.4629
21	54726	56303	8.8467	8.8450	77.2004	76.4826	10.8264	11.1574	30.2265	30.2483	8.6529	8.8055	19.5074	19.2406
Avg	55282.0000	56135.2381	9.0658	9.0260	78.0356	77.0946	10.6887	10.9099	30.2092	30.4214	8.9741	8.9594	19.7121	19.3180
[+ -] 20% PE	-10203.1619		1.7733		14.6661		-1.9166		-5.8297		1.7801		3.5484	
[+ -] 15% PE	-7439.0619		1.3200		10.7643		-1.3822		-4.3192		1.3314		2.5628	
[+ -] 10% PE	-4674.9619		0.8668		6.8625		-0.8477		-2.8088		0.8827		1.5772	
[+ -] 05% PE	-1910.8619		0.4135		2.9607		-0.3133		-1.2983		0.4340		0.5916	
[+ -] 01% PE	300.4181		0.0508		-0.1607		0.1142		-0.0899		0.0750		-0.1969	
[+ -] 20% TS	-130.2097		72.1126		80.6096		-70.2641		-82.0770		86.6226		81.2367	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-99.8914		59.1292		58.3168		-52.7793		-60.7685		62.9477		56.0126	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-65.5257		42.1614		36.5311		-32.5490		-39.2398		40.0229		32.8776	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-27.6595		21.2820		15.4430		-11.6626		-17.9013		18.6853		11.7578	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000001	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	4.4206		2.6669		-0.8231		4.0574		-1.2219		3.0835		-3.7675	
P-Value	0.9998683628		0.0074053817		0.7899148274		0.9996923962		0.1179709707		0.0029300053		0.9993945080	
Reject?	1		0		1		1		1		0		1	
CI UL	-711.8580		0.0796		1.3502		-0.1616		-0.0580		0.0661		0.5041	
CI LL	-994.6182		0.0001		0.5319		-0.2807		-0.3663		-0.0367		0.2840	
Avg Diff	853.2381		-0.0398		-0.9410		0.2211		0.2122		-0.0147		-0.3940	
% Diff	1.54%		-0.44%		-1.21%		2.07%		0.70%		-0.16%		-2.00%	

Table I.15 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	49958	51227	10.8038	11.0837	98.4294	98.5201	11.8742	12.1369	37.7680	37.7709	8.5828	8.7944	20.8444	20.7625
2	48942	49358	9.9865	10.3782	99.9613	102.2402	11.5776	11.7108	37.0716	37.3511	8.4577	8.4491	20.8218	20.5901
3	50272	50862	9.8296	10.0004	97.8740	97.7079	11.3925	11.6454	36.9494	37.3215	8.8436	8.8802	20.4610	20.3439
4	49458	49775	10.5728	10.8504	97.1843	99.0341	12.1556	12.2330	38.1205	38.1906	8.3047	8.2862	20.7536	20.5383
5	49284	50111	10.4294	10.7181	100.8391	100.7834	11.5000	11.7788	37.1742	37.5632	8.3349	8.4459	20.2380	20.1836
6	49815	50858	9.8492	10.2836	97.7310	99.9094	11.9227	12.1406	37.6219	37.6250	8.7006	8.7142	20.9100	20.4774
7	49674	50594	9.3728	9.6301	96.0940	96.3056	11.7745	11.8646	37.9988	37.5977	8.6907	8.7629	20.4969	20.3249
8	51755	52271	10.1252	10.3450	96.1440	96.6897	12.1386	12.3531	36.7502	36.9426	8.9390	8.9120	20.7573	20.5656
9	50226	50391	10.0023	10.3677	96.3686	100.2896	11.7225	11.6936	37.3867	37.2343	8.7797	8.7542	20.7392	20.5551
10	49758	50649	10.1526	10.3966	100.1503	100.6494	11.3585	11.7230	36.3258	36.9734	8.7140	8.8506	20.8216	20.7254
11	49331	49769	10.6650	11.0721	97.5646	100.9112	11.8915	12.2715	37.9542	38.6980	8.3638	8.3794	20.7593	20.6290
12	49254	49189	11.2308	11.4245	99.4340	101.3265	11.0205	11.1969	36.4728	36.9870	8.5239	8.3875	20.8445	20.5767
13	48992	49388	10.4358	10.6533	99.5695	100.6269	11.8615	11.9448	38.0340	38.0560	8.4478	8.5085	20.9594	20.9075
14	50809	51718	10.4643	10.5908	97.8283	96.5961	11.7764	11.9827	37.0071	37.2607	8.7872	8.8832	20.6729	20.4589
15	50898	51203	9.7515	9.8866	98.4911	98.8527	12.4589	12.5688	37.7474	37.9909	8.6920	8.6484	20.5425	20.2859
16	47897	48492	10.9885	11.2258	101.6798	100.8810	11.6149	11.7091	38.4743	38.4156	8.1272	8.1575	20.7704	20.6447
17	51718	52940	9.9895	10.0761	96.9597	94.8937	13.2528	13.2463	38.7757	37.9396	8.8015	8.8305	20.9044	20.5033
18	49649	50518	11.4045	11.6415	101.0042	101.6108	11.5499	11.7628	36.6555	36.8226	8.3107	8.3996	20.6251	20.4287
19	49669	50438	10.6725	11.0476	98.1283	99.2822	11.5651	11.9631	37.0879	38.1110	8.4787	8.5222	20.6527	20.3503
20	49112	49824	10.4349	10.5274	99.0668	97.9373	11.5963	11.5673	37.8809	37.3554	8.5583	8.6767	20.8419	20.8080
21	50354	50781	10.0269	10.2876	98.5952	99.8768	11.6888	11.8347	36.8582	37.0236	8.7582	8.7692	20.6476	20.5111
Avg	49848.8095	50493.1429	10.3423	10.5946	98.5284	99.2821	11.7949	11.9680	37.4341	37.5824	8.5808	8.6196	20.7174	20.5319
[+ -] 20% PE	-9325.4286		-1.8161		-18.9520		-2.1859		-7.3384		-1.6773		3.9581	
[+ -] 15% PE	-6832.9881		-1.2990		-14.0256		-1.5962		-5.4667		-1.2483		2.9222	
[+ -] 10% PE	-4340.5476		-0.7819		-9.0992		-1.0064		-3.5950		-0.8192		1.8863	
[+ -] 05% PE	-1848.1071		-0.2648		-4.1727		-0.4167		-1.7233		-0.3902		0.8504	
[+ -] 01% PE	145.8452		0.1489		-0.2316		0.0551		-0.2260		-0.0470		0.0218	
[+ -] 20% TS	-120.7266		-57.9074		-54.8825		-55.6180		-65.0502		-86.3903		174.5900	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-91.4129		-46.9495		-41.3575		-44.7779		-50.9544		-68.4212		129.3661	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-59.0199		-31.6753		-27.2638		-31.1192		-35.2488		-47.3189		83.2264	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-25.0785		-11.6676		-12.6753		-14.1228		-17.7737		-23.4167		37.1405	
P-Value	0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	1.9502		6.7671		-0.7100		1.9920		-2.4258		-2.8694		0.9379	
P-Value	0.9673463018		0.9999993020		0.2429567047		0.9698995617		0.0124299182		0.0047393127		0.1797403867	
Reject?	1		1		1		1		1		0		1	
CI UL	-487.4937		-0.2065		-0.0746		-0.1162		0.0440		-0.0048		0.2340	
CI LL	-801.1730		-0.2981		-1.4328		-0.2300		-0.3408		-0.0729		0.1369	
Avg Diff	644.3333		0.2523		0.7537		0.1731		0.1484		0.0388		-0.1854	
% Diff	1.29%		2.44%		0.76%		1.47%		0.40%		0.45%		-0.89%	

Table I.16 Best Fit Rank 2 vs Less Fit Lognormal with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 2 vs Lognormal with CV = 0.75, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	49112	49283	10.1586	10.2271	95.5650	95.8041	12.3053	12.3161	41.2050	41.1837	7.9449	7.9236	19.0574	18.9161
2	49730	50225	10.7166	10.6831	96.7593	96.0200	12.8007	12.7080	41.6047	40.9938	7.7790	7.8106	18.8027	18.6407
3	47797	47839	10.8930	10.8804	98.4174	98.3406	12.4941	12.2191	41.1652	40.5055	7.3524	7.4055	19.0520	19.0707
4	49227	49652	10.1569	10.2644	96.0617	95.8792	12.6926	12.7420	41.3309	41.5270	7.8328	7.8713	19.0460	18.8546
5	48418	48159	10.4378	10.6469	94.5036	97.3021	12.4148	12.5678	41.7347	42.2117	7.6084	7.5150	18.9053	18.8453
6	48524	48829	10.1586	10.1613	96.7089	95.5628	12.8193	12.8101	42.2260	42.2320	7.7754	7.7107	19.2753	18.9245
7	48728	49052	9.9552	10.0333	96.1482	96.4456	12.4267	12.5160	41.4100	41.5043	7.7946	7.8634	18.9184	18.9393
8	49646	49228	11.1723	11.4382	96.3977	100.1829	13.0272	13.1450	42.0341	42.5667	7.8093	7.6359	19.2824	19.0489
9	49055	49239	11.0021	10.7895	97.1062	94.8483	11.8163	11.9771	40.4700	40.9057	7.8746	7.8383	18.9472	18.7856
10	49160	49383	9.8377	9.9916	94.5080	95.4070	12.7491	12.8054	42.7884	42.7126	8.0017	7.9535	19.0113	18.8392
11	48677	49087	11.0293	11.0986	96.3000	96.8852	11.9343	12.0293	41.1588	41.2460	7.7973	7.8853	19.0119	18.9936
12	49648	49939	10.4552	10.6768	93.5233	94.5980	12.7107	12.4943	41.5389	40.6272	7.6806	7.7086	18.5930	18.5597
13	48449	48271	10.6571	10.4176	99.4554	98.1780	13.4912	13.4952	42.9669	42.9943	7.4969	7.5082	19.2367	19.3568
14	48700	49150	10.9167	10.7959	98.0052	95.9413	11.6792	11.6234	40.3416	39.7334	7.9219	7.9246	19.1228	18.9789
15	49776	50008	10.3461	10.3126	98.9930	97.6118	12.8081	12.8511	40.8883	40.9040	7.8644	7.8323	18.9414	18.7672
16	49107	49403	10.3662	10.4396	96.5809	96.5566	13.3809	13.4518	42.5841	42.3884	7.5654	7.6100	18.9207	18.9529
17	49913	49961	9.5090	9.5069	94.6513	95.0021	13.3460	13.3076	42.4751	42.3508	8.0089	7.9820	19.0504	18.9314
18	48250	48334	10.0001	10.0138	98.2060	98.8938	12.4571	12.4498	42.0563	41.8234	7.8123	7.8069	19.0835	19.0395
19	48531	49022	9.8869	9.7292	97.8699	95.1589	13.0909	13.1493	42.7416	42.6385	7.6604	7.6745	18.9237	18.7297
20	49059	49139	10.0597	10.1241	96.8068	97.5362	13.5734	13.5912	42.7579	42.9468	7.6469	7.6455	19.1320	19.0083
21	48950	49281	10.1423	10.0719	95.7224	94.2830	13.0310	13.0482	41.7134	41.6390	7.5936	7.5772	18.9296	18.7360
Avg	48974.1429	49165.9048	10.3742	10.3954	96.5853	96.4970	12.7166	12.7285	41.7710	41.6969	7.7534	7.7468	19.0116	18.9009
[+ -] 20% PE	-9603.0667		-2.0536		19.2288		-2.5315		8.2801		1.5441		3.6916	
[+ -] 15% PE	-7154.3595		-1.5349		14.3996		-1.8956		6.1915		1.1564		2.7410	
[+ -] 10% PE	-4705.6524		-1.0162		9.5703		-1.2598		4.1030		0.7687		1.7904	
[+ -] 05% PE	-2256.9452		-0.4975		4.7410		-0.6240		2.0144		0.3811		0.8399	
[+ -] 01% PE	-297.9795		-0.0825		0.8776		-0.1153		0.3436		0.0709		0.0794	
[+ -] 20% TS	-167.7733		-56.2119		61.0950		-75.0112		89.7831		118.3188		158.4859	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-129.3105		-45.3756		44.8515		-63.4448		69.9101		91.8054		118.0181	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-87.0737		-32.0904		29.1673		-47.2149		47.9444		61.9830		76.8873	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-42.2419		-16.4889		14.1148		-25.5467		24.1721		30.5325		35.7764	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-5.5761		-2.7954		2.5618		-4.9110		4.1836		5.5683		3.3480	
P-Value	0.0000092801		0.0055853341		0.0092997858		0.0000421764		0.0002289580		0.0000094442		0.0016016145	
Reject?	0		0		0		0		0		0		0	
CI UL	-80.1405		0.0402		0.8065		0.0369		0.2450		0.0334		0.1603	
CI LL	-303.3834		-0.0826		-0.6300		-0.0606		-0.0967		-0.0201		0.0611	
Avg Diff	191.7619		0.0212		-0.0882		0.0118		-0.0741		-0.0066		-0.1107	
% Diff	0.39%		0.20%		-0.09%		0.09%		-0.18%		-0.09%		-0.58%	

I.3 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential

Table I.17 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 1 vs MEE with CV = 0.25, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55762	55706	10.4591	10.0899	88.1985	88.9931	12.2451	12.1199	35.1888	35.0820	8.3498	8.4876	17.8973	17.9319
2	54485	56196	9.8009	10.4927	91.3538	88.7420	12.1896	12.5506	35.3447	35.4953	8.1142	8.3266	17.6814	17.7644
3	55861	54314	9.5348	10.6079	88.7276	88.8900	12.1435	12.2533	35.7149	35.0585	8.6008	7.8682	17.6572	17.8718
4	54752	55706	10.1703	10.0108	87.8669	87.7757	12.4190	12.4112	35.5346	35.0835	7.9767	8.2801	17.6806	17.8187
5	54574	54225	9.8649	10.2820	88.9195	87.6915	11.8809	12.0473	34.9414	35.3254	8.0726	8.0159	17.4681	17.8355
6	55518	54952	9.6641	9.7727	89.2756	86.8320	12.4809	12.4504	35.6636	35.6820	8.3944	8.1598	17.8237	17.8132
7	55589	54825	8.9002	9.7394	85.6244	87.7786	12.3158	11.9804	35.6985	34.9164	8.3734	8.2171	17.3985	17.7300
8	57078	55277	9.7975	11.0741	87.7760	91.8636	12.8232	12.4729	35.4240	35.4185	8.5920	8.1123	17.8434	17.9295
9	55820	55448	9.6453	10.6456	88.8623	87.6599	12.0423	11.6389	34.6120	34.5258	8.4332	8.4546	17.6507	18.0221
10	55330	55914	9.8813	9.8019	90.9297	88.1322	11.8559	12.2836	34.4403	35.2916	8.3576	8.5223	17.6751	17.8756
11	55066	54915	10.1546	10.8061	87.0592	89.2988	12.6012	11.6321	36.2264	34.7196	8.1466	8.3203	17.8168	17.9770
12	54407	55869	10.6530	10.4049	89.0166	88.0921	11.4457	12.2124	34.5464	34.6234	8.1257	8.1622	17.6977	17.5720
13	54350	55074	10.0364	10.1772	89.4515	89.1739	12.2835	13.1766	35.8408	36.1935	8.1898	7.9444	18.0181	17.9130
14	56523	54786	9.8423	10.6809	86.1072	89.7376	12.1691	11.2502	34.6996	33.8825	8.5011	8.4132	17.6803	18.0540
15	56321	56225	9.3124	10.0095	87.9195	90.0351	12.9063	12.5825	35.5387	34.9863	8.2625	8.2598	17.4460	17.5807
16	53478	55740	10.4377	10.1684	89.5772	88.8785	11.9449	12.9664	35.5456	35.6973	7.8829	8.1957	17.8279	18.0108
17	57843	56962	9.5053	9.4467	85.9458	88.4232	13.5009	13.0452	35.6498	35.6717	8.4383	8.5907	17.6286	17.8747
18	55213	54779	10.8192	9.9498	89.4900	91.6496	11.9717	11.9596	34.5574	34.7449	8.2053	8.3037	17.9765	17.8887
19	55175	54777	10.4257	9.8021	89.1620	90.5469	12.0603	12.5517	35.1759	35.7368	8.1120	8.1266	17.5006	17.7698
20	54802	55860	9.8598	10.0077	87.7759	89.5957	11.8922	13.3786	35.2848	36.4120	8.3449	8.1544	17.8360	17.8908
21	55906	55300	9.6479	9.9877	89.6298	88.5694	12.2008	12.7535	34.8672	35.4835	8.4652	8.0977	17.7015	17.8563
Avg	55421.5714	55373.8095	9.9244	10.1885	88.5080	88.9695	12.2558	12.3675	35.2617	35.2395	8.2828	8.2387	17.7098	17.8562
[+ -] 20% PE	11036.5524		-1.7208		-17.2402		-2.3395		7.0302		1.6125		-3.3955	
[+ -] 15% PE	8265.4738		-1.2246		-12.8148		-1.7267		5.2671		1.1983		-2.5100	
[+ -] 10% PE	5494.3952		-0.7284		-8.3894		-1.1140		3.5040		0.7842		-1.6246	
[+ -] 05% PE	2723.3167		-0.2322		-3.9640		-0.5012		1.7409		0.3701		-0.7391	
[+ -] 01% PE	506.4538		0.1648		-0.4236		-0.0109		0.3305		0.0387		-0.0307	
[+ -] 20% TS	53.0633		-11.9965		-34.8300		-15.8504		56.0570		31.0422		-87.7234	
P-Value	0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	38.2913		-8.7769		-26.6061		-11.9425		41.3823		22.4871		-67.3115	
P-Value	0.0000000000		0.0000000135		0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	24.5305		-5.3683		-17.9068		-7.8628		27.0900		14.3399		-45.2404	
P-Value	0.0000000000		0.0000148251		0.0000000000		0.0000000761		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	11.7216		-1.7599		-8.7013		-3.6090		13.2284		6.5928		-21.3789	
P-Value	0.0000000001		0.0468584288		0.0000000155		0.0008756694		0.0000000000		0.0000010079		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	2.1176		1.2780		-0.9512		-0.0799		2.4747		0.6759		-0.9148	
P-Value	0.0234666045		0.8920531808		0.1764243325		0.4685404078		0.0112055690		0.2534296295		0.1856068436	
Reject?	0		1		1		1		0		1		1	
CI UL	550.2515		0.0034		0.4623		0.1724		0.3018		0.1643		-0.0770	
CI LL	-454.7277		-0.5316		-1.3852		-0.3957		-0.2575		-0.0761		-0.2158	
Avg Diff	-47.7619		0.2641		0.4614		0.1116		-0.0221		-0.0441		0.1464	
% Diff	-0.09%		2.66%		0.52%		0.91%		-0.06%		-0.53%		0.83%	

Table I.18 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 1 vs MEE with CV = 0.25, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55089	54957	10.3691	10.4743	91.5369	92.6161	11.3369	11.3697	33.6067	33.8398	8.2650	8.3039	17.5391	17.6455
2	55845	55641	10.8719	10.7581	91.4963	91.0921	11.6833	11.7607	33.6564	33.9449	8.0544	8.1366	17.1830	17.4392
3	53709	53129	10.9363	11.0940	91.9511	94.0206	11.3854	11.5206	33.2265	33.8569	7.6574	7.6378	17.5101	17.7244
4	55139	54912	10.4109	10.5038	91.5285	92.9017	11.5765	11.6344	33.5727	33.8255	8.1508	8.1045	17.5598	17.5404
5	53863	53540	10.5898	10.7644	90.6239	92.0634	11.3322	11.3767	33.7629	34.0450	7.8208	7.8651	17.4160	17.6762
6	54430	54251	10.3075	10.3974	91.6206	91.9983	11.5891	11.7103	33.8101	34.2999	7.9291	7.9373	17.4054	17.5079
7	54440	54112	10.1897	10.3520	91.6200	93.9088	11.3709	11.2722	33.6808	33.6314	8.0799	8.0238	17.4791	17.4338
8	54936	54717	11.6387	11.6027	95.7370	95.2830	11.5979	11.7628	33.4864	34.1021	7.9339	7.8766	17.5668	17.5421
9	54555	54422	11.0691	11.0774	92.2105	92.1033	10.7935	10.9443	32.9744	33.6028	8.1163	8.1680	17.4380	17.5788
10	55072	55089	10.1971	10.0960	92.1689	90.7320	11.3953	11.5282	33.6933	34.1234	8.2500	8.3373	17.4425	17.6300
11	54291	54321	11.2866	11.3545	93.2372	93.7422	10.8865	10.9257	33.3679	33.4281	8.1277	8.1147	17.6281	17.6112
12	55222	54977	10.7045	10.8614	90.5623	92.2777	11.3933	11.4415	33.0402	33.3673	7.9161	7.9560	17.1663	17.3174
13	54096	53925	10.6069	10.6983	93.1023	94.4811	12.1005	12.2037	34.3344	34.6711	7.7069	7.6920	17.5585	17.5911
14	54253	54009	11.0300	11.0608	92.2958	93.1158	10.5638	10.5676	32.6260	32.7600	8.1612	8.1901	17.5559	17.7031
15	55921	55329	10.6345	10.5315	94.7924	94.6964	11.7778	11.8827	33.2275	33.8864	8.0926	8.1311	17.2555	17.5165
16	54869	54457	10.6809	10.8000	93.8229	95.5965	12.0112	12.0356	34.0020	34.1951	7.8667	7.8174	17.4452	17.5256
17	56192	55870	9.7703	9.8305	91.1215	91.8594	12.2651	12.3109	34.3239	34.6421	8.2278	8.3147	17.2994	17.5983
18	54037	53846	10.3685	10.4428	95.4227	96.8690	11.2396	11.2670	33.4568	33.6825	8.1033	8.0355	17.6226	17.5095
19	54531	54401	10.0510	10.0892	92.8761	92.7498	11.6775	11.7633	33.7508	34.0187	7.9221	7.9256	17.2840	17.3910
20	55067	54886	10.3668	10.1373	93.5838	91.2743	12.3533	12.3827	34.4596	34.6367	7.8551	7.8427	17.3615	17.4240
21	54676	54340	10.3252	10.2505	90.6608	91.0345	11.7243	11.7634	33.5545	33.7359	7.8558	7.8632	17.3845	17.5250
Avg	54773.0000	54530.0476	10.5907	10.6275	92.4748	93.0674	11.5264	11.5916	33.6007	33.9188	8.0044	8.0131	17.4334	17.5443
[+ -] 20% PE	10711.6476		-2.0814		-17.9024		-2.2400		-6.4020		-1.5922		-3.3757	
[+ -] 15% PE	7972.9976		-1.5519		-13.2786		-1.6637		-4.7219		-1.1920		-2.5041	
[+ -] 10% PE	5234.3476		-1.0223		-8.6549		-1.0874		-3.0419		-0.7918		-1.6324	
[+ -] 05% PE	2495.6976		-0.4928		-4.0311		-0.5111		-1.3619		-0.3916		-0.7607	
[+ -] 01% PE	304.7776		-0.0692		-0.3321		-0.0500		-0.0178		-0.0714		-0.0634	
[+ -] 20% TS	248.6619		-67.1225		-64.5195		-96.5534		-126.9413		-149.6563		-116.0658	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	204.2466		-55.0659		-49.1653		-86.0272		-98.8035		-117.9938		-89.5704	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	145.2660		-39.4202		-32.8437		-67.6773		-66.8053		-79.9150		-60.7670	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	72.6749		-20.1750		-15.6340		-37.0114		-31.1496		-38.8625		-29.4746	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	8.9463		-2.9000		-1.3077		-3.8197		-0.4182		-6.8260		-2.5359	
P-Value	0.0000000099		0.0044271502		0.1028988744		0.0005360523		0.3401417031		0.0000006170		0.0098319846	
Reject?	0		0		1		0		1		0		0	
CI UL	314.1980		0.0129		-0.0646		-0.0379		-0.2297		0.0135		-0.0592	
CI LL	171.7067		-0.0864		-1.1206		-0.0926		-0.4066		-0.0307		-0.1627	
Avg Diff	-242.9524		0.0367		0.5926		0.0652		0.3182		0.0086		0.1109	
% Diff	-0.44%		0.35%		0.64%		0.57%		0.95%		0.11%		0.64%	

Table I.19 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit Rank 1 vs MEE with CV = 0.25, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	54940	54965	10.9097	10.4891	91.5096	91.2221	12.1261	12.0568	35.6351	35.9098	8.3117	8.4746	18.0644	18.0691
2	53493	55553	10.1250	10.8543	93.9072	90.9002	11.9384	12.3859	35.6457	35.7930	8.0980	8.2191	17.9124	17.7006
3	54778	53261	9.9163	11.1095	91.6266	92.9853	11.7195	12.1463	35.5088	35.7035	8.5304	7.7856	17.8398	18.0311
4	53638	55011	10.7157	10.6081	92.0224	92.4166	12.2923	12.3059	36.3496	35.7774	7.9636	8.3591	17.9657	18.0852
5	53821	53686	10.4625	10.7552	93.2199	91.1610	11.6588	11.9934	35.2170	35.7496	8.1228	8.0075	17.7580	17.9936
6	54569	54307	10.0620	10.2925	92.7180	90.5296	12.1951	12.1941	35.7389	35.6442	8.5020	8.1546	18.3394	18.0072
7	54489	54016	9.3377	10.3490	89.3275	92.8486	11.9016	11.9199	35.4474	35.5185	8.4399	8.2065	17.8807	17.9581
8	56449	54781	10.1353	11.5537	89.6431	93.8357	12.6662	12.5279	35.7098	36.1614	8.5821	8.0820	17.9977	18.0661
9	54824	54424	10.0875	11.0364	92.0593	90.8755	11.8320	11.5881	35.2226	35.4805	8.4003	8.3181	17.7910	17.9874
10	54082	54947	10.2646	10.0995	94.8188	90.3608	11.6110	12.0982	34.8890	35.7387	8.3399	8.5425	17.9797	18.1972
11	53836	54408	10.7144	11.4433	92.0423	93.4388	12.2814	11.4351	36.3976	34.8916	8.0318	8.3090	17.9657	18.0528
12	53423	55039	11.1423	10.6710	92.3121	89.0183	11.3925	11.9599	35.4449	34.9108	8.0802	8.1612	17.8908	17.7956
13	53511	54101	10.4903	10.6987	92.9844	93.0783	12.0330	12.9473	36.0258	36.5800	8.2164	7.9391	18.3141	18.1886
14	55791	54205	10.2340	11.0564	88.2820	91.6822	12.2015	11.2785	35.5728	34.7170	8.5218	8.4110	17.9563	18.2153
15	55146	55658	9.8139	10.5507	93.1394	93.5829	12.6594	12.4625	35.9660	35.3664	8.2242	8.3565	17.6588	17.9114
16	52381	54714	11.0080	10.6847	93.6597	93.0398	11.6732	12.8278	36.0028	36.2671	7.8247	8.0307	18.0089	17.9710
17	56775	55799	10.0927	9.6781	90.5337	89.8103	13.2510	12.9677	35.9582	36.5365	8.4072	8.4893	17.8878	18.0279
18	54243	53940	11.3958	10.4464	93.5096	95.0418	11.7986	11.9588	35.0628	35.5019	8.1157	8.2848	18.0661	18.1665
19	54391	54226	10.8148	10.1881	92.2476	93.2147	11.9210	12.3132	35.5767	35.7028	8.1364	8.0691	17.7661	17.7974
20	53969	54820	10.2929	10.1081	90.2740	90.0971	11.8317	13.1442	35.9834	36.7247	8.2995	8.0270	18.0223	17.9433
21	54661	54255	10.0972	10.4584	92.1566	91.8845	11.8377	12.3883	34.9853	35.7148	8.4612	7.9693	18.1123	17.8065
Avg	54438.5714	54576.9524	10.3863	10.6253	91.9997	91.9535	12.0392	12.2333	35.6352	35.7329	8.2671	8.1998	17.9609	17.9987
[+ -] 20% PE	-10749.3333		-1.8383		18.3538		-2.2137		-7.0294		1.5861		-3.5544	
[+ -] 15% PE	-8027.4048		-1.3189		13.7538		-1.6117		-5.2477		1.1728		-2.6563	
[+ -] 10% PE	-5305.4762		-0.7996		9.1538		-1.0097		-3.4659		0.7594		-1.7583	
[+ -] 05% PE	-2583.5476		-0.2803		4.5538		-0.4078		-1.6841		0.3461		-0.8602	
[+ -] 01% PE	-406.0048		0.1351		0.8738		0.0738		-0.2587		0.0154		-0.1418	
[+ -] 20% TS	-37.7752		-11.4100		41.6804		-16.4459		-49.8273		27.3613		-81.3278	
P-Value	0.0000000000		0.0000000002		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-29.2090		-8.4064		30.4412		-12.2404		-37.9210		19.7227		-62.7199	
P-Value	0.0000000000		0.0000000269		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-20.0048		-5.2346		19.7415		-7.8372		-25.5236		12.4484		-42.8473	
P-Value	0.0000000000		0.0000200890		0.0000000000		0.0000000800		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-10.1028		-1.8851		9.5685		-3.2334		-12.6337		5.5288		-21.6362	
P-Value	0.0000000013		0.0370133544		0.0000000033		0.0020830570		0.0000000000		0.0000103211		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-1.6355		0.9287		1.7982		0.5949		-1.9691		0.2406		-3.6575	
P-Value	0.0587926086		0.8179301977		0.0436317463		0.7207013373		0.0314785566		0.4061754924		0.0007822191	
Reject?	1		1		0		1		0		1		0	
CI UL	375.5796		0.0629		1.0652		0.0635		0.1755		0.2013		0.0425	
CI LL	-652.3415		-0.5409		-0.9728		-0.4518		-0.3707		-0.0667		-0.1182	
Avg Diff	138.3810		0.2390		-0.0462		0.1942		0.0976		-0.0673		0.0378	
% Diff	0.25%		2.30%		-0.05%		1.61%		0.27%		-0.81%		0.21%	

Table I.20 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 1 vs MEE with CV = 0.25, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	55143	55208	10.0671	10.1522	89.2798	89.7410	12.3231	12.3798	36.3015	36.4809	8.4755	8.4465	18.0114	17.9179
2	55647	55808	10.4584	10.4127	88.9803	88.4277	12.7050	12.8175	36.5233	36.8102	8.1820	8.3242	17.5692	17.7866
3	53198	53311	10.6550	10.7347	90.4884	91.1495	12.4482	12.5134	36.4401	36.6424	7.7202	7.7771	17.9138	17.9626
4	55074	55013	10.1492	10.1861	89.9418	90.4109	12.6466	12.4828	36.5100	36.0683	8.2617	8.3272	17.8560	18.0201
5	53483	53508	10.4235	10.2553	90.1516	88.8510	12.3339	12.3937	36.7297	36.8946	7.9275	8.0084	17.8670	18.0250
6	54231	54534	10.0880	10.1264	90.1059	90.1024	12.6147	12.6791	36.7366	36.6890	8.0055	8.1641	17.7084	17.9637
7	54403	54433	9.9448	10.0241	90.3462	90.5940	12.2288	12.3612	36.0167	36.4035	8.1914	8.2348	17.7665	17.8643
8	55009	54739	11.2455	11.1737	92.2863	92.5867	12.8647	12.8546	36.9480	37.2024	8.0812	8.0247	17.9292	17.8380
9	54832	54386	10.5533	10.5924	88.2159	89.3682	11.8448	11.8648	35.8254	36.1380	8.3697	8.2848	17.9113	17.8925
10	55323	55101	9.7742	9.8084	88.2820	89.1395	12.5778	12.5082	36.7913	36.6535	8.4835	8.5033	17.9264	18.0528
11	54296	54140	10.9295	11.0020	90.5939	91.5216	11.9573	11.7925	36.3196	36.0370	8.2135	8.2104	17.9089	17.9058
12	55348	55344	10.4600	10.4521	89.0972	89.0407	12.3896	12.4083	35.7500	35.6728	8.1332	8.1184	17.5928	17.6084
13	54154	54064	10.3176	10.2986	91.1201	91.3391	13.2794	13.3065	37.2865	37.4773	7.8488	7.8704	17.9610	18.0095
14	54318	54494	10.6858	10.7316	89.8436	90.2911	11.4960	11.5820	35.2875	35.4068	8.3328	8.3427	17.9395	17.9023
15	55827	55861	10.2420	10.2661	91.7868	92.0685	12.8542	13.0578	36.1298	36.6553	8.2740	8.3014	17.7248	17.7738
16	54838	54732	10.2477	10.4173	90.3780	91.7303	13.2276	13.2508	37.2244	37.3497	7.9991	7.9935	17.8267	17.8678
17	55921	56052	9.5950	9.4531	90.7469	88.8701	13.1741	13.3834	36.9548	37.3239	8.4594	8.5066	17.8743	17.9820
18	53856	54082	10.0427	10.0717	93.3127	92.9317	12.2477	12.1758	36.5205	35.9697	8.2019	8.2526	17.8942	18.0032
19	54573	54302	9.7142	9.7290	89.9409	90.7912	12.8345	12.9080	36.7858	37.2593	8.0323	8.0408	17.5967	17.6662
20	54917	55134	10.0685	9.8955	91.5691	89.6432	13.5528	13.6350	37.6726	37.8351	8.0440	8.0466	17.8996	17.8013
21	54701	54344	10.0255	9.8682	89.0758	87.8877	12.9171	12.9079	36.6611	36.8806	8.0247	7.9610	17.7992	17.7809
Avg	54718.6667	54694.7619	10.2708	10.2691	90.2640	90.3088	12.5961	12.6316	36.5436	36.6595	8.1553	8.1781	17.8322	17.8869
[+ -] 20% PE	10919.8286		2.0524		-18.0079		-2.4837		-7.1927		-1.6083		-3.5118	
[+ -] 15% PE	8183.8952		1.5389		-13.4947		-1.8539		-5.3656		-1.2006		-2.6202	
[+ -] 10% PE	5447.9619		1.0253		-8.9815		-1.2241		-3.5384		-0.7928		-1.7286	
[+ -] 05% PE	2712.0286		0.5118		-4.4683		-0.5943		-1.7112		-0.3850		-0.8370	
[+ -] 01% PE	523.2819		0.1010		-0.8578		-0.0905		-0.2495		-0.0588		-0.1237	
[+ -] 20% TS	211.8152		72.6044		-80.3818		-92.8535		-109.6077		-92.9602		-143.2698	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	170.3101		60.5999		-61.9044		-78.4105		-84.1031		-75.5396		-110.7333	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	119.3495		44.5705		-42.2272		-56.8908		-56.6102		-53.9530		-75.5986	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	60.9250		24.0676		-21.4624		-28.7490		-27.6999		-27.9836		-37.8262	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	11.7346		4.9363		-4.1801		-4.3017		-4.0488		-4.4427		-5.7306	
P-Value	0.0000000001		0.0000397914		0.0002308310		0.0001737399		0.0003138523		0.0001250286		0.0000065708	
Reject?	0		0		0		0		0		0		0	
CI UL	117.2533		0.0442		0.3818		0.0089		0.0126		0.0047		-0.0099	
CI LL	-69.4437		-0.0407		-0.4715		-0.0798		-0.2445		-0.0502		-0.0994	
Avg Diff	-23.9048		-0.0017		0.0449		0.0355		0.1160		0.0227		0.0546	
% Diff	-0.04%		-0.02%		0.05%		0.28%		0.32%		0.28%		0.31%	

Table I.21 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 1 vs MEE with CV = 0.75, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55474	55315	9.6410	9.2361	78.1543	78.0963	10.9378	10.7238	31.5126	31.1646	8.2436	8.3702	18.0051	18.0665
2	54584	55437	9.0662	9.6354	80.0533	79.0923	11.1085	11.0996	31.9313	31.6557	8.1262	8.1690	17.9773	17.9432
3	55251	53893	8.7490	9.6272	78.3377	77.9216	10.7591	10.9894	31.8968	31.4921	8.4845	7.8166	17.8477	18.2066
4	54311	55845	9.3794	9.1909	78.7361	76.5496	11.3111	11.2007	32.4476	31.5808	7.9515	8.2567	18.0212	17.9536
5	54398	53915	9.2990	9.4916	79.6717	77.5643	10.7456	10.6298	31.5781	31.0852	8.0931	7.8943	17.8581	18.0204
6	55152	54573	8.9366	9.2152	79.6956	79.0052	11.1380	11.0166	31.7773	31.5229	8.2672	8.1062	17.9535	18.1343
7	54343	53942	8.1705	9.1066	76.0332	79.6530	10.8446	10.9568	31.9344	32.1910	8.3202	8.1005	17.9923	18.0821
8	57044	54985	9.0027	10.3211	77.0720	81.2828	11.3372	11.2972	31.2186	32.2296	8.5737	8.0424	18.0565	18.1550
9	55050	54144	8.9268	9.7785	79.5781	78.9155	10.6361	10.4386	30.9968	31.5923	8.3800	8.2086	17.9749	18.1717
10	54984	55085	9.0912	8.8804	80.1640	77.6509	10.6664	10.9493	31.0012	31.7772	8.3504	8.3316	18.0535	17.9971
11	54324	54284	9.5995	10.0846	79.8825	79.5630	11.2053	10.3727	32.5170	31.4036	8.0586	8.1546	18.1293	18.0734
12	54038	55380	9.9826	9.4503	80.2432	76.4805	10.3021	10.7497	30.9547	30.7669	8.0309	8.1743	17.9713	18.0111
13	54110	54703	9.3319	9.5525	79.7546	80.1505	11.0125	11.8495	32.0849	32.7511	8.1436	7.8533	18.2905	18.0806
14	56071	54062	9.1742	9.8101	76.9713	79.6857	11.0522	9.8695	31.5352	30.0477	8.3811	8.2769	17.8870	18.2606
15	56002	56239	8.6329	9.3948	78.5274	79.5361	11.3605	11.2972	31.3841	31.2545	8.2815	8.2755	17.9722	17.9332
16	53367	55618	9.6992	9.5677	79.6819	79.1211	10.6998	11.6053	31.7984	31.7787	7.8466	8.0323	18.0537	18.0687
17	57536	56374	8.8636	8.6094	76.8755	76.4911	12.0650	11.6654	31.7316	32.1952	8.3959	8.3910	17.9639	17.9186
18	54673	53774	10.0990	9.2706	79.9623	81.4158	10.5672	10.6151	30.8326	31.3870	8.0522	8.1036	18.0648	18.0828
19	55172	54480	9.5980	8.8201	78.6896	78.1639	10.9260	11.1956	31.7942	31.8063	8.1147	8.0389	17.7331	17.9924
20	53935	55550	9.1517	9.2021	78.3996	80.0283	10.5851	11.8771	31.7578	32.2463	8.2142	8.0267	18.1479	17.9802
21	54990	54775	8.9560	9.1287	80.2045	77.6441	10.6861	11.4407	30.8160	32.1294	8.3558	7.9732	18.0846	17.9913
Avg	54990.9048	54874.9048	9.2072	9.3988	78.8899	78.7625	10.9498	11.0400	31.5953	31.6218	8.2222	8.1236	17.9933	18.0535
[+ -] 20% PE	10882.1810		-1.6499		15.6505		-2.0998		-6.2925		1.5459		-3.5384	
[+ -] 15% PE	8132.6357		-1.1895		11.7060		-1.5523		-4.7128		1.1348		-2.6387	
[+ -] 10% PE	5383.0905		-0.7291		7.7615		-1.0048		-3.1330		0.7237		-1.7391	
[+ -] 05% PE	2633.5452		-0.2688		3.8170		-0.4573		-1.5532		0.3126		-0.8394	
[+ -] 01% PE	433.9090		0.0995		0.6614		-0.0193		-0.2894		-0.0163		-0.1197	
[+ -] 20% TS	48.7906		-11.4513		38.5211		-15.8767		-37.8414		33.3845		-90.8905	
P-Value	0.0000000000		0.0000000002		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	35.3073		-8.4860		28.1787		-11.9508		-28.9304		23.8297		-69.8758	
P-Value	0.0000000000		0.000000232		0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	22.6245		-5.3479		18.2705		-7.8736		-19.6278		14.7745		-47.5017	
P-Value	0.0000000000		0.0000155285		0.0000000000		0.0000000745		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	10.7147		-2.0271		8.7860		-3.6456		-9.9277		6.2038		-23.6625	
P-Value	0.0000000005		0.0280934167		0.0000000133		0.0008042283		0.0000000018		0.0000023217		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	1.7202		0.7676		1.4954		-0.1561		-1.8793		-0.3161		-3.4612	
P-Value	0.0504205371		0.7741455493		0.0752142350		0.4387667670		0.0374253916		0.6224176823		0.0012335419	
Reject?	1		1		1		1		0		1		0	
CI UL	645.5999		0.0773		1.0543		0.1672		0.2935		0.2066		0.0114	
CI LL	-413.5999		-0.4605		-0.7993		-0.3475		-0.3465		-0.0096		-0.1319	
Avg Diff	-116.0000		0.1916		-0.1275		0.0902		0.0265		-0.0985		0.0603	
% Diff	-0.21%		2.08%		-0.16%		0.82%		0.08%		-1.20%		0.33%	

Table I.22 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 1 vs MEE with CV = 0.75, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	56336	54335	8.8302	8.8013	76.6370	76.6768	10.6827	10.0706	30.2568	29.4668	9.1538	9.0429	19.3027	19.9759
2	56951	55321	9.3160	9.3145	77.1794	77.6651	11.0010	10.3525	30.4226	29.3754	9.1295	9.0630	19.4167	19.9826
3	54770	53223	9.4665	9.4979	78.2177	78.0111	10.8058	10.2353	30.2027	29.3539	8.5071	8.4228	19.4156	20.0335
4	56310	55372	8.8708	8.9091	76.7527	76.2092	11.1137	10.6188	30.7305	29.8051	9.0779	9.0458	19.4869	19.9461
5	54672	53042	9.1473	9.1170	77.4193	77.9537	10.7305	10.3176	30.8981	30.1910	8.6394	8.5454	19.2208	19.8812
6	55538	54067	8.7335	8.8793	76.0350	77.7125	10.7134	10.4675	30.1292	29.8592	8.9076	8.8674	19.4076	20.1571
7	55747	53637	8.6505	8.7436	76.1353	78.5207	10.8193	10.0632	30.6702	29.3355	8.9116	8.8752	19.1013	20.0255
8	56579	54722	9.8044	9.8692	78.3280	80.7455	11.4044	10.4787	31.3517	29.5603	8.9233	8.8096	19.4699	20.0805
9	55391	53995	9.4413	9.3208	77.4291	76.4474	10.0781	9.7936	29.6678	29.4139	8.8524	8.9311	19.0280	19.9067
10	56561	54603	8.7480	8.6801	77.0742	77.6940	10.1244	10.1244	30.1671	29.3346	9.3674	9.2601	19.6583	20.2691
11	55488	53906	9.5428	9.6437	77.1641	78.1489	10.5284	9.7987	31.1708	29.5941	9.0327	9.1258	19.3380	20.3954
12	56270	54103	9.1888	9.1051	76.3240	77.0052	10.7790	10.2971	30.2044	29.7383	8.9223	8.7278	19.2083	19.7919
13	55649	54066	9.2013	9.0576	78.8356	78.8429	11.8619	11.2313	31.9132	30.8087	8.8312	8.6238	19.9435	20.2756
14	55020	53797	9.4399	9.4197	77.6172	77.3643	9.8672	9.4483	29.6717	28.6235	8.9804	9.0222	19.2278	20.1082
15	57253	55201	9.1204	8.8230	79.2653	78.2729	11.1852	10.6031	30.2316	29.3976	9.0844	8.8976	19.2176	19.7664
16	56404	54768	9.0619	8.8667	77.7991	77.1094	11.5908	10.9724	31.1742	30.2075	8.8419	8.8641	19.4086	20.2313
17	57207	55592	8.3853	8.4698	77.6192	77.9347	11.4770	10.8480	30.8544	29.9356	9.3569	9.2767	19.6143	20.1914
18	55378	53545	8.9257	8.8570	80.0439	79.7864	10.7132	10.2994	30.6670	30.1949	8.9711	8.9802	19.2469	20.2073
19	55739	53854	8.6294	8.5995	77.4977	78.9322	11.2178	10.5328	30.9214	29.9969	8.7734	8.7418	19.1325	19.8161
20	56565	55079	8.9202	8.8748	78.2766	78.4269	11.7659	11.1559	31.2597	30.1780	8.8902	8.7804	19.4555	20.0086
21	56189	54403	8.8658	8.7442	76.1658	75.3591	11.3283	10.7097	30.8620	29.8598	8.7489	8.7057	19.1554	19.9557
Avg	56000.8095	54315.7619	9.0614	9.0283	77.5151	77.8485	10.9724	10.4009	30.6394	29.7253	8.9478	8.8862	19.3551	20.0479
[+ -] 20% PE	9515.1143		1.7791		-15.1695		1.6229		5.2138		1.7279		-3.1782	
[+ -] 15% PE	6715.0738		1.3261		-11.2938		1.0743		3.6818		1.2805		-2.2104	
[+ -] 10% PE	3915.0333		0.8730		-7.4180		0.5257		2.1498		0.8332		-1.2427	
[+ -] 05% PE	1114.9929		0.4199		-3.5423		-0.0229		0.6178		0.3858		-0.2749	
[+ -] 01% PE	-1125.0395		0.0575		-0.4417		-0.4618		-0.6077		0.0279		0.4993	
[+ -] 20% TS	147.3260		66.1514		-64.0282		54.2199		73.9881		88.1014		-69.6268	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	106.0162		52.6871		-48.7573		36.2887		50.6346		68.0809		-50.2990	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	62.0195		36.4467		-32.7066		17.3510		28.5118		45.6441		-29.3739	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	17.4345		18.0019		-15.9228		-0.7174		7.8721		21.4691		-6.7492	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.7592825052		0.0000000747		0.0000000000		0.0000007247	
Reject?	0		0		0		1		0		0		0	
[+ -] 01% TS	-17.2182		2.4682		-2.0134		-13.6387		-7.4833		1.5525		12.6323	
P-Value	1.0000000000		0.0113617276		0.0288641189		1.0000000000		0.9999998391		0.0681151452		1.0000000000	
Reject?	1		0		0		1		1		1		1	
CI UL	1822.2679		0.0818		0.1226		0.6433		1.0850		0.0991		-0.6110	
CI LL	1547.8274		-0.0155		-0.7896		0.4998		0.7432		0.0241		-0.7747	
Avg Diff	-1685.0476		-0.0331		0.3335		-0.5715		-0.9141		-0.0616		0.6928	
% Diff	-3.01%		-0.37%		0.43%		-5.21%		-2.98%		-0.69%		3.58%	

Table I.23 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 1st Replicate

<i>Best Fit Rank 1 vs MEE with CV = 0.75, 100 Obs., 1st Replicate</i>														
7th	<i>Throughput</i>		<i>WIP A</i>		<i>Avg Time A</i>		<i>WIP B</i>		<i>WIP C</i>		<i>Avg Time C</i>			
	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>	<i>BF</i>	<i>LF</i>		
	1	50562	51211	11.0105	10.6939	98.5298	97.7103	11.9020	11.8780	37.4508	37.2546	8.6500	8.8454	20.7689
2	49260	51561	10.3647	11.0768	102.6837	97.9666	11.8492	12.1772	37.7565	37.5221	8.5243	8.7286	20.8410	20.5397
3	50487	49148	9.9910	11.1941	97.8413	100.7653	11.7455	12.1022	38.0320	38.0001	8.8592	8.0997	20.4298	20.6027
4	49510	50577	10.8506	10.8344	99.6362	100.7395	12.1421	12.1335	38.2268	37.7144	8.3564	8.5256	20.7913	20.4383
5	49870	49348	10.7180	11.0431	100.1722	99.6905	11.5524	11.7746	37.1185	37.5278	8.5235	8.1809	20.4787	20.3799
6	50286	50009	10.1915	10.4652	100.0005	98.2934	12.1250	12.2576	37.8418	38.3076	8.6621	8.3843	20.6579	20.4297
7	50054	50385	9.3726	10.4330	95.3571	99.0703	11.7479	11.8907	37.7016	37.2829	8.7216	8.5194	20.3907	20.3328
8	51699	50935	10.3338	11.7219	97.8852	101.1128	12.3052	12.5206	37.2704	38.3743	8.8560	8.4672	20.6181	20.6345
9	50337	50145	10.3194	11.2034	100.1331	97.8975	11.6215	11.3720	37.0237	37.3086	8.7356	8.6217	20.5389	20.5499
10	50077	50212	10.4819	10.5650	102.0172	100.7899	11.5310	11.9192	36.7064	37.9358	8.7137	8.6533	20.7006	20.5318
11	49781	49974	10.9975	11.5469	100.2227	101.1228	12.2756	11.4893	38.7793	37.5837	8.3776	8.6726	20.5905	20.8320
12	49300	50760	11.4146	11.1478	100.3743	99.6762	11.3665	11.8757	37.5555	37.0058	8.4166	8.3926	20.5992	20.1373
13	49401	50319	10.7206	10.9212	100.2909	99.8106	12.0292	12.8101	38.2231	38.3801	8.4895	8.2081	20.9479	20.5786
14	51640	50028	10.5984	11.1920	95.8671	97.8887	11.8859	11.1066	36.9182	36.6887	8.8911	8.7322	20.5918	20.7783
15	51205	51849	9.9102	10.7161	99.3050	100.6592	12.5831	12.3132	37.7504	36.7687	8.6789	8.7520	20.4659	20.5343
16	48606	50560	11.0429	10.8710	99.8215	100.6748	11.6852	12.8390	38.1363	38.9471	8.1999	8.4135	20.6945	20.6150
17	52670	51941	10.0957	9.8871	95.4905	95.7698	13.2293	12.7839	38.0424	38.2022	8.8768	8.8693	20.7327	20.5682
18	50152	49668	11.5807	10.4545	100.6674	101.5208	11.5614	11.6957	36.5592	37.2862	8.4375	8.5992	20.6938	20.7359
19	50012	50643	11.0150	10.2259	99.7130	97.7245	11.7160	12.4481	37.4529	38.0398	8.4308	8.5305	20.3771	20.5190
20	49891	50578	10.6043	10.4840	98.0121	99.2196	11.7036	13.0443	38.0795	39.0408	8.6198	8.4292	20.5403	20.7297
21	50714	50862	10.3111	10.3418	100.2685	95.4793	11.7139	12.5128	36.6463	37.7363	8.8863	8.4340	20.8352	20.4870
Avg	50262.5714	50510.1429	10.5679	10.8104	99.2519	99.2182	11.9177	12.1402	37.5844	37.7575	8.6146	8.5266	20.6326	20.5518
[+ -] 20% PE	-9804.9429		-1.8710		19.8167		-2.1610		-7.3437		1.6349		4.0457	
[+ -] 15% PE	-7291.8143		-1.3426		14.8541		-1.5651		-5.4645		1.2042		3.0141	
[+ -] 10% PE	-4778.6857		-0.8142		9.8915		-0.9692		-3.5853		0.7735		1.9825	
[+ -] 05% PE	-2265.5571		-0.2858		4.9289		-0.3734		-1.7061		0.3427		0.9509	
[+ -] 01% PE	-255.0543		0.1369		0.9589		0.1034		-0.2027		-0.0018		0.1255	
[+ -] 20% TS	-39.3859		-11.9015		44.5144		-16.4067		-44.3430		30.5491		97.3105	
P-Value	0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-30.2658		-8.7883		32.4834		-12.1276		-33.8109		22.0064		70.8139	
P-Value	0.0000000000		0.0000000132		0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-20.5023		-5.4857		21.0443		-7.6614		-22.7210		13.8160		45.4735	
P-Value	0.0000000000		0.0000113720		0.0000000000		0.0000001129		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-10.0500		-1.9825		10.1969		-3.0089		-11.0673		5.9812		21.2860	
P-Value	0.0000000015		0.0306649426		0.0000000011		0.0034676166		0.0000000003		0.0000037745		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-1.1622		0.9720		1.9393		0.8455		-1.3390		-0.0316		2.7558	
P-Value	0.1294198632		0.8286652911		0.0333530779		0.7960936242		0.0977940435		0.5124328703		0.0060947992	
Reject?	1		1		0		1		1		1		0	
CI UL	207.1489		0.0495		1.0709		0.0315		0.1412		0.2104		0.1763	
CI LL	-702.2917		-0.5347		-1.0036		-0.4766		-0.4875		-0.0344		-0.0147	
Avg Diff	247.5714		0.2426		-0.0337		0.2225		0.1731		-0.0880		-0.0808	
% Diff	0.49%		2.30%		-0.03%		1.87%		0.46%		-1.02%		-0.39%	

Table I.24 Best Fit Rank 1 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 1 vs MEE with CV = 0.75, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	49107	49145	10.1094	10.1523	95.2844	96.2781	12.4487	12.4485	41.8964	41.6427	8.0593	7.9501	19.2570	19.0210
2	49802	49646	10.6875	10.5386	96.1914	95.5839	12.6294	12.8569	41.2998	42.1826	7.8106	7.8512	18.7690	18.8880
3	48012	47495	10.7834	10.7453	96.3369	96.8339	12.3574	12.5965	40.8346	42.2044	7.4206	7.4317	19.0737	19.2718
4	49199	49413	10.1585	10.0580	95.5490	94.3973	12.7715	12.8539	41.6933	41.7158	7.8359	7.7661	19.0674	18.8269
5	47909	47777	10.4034	10.5196	95.3529	96.8117	12.4747	12.3472	42.2426	42.0056	7.5687	7.5332	19.0527	18.9796
6	48631	48725	10.1566	10.1306	95.8956	96.7334	12.7632	12.6734	42.0896	41.8388	7.6595	7.6689	18.9300	18.8131
7	48846	48380	10.0702	9.8296	97.2331	95.6175	12.3606	12.3759	41.1514	41.6379	7.8590	7.7903	19.0033	19.0155
8	49349	48928	11.4242	11.1374	98.9012	97.9650	13.0818	13.1486	42.4231	43.2509	7.7340	7.6576	19.2434	19.0904
9	49082	48942	10.8067	10.6090	95.9503	93.8325	11.9626	12.1482	40.9672	41.8840	7.8921	7.8768	18.9427	18.9476
10	49229	49183	10.0727	9.9215	96.4439	95.8823	12.6774	12.5083	42.4370	41.6918	8.0211	7.9981	19.0539	19.0522
11	48493	48452	11.1641	11.0075	98.5816	96.5794	12.0470	12.0495	41.7594	41.7729	7.7534	7.7628	18.9251	19.0068
12	49646	49605	10.7235	10.5447	95.4918	93.8719	12.5488	12.4698	40.9971	40.8092	7.7186	7.6928	18.7060	18.6591
13	48442	48335	10.4341	10.4309	97.9451	97.0587	13.3685	13.4062	42.5501	43.0380	7.5171	7.4488	19.2721	19.1019
14	48861	49274	10.7968	10.8454	96.0350	96.2384	11.5452	11.7011	39.7758	40.1032	7.8864	8.0461	18.9934	19.1467
15	50001	49730	10.3226	10.3497	97.2342	98.4398	12.8331	13.2273	41.0563	42.3367	7.8618	7.8192	18.8179	18.8583
16	49084	49143	10.4127	10.4313	96.9948	97.9807	13.1670	13.1197	41.8445	41.6464	7.5345	7.6120	18.8717	18.9947
17	49655	49410	9.5436	9.5272	94.5529	95.9136	13.3194	13.4802	42.5408	43.4666	7.9511	7.9124	19.0725	18.9696
18	48496	48273	10.0334	9.9721	97.9210	98.6771	12.5323	12.4298	42.2542	41.8256	7.8596	7.9081	19.0555	19.2995
19	48649	48487	9.6180	9.8419	94.0557	97.2298	13.1884	13.0249	43.0831	42.6406	7.5858	7.6342	18.6931	18.8646
20	48924	49098	10.1661	10.0849	97.7162	96.8768	13.5767	13.4006	43.0454	42.2906	7.6824	7.6691	19.2314	19.1236
21	48944	48835	10.0767	10.1164	94.7589	95.3728	12.8373	13.0815	41.4062	42.4010	7.6018	7.5961	18.8673	18.8623
Avg	48969.5714	48870.2857	10.3793	10.3235	96.4012	96.3893	12.6900	12.7309	41.7785	42.0183	7.7530	7.7441	18.9952	18.9902
[+ -] 20% PE	9694.6286		2.0201		19.2683		-2.4972		-8.1158		1.5417		3.7940	
[+ -] 15% PE	7246.1500		1.5011		14.4482		-1.8627		-6.0269		1.1540		2.8442	
[+ -] 10% PE	4797.6714		0.9822		9.6282		-1.2282		-3.9380		0.7664		1.8945	
[+ -] 05% PE	2349.1929		0.4632		4.8081		-0.5937		-1.8490		0.3787		0.9447	
[+ -] 01% PE	390.4100		0.0480		0.9520		-0.0861		-0.1779		0.0686		0.1849	
[+ -] 20% TS	174.2324		84.1157		70.2927		-55.0967		-49.0376		110.1469		137.6511	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	136.4855		64.6703		51.7163		-44.4068		-37.7082		85.8572		100.7943	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	93.8585		41.7823		33.7505		-31.4645		-25.4944		58.3369		65.3699	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	47.1863		18.6321		16.4787		-16.1773		-12.3733		28.9064		31.6572	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	7.9317		1.8061		3.2014		-2.4370		-1.2212		5.1692		6.0436	
P-Value	0.000000665		0.0429884367		0.002241190		0.0121374030		0.1181121833		0.0000233198		0.0000032915	
Reject?	0		0		0		0		1		0		0	
CI UL	201.8149		0.1123		0.6353		0.0323		0.0621		0.0368		0.0693	
CI LL	-3.2435		-0.0008		-0.6114		-0.1139		-0.5419		-0.0189		-0.0592	
Avg Diff	-99.2857		-0.0557		-0.0120		0.0408		0.2399		-0.0089		-0.0050	
% Diff	-0.20%		-0.54%		-0.01%		0.32%		0.57%		-0.12%		-0.03%	

I.4 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential

Table I.25 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 1st Replicate

1st	Best Fit Rank 2 vs MEE with CV = 0.25, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55653	55706	10.3968	10.0899	87.9156	88.9931	12.2045	12.1199	35.1276	35.0820	8.3296	8.4876	17.8882	17.9319
2	54585	56196	9.7018	10.4927	90.4580	88.7420	12.0767	12.5506	34.9749	35.4953	8.1673	8.3266	17.7357	17.7644
3	55802	54314	9.5252	10.6079	88.6038	88.8900	11.9931	12.2533	35.4051	35.0585	8.5636	7.8682	17.5727	17.8718
4	54906	55706	10.1444	10.0108	87.6777	87.7757	12.4909	12.4112	35.6484	35.0835	7.9665	8.2801	17.5835	17.8187
5	54699	54225	9.9770	10.2820	89.4339	87.6915	11.9207	12.0473	35.0119	35.3254	8.0891	8.0159	17.4581	17.8355
6	55577	54952	9.5896	9.7727	89.0241	86.8320	12.4416	12.4504	35.5275	35.6820	8.3829	8.1598	17.7500	17.8132
7	55436	54825	8.9082	9.7394	85.9867	87.7786	12.2531	11.9804	35.5838	34.9164	8.4047	8.2171	17.5209	17.7300
8	57375	55277	9.7075	11.0741	86.4874	91.8636	12.8983	12.4729	35.5247	35.4185	8.6182	8.1123	17.7774	17.9295
9	55895	55448	9.6859	10.6456	88.8423	87.6599	11.9724	11.6389	34.5328	34.5258	8.4935	8.4546	17.7043	18.0221
10	55459	55914	9.7440	9.8019	89.5436	88.1322	11.9302	12.2836	34.6009	35.2916	8.5244	8.5223	17.9705	17.8756
11	54712	54915	10.2310	10.8061	88.5645	89.2988	12.5602	11.6321	36.3198	34.7196	8.1201	8.3203	17.8717	17.9770
12	54468	55869	10.7112	10.4049	89.1732	88.0921	11.4662	12.2124	34.4892	34.6234	8.1156	8.1622	17.6918	17.5720
13	54705	55074	9.9872	10.1772	88.9316	89.1739	12.3504	13.1766	35.8137	36.1935	8.1934	7.9444	17.8766	17.9130
14	56561	54786	9.8971	10.6809	86.0063	89.7376	12.2181	11.2502	34.7293	33.8825	8.5437	8.4132	17.8138	18.0540
15	56543	56225	9.3538	10.0095	88.3658	90.0351	12.8735	12.5825	35.3822	34.9863	8.3430	8.2598	17.5019	17.5807
16	53651	55740	10.5190	10.1684	89.6591	88.8785	11.8790	12.9664	35.3176	35.6973	7.9048	8.1957	17.8061	18.0108
17	57957	56962	9.6240	9.4467	86.2147	88.4232	13.4926	13.0452	35.6127	35.6717	8.4953	8.5907	17.7148	17.8747
18	55093	54779	10.8289	9.9498	89.8218	91.6496	12.0555	11.9596	34.8350	34.7449	8.1342	8.3037	17.8731	17.8887
19	55257	54777	10.4657	9.8021	89.8947	90.5469	12.0891	12.5517	35.1139	35.7368	8.1208	8.1266	17.5043	17.7698
20	54790	55860	9.8734	10.0077	87.1313	89.5957	12.0076	13.3786	35.6373	36.4120	8.2955	8.1544	17.7681	17.8908
21	55883	55300	9.6521	9.9877	89.5151	88.5694	12.0645	12.7535	34.5761	35.4835	8.4982	8.0977	17.7515	17.8563
Avg	55476.5238	55373.8095	9.9297	10.1885	88.4405	88.9695	12.2494	12.3675	35.2269	35.2395	8.3002	8.2387	17.7207	17.8562
[+ -] 20% PE	10992.5905		-1.7272		-17.1591		-2.3319		-7.0327		1.5986		-3.4086	
[+ -] 15% PE	8218.7643		-1.2307		-12.7371		-1.7194		-5.2713		1.1836		-2.5226	
[+ -] 10% PE	5444.9381		-0.7342		-8.3151		-1.1069		-3.5100		0.7686		-1.6366	
[+ -] 05% PE	2671.1119		-0.2377		-3.8931		-0.4944		-1.7487		0.3535		-0.7505	
[+ -] 01% PE	452.0510		0.1595		-0.3554		-0.0045		-0.3396		0.0215		-0.0417	
[+ -] 20% TS	53.9097		-11.8442		-36.2641		-15.9977		-49.1932		31.7374		-104.3351	
P-Value	0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	38.8048		-8.6795		-27.6175		-12.0405		-37.6475		22.8641		-79.9610	
P-Value	0.0000000000		0.0000000162		0.0000000000		0.0000000001		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	24.7544		-5.3267		-18.5026		-7.9099		-25.5792		14.4401		-53.7135	
P-Value	0.0000000000		0.0000162935		0.0000000000		0.0000000694		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	11.6968		-1.7746		-8.8924		-3.6041		-12.9938		6.4587		-25.4967	
P-Value	0.0000000001		0.0455974293		0.0000000110		0.0008856038		0.0000000000		0.0000013409		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	1.9216		1.2181		-0.8292		-0.0330		-2.5614		0.3846		-1.4554	
P-Value	0.0345081325		0.8813228364		0.2083943624		0.4869934596		0.0093069372		0.3522997728		0.0805396307	
Reject?	0		1		1		1		0		1		1	
CI UL	597.0504		0.0128		0.3605		0.1626		0.2629		0.1789		-0.0762	
CI LL	-391.6219		-0.5303		-1.4184		-0.3987		-0.2882		-0.0560		-0.1949	
Avg Diff	-102.7143		0.2588		0.5290		0.1180		0.0127		-0.0615		0.1355	
% Diff	-0.19%		2.61%		0.60%		0.96%		0.04%		-0.74%		0.76%	

Table I.26 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit Rank 2 vs MEE with CV = 0.25, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	54954	54957	10.4439	10.4743	92.3464	92.6161	11.1547	11.3697	33.1552	33.8398	8.2979	8.3039	17.6515	17.6455
2	55732	55641	10.7484	10.7581	91.0459	91.0921	11.7076	11.7607	33.8988	33.9449	8.0506	8.1366	17.1574	17.4392
3	53319	53129	11.0076	11.0940	93.5065	94.0206	11.3674	11.5206	33.4983	33.8569	7.6509	7.6378	17.5750	17.7244
4	55103	54912	10.3896	10.5038	91.6966	92.9017	11.6776	11.6344	33.9998	33.8255	8.0857	8.1045	17.3658	17.5404
5	53473	53540	10.8052	10.7644	92.8393	92.0634	11.2039	11.3767	33.6674	34.0450	7.7518	7.8651	17.3873	17.6762
6	54137	54251	10.3590	10.3974	92.4535	91.9983	11.4828	11.7103	33.6599	34.2999	7.8556	7.9373	17.3546	17.5079
7	54140	54112	10.2840	10.3520	92.8031	93.9088	11.2259	11.2722	33.4581	33.6314	7.9781	8.0238	17.3524	17.4338
8	54579	54717	11.6755	11.6027	96.7048	95.2830	11.6214	11.7628	33.7870	34.1021	7.8434	7.8766	17.4743	17.5421
9	54422	54422	11.0241	11.0774	92.1483	92.1033	10.7785	10.9443	33.0643	33.6028	8.1219	8.1680	17.4722	17.5788
10	55127	55089	10.2545	10.0960	92.5315	90.7320	11.3129	11.5282	33.4295	34.1234	8.3238	8.3373	17.5807	17.6300
11	54313	54321	11.3410	11.3545	93.5510	93.7422	10.8746	10.9257	33.2224	33.4281	8.0806	8.1147	17.5581	17.6112
12	55059	54977	10.7498	10.8614	91.2435	92.2777	11.4375	11.4415	33.3253	33.3673	7.9248	7.9560	17.2133	17.3174
13	54011	53925	10.6251	10.6983	93.4890	94.4811	12.0951	12.2037	34.3600	34.6711	7.7252	7.6920	17.6284	17.5911
14	54362	54009	11.0715	11.0608	92.7347	93.1158	10.5727	10.5676	32.4953	32.7600	8.1743	8.1901	17.5716	17.7031
15	55623	55329	10.5753	10.5315	94.5437	94.6964	11.8085	11.8827	33.5366	33.8864	8.0417	8.1311	17.2187	17.5165
16	54887	54457	10.6883	10.8000	93.6417	95.5965	12.0008	12.0356	33.9696	34.1951	7.8350	7.8174	17.3738	17.5256
17	56117	55870	9.8164	9.8305	91.3140	91.8594	12.1839	12.3109	34.2018	34.6421	8.2841	8.3147	17.4232	17.5983
18	54131	53846	10.3331	10.4428	94.8331	96.8690	11.2611	11.2670	33.5476	33.6825	8.1032	8.0355	17.5605	17.5095
19	54508	54401	10.0741	10.0892	92.9446	92.7498	11.6258	11.7633	33.6143	34.0187	7.9201	7.9256	17.2946	17.3910
20	55178	54886	10.2622	10.1373	92.7078	91.2743	12.3709	12.3827	34.3174	34.6367	7.8877	7.8427	17.4393	17.4240
21	54436	54340	10.3036	10.2505	91.1818	91.0345	11.6894	11.7634	33.6537	33.7359	7.8520	7.8632	17.4116	17.5250
Avg	54648.1429	54530.0476	10.6111	10.6275	92.8696	93.0674	11.4978	11.5916	33.6125	33.9188	7.9899	8.0131	17.4316	17.5443
[+ -] 20% PE	10811.5333		-2.1058		-18.3760		-2.2057		-6.4162		-1.5748		-3.3736	
[+ -] 15% PE	8079.1262		-1.5752		-13.7326		-1.6308		-4.7355		-1.1753		-2.5021	
[+ -] 10% PE	5346.7190		-1.0447		-9.0891		-1.0559		-3.0549		-0.7759		-1.6305	
[+ -] 05% PE	2614.3119		-0.5141		-4.4456		-0.4810		-1.3743		-0.3764		-0.7589	
[+ -] 01% PE	428.3862		-0.0897		-0.7308		-0.0211		-0.0298		-0.0568		-0.0616	
[+ -] 20% TS	283.8972		-82.7429		-78.4982		-78.0571		-116.0292		-123.4633		-128.9815	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	233.3880		-71.2976		-59.7175		-66.5802		-89.3694		-101.6765		-100.2094	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	163.8301		-53.9664		-40.0896		-49.6757		-59.8682		-72.9292		-68.4497	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	80.6560		-29.3202		-19.8097		-25.5624		-27.7881		-37.3833		-33.4060	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	12.7748		-5.2954		-3.2733		-1.1957		-0.6142		-5.7304		-2.8176	
P-Value	0.0000000000		0.0000174929		0.0019010504		0.1229044125		0.2730188984		0.0000065733		0.0053175060	
Reject?	0		0		0		1		1		0		0	
CI UL	188.9832		0.0189		0.2675		-0.0573		-0.2056		-0.0025		-0.0675	
CI LL	47.2073		-0.0517		-0.6632		-0.1304		-0.4071		-0.0438		-0.1579	
Avg Diff	-118.0952		0.0164		0.1979		0.0938		0.3063		0.0231		0.1127	
% Diff	-0.22%		0.15%		0.21%		0.82%		0.91%		0.29%		0.65%	

Table I.27 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 1st Replicate

Best Fit Rank 2 vs MEE with CV = 0.25, 100 Obs., 1st Replicate														
3rd	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55125	54965	10.8957	10.4891	91.3413	91.2221	12.1460	12.0568	35.5805	35.9098	8.3644	8.4746	18.1031	18.0691
2	53531	55553	10.2300	10.8543	94.7113	90.9002	12.0882	12.3859	35.9777	35.7930	8.0728	8.2191	17.8913	17.7006
3	54902	53261	9.9532	11.1095	91.7854	92.9853	11.7535	12.1463	35.6277	35.7035	8.5499	7.7856	17.7971	18.0311
4	53856	55011	10.6173	10.6081	91.0325	92.4166	12.3466	12.3059	36.3193	35.7774	7.9720	8.3591	17.9175	18.0852
5	53909	53686	10.5088	10.7552	93.1240	91.1610	11.6499	11.9934	35.0963	35.7496	8.2004	8.0075	17.9332	17.9936
6	54708	54307	10.0590	10.2925	92.6572	90.5296	12.3050	12.1941	35.9909	35.6442	8.4651	8.1546	18.1955	18.0072
7	54551	54016	9.2378	10.3490	88.3152	92.8486	12.0337	11.9199	35.9509	35.5185	8.4156	8.2065	17.7627	17.9581
8	56362	54781	10.1738	11.5537	89.7964	93.8357	12.5697	12.5279	35.6288	36.1614	8.5654	8.0820	17.9510	18.0661
9	54925	54424	10.0847	11.0364	92.0177	90.8755	11.8484	11.5881	35.1890	35.4805	8.4650	8.3181	17.8919	17.9874
10	54339	54947	10.2094	10.0995	93.2294	90.3608	11.7000	12.0982	35.1388	35.7387	8.3732	8.5425	17.9415	18.1972
11	53659	54408	10.7281	11.4433	92.2273	93.4388	12.2345	11.4351	36.4802	34.8916	8.0348	8.3090	18.0055	18.0528
12	53426	55039	11.1907	10.6710	92.8775	89.0183	11.2535	11.9599	34.8893	34.9108	8.0993	8.1612	17.9664	17.7956
13	53561	54101	10.5131	10.6987	93.3068	93.0783	12.1975	12.9473	36.5112	36.5800	8.1954	7.9391	18.2280	18.1886
14	55799	54205	10.2867	11.0564	89.2304	91.6822	12.2529	11.2785	35.5669	34.7170	8.5484	8.4110	18.0409	18.2153
15	55429	55658	9.7132	10.5507	91.8773	93.5829	12.6035	12.4625	35.7421	35.3664	8.2708	8.3565	17.6174	17.9114
16	52525	54714	11.0017	10.6847	93.1842	93.0398	11.6718	12.8278	36.0225	36.2671	7.8508	8.0307	17.9809	17.9710
17	56724	55799	10.0321	9.6781	89.9913	89.8103	13.3287	12.9677	36.2209	36.5365	8.3804	8.4893	17.8379	18.0279
18	54236	53940	11.4194	10.4464	93.4324	95.0418	11.9860	11.9588	35.6656	35.5019	8.0878	8.2848	18.0088	18.1665
19	54099	54226	10.9036	10.1881	93.2341	93.2147	11.8738	12.3132	35.5725	35.7028	8.0463	8.0691	17.7025	17.7974
20	53885	54820	10.2777	10.1081	89.9953	90.0971	11.7784	13.1442	35.9318	36.7247	8.2950	8.0270	18.0387	17.9433
21	54904	54255	9.9967	10.4584	91.8419	91.8845	11.8676	12.3883	34.9631	35.7148	8.5125	7.9693	18.0813	17.8065
Avg	54497.8571	54576.9524	10.3825	10.6253	91.8671	91.9535	12.0709	12.2333	35.7174	35.7329	8.2746	8.1998	17.9473	17.9987
[+ -] 20% PE	-10820.4762		-1.8337		-18.2870		-2.2518		-7.1280		1.5802		-3.5381	
[+ -] 15% PE	-8095.5833		-1.3146		-13.6936		-1.6482		-5.3422		1.1665		-2.6407	
[+ -] 10% PE	-5370.6905		-0.7955		-9.1003		-1.0447		-3.5563		0.7527		-1.7434	
[+ -] 05% PE	-2645.7976		-0.2764		-4.5069		-0.4411		-1.7704		0.3390		-0.8460	
[+ -] 01% PE	-465.8833		0.1389		-0.8322		0.0417		-0.3417		0.0080		-0.1281	
[+ -] 20% TS	-38.6021		-11.2770		-33.7036		-16.5215		-51.6771		27.3130		-88.4918	
P-Value	0.0000000000		0.0000000002		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	-29.9076		-8.3126		-25.8937		-12.3698		-39.6312		19.6451		-67.9806	
P-Value	0.0000000000		0.0000000321		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	-20.5627		-5.1734		-17.6585		-8.0174		-26.9849		12.3500		-46.1871	
P-Value	0.0000000000		0.0000230993		0.0000000000		0.0000000564		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	-10.5066		-1.8489		-8.9757		-3.4608		-13.7330		5.4180		-23.0600	
P-Value	0.0000000007		0.0396538993		0.0000000094		0.0012345892		0.0000000000		0.0000132482		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-1.9059		0.9511		-1.6924		0.3328		-2.6966		0.1256		-3.5710	
P-Value	0.0355669056		0.8235367435		0.0530463578		0.6286424792		0.0069404889		0.4506319761		0.0009563428	
Reject?	0		1		1		1		0		1		0	
CI UL	426.9775		0.0602		0.9340		0.0978		0.2478		0.2087		0.0230	
CI LL	-585.1680		-0.5458		-1.1069		-0.4226		-0.2787		-0.0593		-0.1258	
Avg Diff	79.0952		0.2428		0.0864		0.1624		0.0154		-0.0747		0.0514	
% Diff	0.15%		2.34%		0.09%		1.35%		0.04%		-0.90%		0.29%	

Table I.28 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit Rank 2 vs MEE with CV = 0.25, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55200	55208	10.0592	10.1522	89.5285	89.7410	12.4013	12.3798	36.4921	36.4809	8.4618	8.4465	17.9447	17.9179
2	55988	55808	10.4487	10.4127	88.3946	88.4277	12.7722	12.8175	36.4745	36.8102	8.2729	8.3242	17.6589	17.7866
3	53375	53311	10.6369	10.7347	90.2905	91.1495	12.5056	12.5134	36.5546	36.6424	7.7697	7.7771	17.9246	17.9626
4	55244	55013	10.1358	10.1861	89.6543	90.4109	12.7312	12.4828	36.6554	36.0683	8.2701	8.3272	17.8095	18.0201
5	53669	53508	10.3851	10.2553	89.5528	88.8510	12.3605	12.3937	36.7188	36.8946	7.9222	8.0084	17.7698	18.0250
6	54194	54534	10.1264	10.1264	90.4988	90.1024	12.5545	12.6791	36.5985	36.6890	8.0442	8.1641	17.8014	17.9637
7	54428	54433	9.8775	10.0241	89.4785	90.5940	12.2676	12.3612	36.1798	36.4035	8.2459	8.2348	17.8683	17.8643
8	55244	54739	11.2226	11.1737	92.4026	92.5867	12.8861	12.8546	36.7407	37.2024	8.0849	8.0247	17.8674	17.8380
9	54507	54386	10.5093	10.5924	88.5663	89.3682	11.8693	11.8648	36.1669	36.1380	8.2580	8.2848	17.7545	17.8925
10	55156	55101	9.8757	9.8084	89.4986	89.1395	12.5840	12.5082	37.0061	36.6535	8.4599	8.5033	17.8875	18.0528
11	54279	54140	10.9995	11.0020	91.0124	91.5216	11.9300	11.7925	36.3605	36.0370	8.2096	8.2104	17.8754	17.9058
12	55562	55344	10.4040	10.4521	87.7857	89.0407	12.4707	12.4083	35.7876	35.6728	8.1611	8.1184	17.6271	17.6084
13	53992	54064	10.2105	10.2986	90.7234	91.3391	13.2342	13.3065	37.2925	37.4773	7.9082	7.8704	18.1284	18.0095
14	54218	54494	10.6610	10.7316	89.7342	90.2911	11.5477	11.5820	35.5116	35.4068	8.2653	8.3427	17.8339	17.9023
15	55910	55861	10.2929	10.2661	92.6654	92.0685	12.8704	13.0578	35.9443	36.6553	8.2901	8.3014	17.7775	17.7738
16	55090	54732	10.2958	10.4173	90.4783	91.7303	13.2854	13.2508	37.1268	37.3497	7.9613	7.9935	17.6872	17.8678
17	56000	56052	9.5454	9.4531	89.9974	88.8701	13.3883	13.3834	37.4850	37.3239	8.4877	8.5066	17.9160	17.9820
18	54248	54082	9.9937	10.0717	92.1539	92.9317	12.3364	12.1758	36.4313	35.9697	8.2846	8.2526	17.9783	18.0032
19	54565	54302	9.6524	9.7290	89.6909	90.7912	12.8681	12.9080	36.8487	37.2593	8.0399	8.0408	17.6169	17.6662
20	54900	55134	9.9389	9.8955	90.0414	89.6432	13.6583	13.6350	37.9219	37.8351	7.9887	8.0466	17.8179	17.8013
21	54744	54344	10.0336	9.8682	88.5302	87.8877	12.8679	12.9079	36.5402	36.8806	8.0455	7.9610	17.8481	17.7809
Avg	54786.3333	54694.7619	10.2526	10.2691	90.0323	90.3088	12.6376	12.6316	36.6113	36.6595	8.1634	8.1781	17.8282	17.8869
[+ -] 20% PE	10865.6952		-2.0340		-17.7299		2.5215		-7.2740		-1.6180		-3.5070	
[+ -] 15% PE	8126.3786		-1.5214		-13.2283		1.8896		-5.4435		-1.2099		-2.6156	
[+ -] 10% PE	5387.0619		-1.0088		-8.7267		1.2577		-3.6129		-0.8017		-1.7242	
[+ -] 05% PE	2647.7452		-0.4961		-4.2251		0.6259		-1.7823		-0.3935		-0.8328	
[+ -] 01% PE	456.2919		-0.0860		-0.6238		0.1203		-0.3179		-0.0670		-0.1196	
[+ -] 20% TS	213.9855		-79.3874		-102.0728		77.3556		-95.2339		-116.1685		-144.4482	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	169.9555		-66.6931		-78.5918		66.1763		-73.3401		-94.8001		-111.2888	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	116.8720		-48.9542		-53.2303		50.0472		-49.8204		-67.5521		-75.6932	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	57.8680		-25.8217		-26.2986		27.6816		-24.9970		-34.7959		-37.6628	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	9.8120		-4.5739		-3.9266		5.6083		-4.4965		-6.0132		-5.5331	
P-Value	0.0000000022		0.0000921005		0.0004175814		0.0000863342		0.0001102881		0.0000035187		0.0000102208	
Reject?	0		0		0		0		0		0		0	
CI UL	189.2539		0.0228		0.0542		0.0505		0.0990		0.0086		-0.0138	
CI LL	-6.1111		-0.0557		-0.6072		-0.0384		-0.1955		-0.0379		-0.1035	
Avg Diff	-91.5714		0.0165		0.2765		-0.0060		0.0482		0.0146		0.0586	
% Diff	-0.17%		0.16%		0.31%		-0.05%		0.13%		0.18%		0.33%	

Table I.29 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit Rank 2 vs MEE with CV = 0.75, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55503	55315	9.6961	9.2361	78.7258	78.0963	10.8485	10.7238	31.2384	31.1646	8.2169	8.3702	17.9310	18.0665
2	54271	55437	9.0083	9.6354	79.7022	79.0923	11.1288	11.0996	32.1845	31.6557	8.0991	8.1690	18.0334	17.9432
3	55201	53893	8.7746	9.6272	78.4384	77.9216	10.8069	10.9894	32.1661	31.4921	8.4340	7.8166	17.7328	18.2066
4	54818	55845	9.4392	9.1909	78.0201	76.5496	11.3847	11.2007	32.4499	31.5808	7.9519	8.2567	17.8516	17.9536
5	54400	53915	9.3132	9.4916	80.0241	77.5643	10.7944	10.6298	31.8577	31.0852	8.0897	7.8943	17.7732	18.0204
6	55039	54573	8.9680	9.2152	79.7564	79.0052	11.2127	11.0166	32.0003	31.5229	8.2208	8.1062	17.9323	18.1343
7	54844	53942	8.1869	9.1066	76.1957	79.6530	10.9560	10.9568	32.0551	32.1910	8.3180	8.1005	17.7531	18.0821
8	56934	54985	8.8976	10.3211	76.0918	81.2828	11.4219	11.2972	31.4963	32.2296	8.5162	8.0424	18.0026	18.1550
9	55253	54144	8.9290	9.7785	78.5072	78.9155	10.7787	10.4386	31.4229	31.5923	8.3889	8.2086	17.9205	18.1717
10	54814	55085	9.0961	8.8804	80.2983	77.6509	10.6223	10.9493	31.0116	31.7772	8.2918	8.3316	17.9731	17.9971
11	54337	54284	9.5896	10.0846	79.6772	79.5630	11.3182	10.3727	32.9183	31.4036	8.0000	8.1546	17.9742	18.0734
12	54161	55380	9.8647	9.4503	79.4430	76.4805	10.4079	10.7497	31.5620	30.7669	8.0695	8.1743	17.8429	18.0111
13	54168	54703	9.2915	9.5525	79.4977	80.1505	10.9671	11.8495	31.9579	32.7511	8.1467	7.8533	18.2515	18.0806
14	56275	54062	9.1448	9.8101	76.9553	79.6857	10.7827	9.8695	30.8047	30.0477	8.4729	8.2769	17.9240	18.2606
15	55896	56239	8.7227	9.3948	79.5862	79.5361	11.4720	11.2972	31.6583	31.2545	8.1805	8.2755	17.6390	17.9332
16	53434	55618	9.7066	9.5677	79.6122	79.1211	10.8878	11.6053	32.3687	31.7787	7.7964	8.0323	17.8962	18.0687
17	57423	56374	8.8378	8.6094	77.0486	76.4911	12.0535	11.6654	31.9229	32.1952	8.3502	8.3910	17.8179	17.9186
18	54811	53774	9.9552	9.2706	78.8915	81.4158	10.7966	10.6151	31.3310	31.3870	8.0385	8.1036	18.0033	18.0828
19	54991	54480	9.6611	8.8201	79.1708	78.1639	11.0335	11.1956	32.2678	31.8063	8.0923	8.0389	17.7373	17.9924
20	54009	55550	9.1693	9.2021	78.7769	80.0283	10.6663	11.8771	32.0797	32.2463	8.1742	8.0267	17.9662	17.9802
21	55201	54775	8.9394	9.1287	79.0138	77.6441	10.7671	11.4407	31.0976	32.1294	8.3822	7.9732	18.0417	17.9913
Avg	55037.2857	54874.9048	9.1996	9.3988	78.7349	78.7625	11.0051	11.0400	31.8025	31.6218	8.2015	8.1236	17.9047	18.0535
[+ -] 20% PE	10845.0762		-1.6408		-15.7194		-2.1662		6.1798		1.5625		-3.4321	
[+ -] 15% PE	8093.2119		-1.1808		-11.7827		-1.6159		4.5897		1.1524		-2.5369	
[+ -] 10% PE	5341.3476		-0.7208		-7.8460		-1.0656		2.9996		0.7423		-1.6416	
[+ -] 05% PE	2589.4833		-0.2608		-3.9092		-0.5154		1.4095		0.3323		-0.7464	
[+ -] 01% PE	387.9919		0.1072		-0.7598		-0.0752		0.1374		0.0042		-0.0302	
[+ -] 20% TS	48.7737		-11.4624		-32.2584		-17.5195		46.0795		33.4054		-89.0330	
P-Value	0.0000000000		0.0000000002		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	35.3090		-8.4689		-24.7024		-13.2889		33.6148		23.9481		-68.0365	
P-Value	0.0000000000		0.000000239		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	22.6004		-5.3087		-16.8069		-8.9061		21.5542		14.9921		-45.5472	
P-Value	0.0000000000		0.0000169713		0.0000000000		0.0000000107		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	10.6250		-1.9729		-8.5572		-4.3745		9.9271		6.5211		-21.4374	
P-Value	0.0000000006		0.0312427783		0.0000000203		0.0001465628		0.0000000018		0.0000011737		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	1.5533		0.8281		-1.6924		-0.6458		0.9515		0.0806		-0.8921	
P-Value	0.0680130245		0.7913200678		0.0530491329		0.2628839862		0.1763492707		0.4682952782		0.1914665182	
Reject?	1		1		1		1		1		1		1	
CI UL	686.6220		0.0693		0.9049		0.2073		0.4831		0.1872		-0.0787	
CI LL	-361.8601		-0.4676		-0.9600		-0.2770		-0.1218		-0.0315		-0.2190	
Avg Diff	-162.3810		0.1992		0.0275		0.0349		-0.1807		-0.0778		0.1488	
% Diff	-0.30%		2.16%		0.03%		0.32%		-0.57%		-0.95%		0.83%	

Table I.30 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit Rank 2 vs MEE with CV = 0.75, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	55560	54335	8.9629	8.8013	77.3730	76.6768	10.4303	10.0706	30.0773	29.4668	9.3293	9.0429	19.9911	19.9759
2	56595	55321	9.2961	9.3145	77.4758	77.6651	10.6178	10.3525	29.6135	29.3754	9.1566	9.0630	19.5709	19.9826
3	54638	53223	9.4112	9.4979	77.3706	78.0111	10.5996	10.2353	29.8996	29.3539	8.6098	8.4228	19.6349	20.0335
4	55389	55372	8.8543	8.9091	76.5992	76.2092	10.5871	10.6188	29.8878	29.8051	9.1422	9.0458	19.9998	19.9461
5	54247	53042	9.1896	9.1170	77.2085	77.9537	10.5216	10.3176	30.4687	30.1910	8.6224	8.5454	19.4216	19.8812
6	54482	54067	8.8553	8.8793	77.8408	77.7125	10.5835	10.4675	30.1279	29.8592	8.7243	8.8674	19.5313	20.1571
7	54841	53637	8.7654	8.7436	77.8296	78.5207	10.5073	10.0632	30.3604	29.3355	9.0048	8.8752	19.6164	20.0255
8	55791	54722	9.8301	9.8692	79.3930	80.7455	11.0815	10.4787	30.8548	29.5603	9.0689	8.8096	20.1056	20.0805
9	55030	53995	9.4812	9.3208	78.0946	76.4474	9.8356	9.7936	29.1956	29.4139	8.9323	8.9311	19.3077	19.9067
10	55602	54603	8.6287	8.6801	77.2883	77.6940	10.8526	10.1244	31.0266	29.3346	9.3627	9.2601	19.9617	20.2691
11	54887	53906	9.7224	9.6437	78.4315	78.1489	10.0101	9.7987	29.7856	29.5941	9.0715	9.1258	19.7889	20.3954
12	55991	54103	9.1393	9.1051	75.8456	77.0052	10.6418	10.2971	29.9194	29.7383	8.8254	8.7278	19.1491	19.7919
13	54867	54066	9.0531	9.0576	79.4409	78.8429	11.4865	11.2313	31.1748	30.8087	8.9199	8.6238	20.4603	20.2756
14	54530	53797	9.4752	9.4197	78.4583	77.3643	9.8031	9.4483	29.5746	28.6235	9.0312	9.0222	19.6057	20.1082
15	56754	55201	9.0472	8.8230	78.9109	78.2729	10.9588	10.6031	29.6979	29.3976	9.1175	8.8976	19.5650	19.7664
16	55581	54768	8.9481	8.8667	77.5789	77.1094	11.3352	10.9724	30.9326	30.2075	8.9389	8.8641	19.9520	20.2313
17	56694	55592	8.5226	8.4698	78.3899	77.9347	11.2056	10.8480	30.5515	29.9356	9.4676	9.2767	20.0141	20.1914
18	54499	53545	8.7870	8.8570	78.9884	79.7864	10.4265	10.2994	30.1438	30.1949	8.9762	8.9802	19.7088	20.2073
19	54641	53854	8.6356	8.5995	79.1042	78.9322	10.7888	10.5328	30.2992	29.9969	8.7374	8.7418	19.4536	19.8161
20	55577	55079	8.9303	8.8748	79.9251	78.4269	11.3638	11.1559	30.5761	30.1780	8.7637	8.7804	19.6076	20.0086
21	54726	54403	8.8467	8.7442	77.2004	75.3591	10.8264	10.7097	30.2265	29.8598	8.6529	8.7057	19.5074	19.9557
Avg	55282.0000	54315.7619	9.0658	9.0283	78.0356	77.8485	10.6887	10.4009	30.2092	29.7253	8.9741	8.8862	19.7121	20.0479
[+ -] 20% PE	10090.1619		1.7756		15.4201		1.8499		5.5579		1.7069		-3.6066	
[+ -] 15% PE	7326.0619		1.3223		11.5183		1.3155		4.0474		1.2582		-2.6210	
[+ -] 10% PE	4561.9619		0.8691		7.6165		0.7810		2.5369		0.8095		-1.6354	
[+ -] 05% PE	1797.8619		0.4158		3.7147		0.2466		1.0265		0.3608		-0.6498	
[+ -] 01% PE	-413.4181		0.0531		0.5933		-0.1809		-0.1819		0.0018		0.1387	
[+ -] 20% TS	116.3296		77.2680		80.3616		48.4399		63.0334		72.4449		-56.5663	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	83.8922		63.7935		59.9658		35.3225		44.7799		52.8642		-43.1019	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	51.4336		45.6876		39.4790		21.1306		27.3110		33.2758		-28.2438	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	19.7982		23.0784		19.1077		6.5995		10.7294		14.3614		-11.8043	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000009936		0.0000000005		0.0000000000		0.0000000001	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	-4.4452		2.9852		3.0263		-4.7406		-1.8546		0.0704		2.6272	
P-Value	0.9998757202		0.0036578327		0.0033345436		0.9999374587		0.9607737601		0.4723028577		0.9919273902	
Reject?	1		0		0		1		1		1		1	
CI UL	1161.5194		0.0747		0.5970		0.3680		0.6899		0.1425		-0.2269	
CI LL	770.9568		0.0003		-0.2229		0.2077		0.2781		0.0333		-0.4448	
Avg Diff	-966.2381		-0.0375		-0.1871		-0.2878		-0.4840		-0.0879		0.3358	
% Diff	-1.75%		-0.41%		-0.24%		-2.69%		-1.60%		-0.98%		1.70%	

Table I.31 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit Rank 2 vs MEE with CV = 0.75, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF
1	49958	51211	10.8038	10.6939	98.4294	97.7103	11.8742	11.8780	37.7680	37.2546	8.5828	8.8454	20.8444	20.6340
2	48942	51561	9.9865	11.0768	99.9613	97.9666	11.5776	12.1772	37.0716	37.5221	8.4577	8.7286	20.8218	20.5397
3	50272	49148	9.8296	11.1941	97.8740	100.7653	11.3925	12.1022	36.9494	38.0001	8.8436	8.0997	20.4610	20.6027
4	49458	50577	10.5728	10.8344	97.1843	100.7395	12.1556	12.1335	38.1205	37.7144	8.3047	8.5256	20.7536	20.4383
5	49284	49348	10.4294	11.0431	100.8391	99.6905	11.5000	11.7746	37.1742	37.5278	8.3349	8.1809	20.2380	20.3799
6	49815	50009	9.8492	10.4652	97.7310	98.2934	11.9227	12.2576	37.6219	38.3076	8.7006	8.3843	20.9100	20.4297
7	49674	50385	9.3728	10.4330	96.0940	99.0703	11.7745	11.8907	37.9988	37.2829	8.6907	8.5194	20.4969	20.3328
8	51755	50935	10.1252	11.7219	96.1440	101.1128	12.1386	12.5206	36.7502	38.3743	8.9390	8.4672	20.7573	20.6345
9	50226	50145	10.0023	11.2034	96.3686	97.8975	11.7225	11.3720	37.3867	37.3086	8.7797	8.6217	20.7392	20.5499
10	49758	50212	10.1526	10.5650	100.1503	100.7899	11.3585	11.9192	36.3258	37.9358	8.7140	8.6533	20.8216	20.5318
11	49331	49974	10.6650	11.5469	97.5646	101.1228	11.8915	11.4893	37.9542	37.5837	8.3638	8.6726	20.7593	20.8320
12	49254	50760	11.2308	11.1478	99.4340	99.6762	11.0205	11.8757	36.4728	37.0058	8.5239	8.3926	20.8445	20.1373
13	48992	50319	10.4358	10.9212	99.5695	99.8106	11.8615	12.8101	38.0340	38.3801	8.4478	8.2081	20.9594	20.5786
14	50809	50028	10.4643	11.1920	97.8283	97.8887	11.7764	11.1066	37.0071	36.6887	8.7872	8.7322	20.6729	20.7783
15	50898	51849	9.7515	10.7161	98.4911	100.6592	12.4589	12.3132	37.7474	36.7687	8.6920	8.7520	20.5425	20.5343
16	47897	50560	10.9885	10.8710	101.6798	100.6748	11.6149	12.8390	38.4743	38.9471	8.1272	8.4135	20.7704	20.6150
17	51718	51941	9.9895	9.8871	96.9597	95.7698	13.2528	12.7839	38.7757	38.2022	8.8015	8.8693	20.9044	20.5682
18	49649	49668	11.4045	10.4545	101.0042	101.5208	11.5499	11.6957	36.6555	37.2862	8.3107	8.5992	20.6251	20.7359
19	49669	50643	10.6725	10.2259	98.1283	97.7245	11.5651	12.4481	37.0879	38.0398	8.4787	8.5305	20.6527	20.5190
20	49112	50578	10.4349	10.4840	99.0668	99.2196	11.5963	13.0443	37.8809	39.0408	8.5583	8.4292	20.8419	20.7297
21	50354	50862	10.0269	10.3418	98.5952	95.4793	11.6888	12.5128	36.8582	37.7363	8.7582	8.4340	20.6476	20.4870
Avg	49848.8095	50510.1429	10.3423	10.8104	98.5284	99.2182	11.7949	12.1402	37.4341	37.7575	8.5808	8.5266	20.7174	20.5518
[+ -] 20% PE		-9308.4286		-1.6003		-19.0159		-2.0137		-7.1634		1.6620		3.9779
[+ -] 15% PE		-6815.9881		-1.0832		-14.0895		-1.4239		-5.2917		1.2329		2.9421
[+ -] 10% PE		-4323.5476		-0.5661		-9.1631		-0.8342		-3.4200		0.8039		1.9062
[+ -] 05% PE		-1831.1071		-0.0490		-4.2366		-0.2445		-1.5483		0.3749		0.8703
[+ -] 01% PE		162.8452		0.3647		-0.2955		0.2273		-0.0509		0.0316		0.0416
[+ -] 20% TS		-37.8051		-10.1848		-38.9017		-14.6052		-38.8606		30.1710		93.4043
P-Value		0.0000000000		0.0000000012		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000
Reject?		0		0		0		0		0		0		0
[+ -] 15% TS		-28.5836		-7.0884		-29.5076		-10.5630		-29.5160		21.8410		67.2533
P-Value		0.0000000000		0.0000003584		0.0000000000		0.0000000006		0.0000000000		0.0000000000		0.0000000000
Reject?		0		0		0		0		0		0		0
[+ -] 10% TS		-18.7273		-3.8099		-19.6407		-6.3269		-19.6110		13.8893		42.4036
P-Value		0.0000000000		0.0005484303		0.0000000000		0.0000017791		0.0000000000		0.0000000000		0.0000000000
Reject?		0		0		0		0		0		0		0
[+ -] 05% TS		-8.1940		-0.3391		-9.2911		-1.8947		-9.1248		6.3144		18.8352
P-Value		0.0000000402		0.3690441135		0.0000000054		0.0363385930		0.0000000072		0.0000018275		0.0000000000
Reject?		0		1		0		0		0		0		0
[+ -] 01% TS		0.7480		2.5829		-0.6598		1.7922		-0.3065		0.5221		0.8813
P-Value		0.7684228140		0.9911146386		0.2584500975		0.9558813470		0.3811824099		0.3036701432		0.1943136415
Reject?		1		1		1		1		1		1		1
CI UL		-210.1764		-0.1753		0.2403		-0.0818		0.0211		0.1812		0.2646
CI LL		-1112.4903		-0.7610		-1.6199		-0.6088		-0.6679		-0.0729		0.0664
Avg Diff		661.3333		0.4681		0.6898		0.3453		0.3234		-0.0542		-0.1655
% Diff		1.33%		4.53%		0.70%		2.93%		0.86%		-0.63%		-0.80%

Table I.32 Best Fit Rank 2 vs Less Fit Mixed Empirical-Exponential with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit Rank 2 vs MEE with CV = 0.75, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		WIP C		Avg Time C			
	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF	BF	LF		
1	49112	49145	10.1586	10.1523	95.5650	96.2781	12.3053	12.4485	41.2050	41.6427	7.9449	7.9501	19.0574	19.0210
2	49730	49646	10.7166	10.5386	96.7593	95.5839	12.8007	12.8569	41.6047	42.1826	7.7790	7.8512	18.8027	18.8880
3	47797	47495	10.8930	10.7453	98.4174	96.8339	12.4941	12.5965	41.1652	42.2044	7.3524	7.4317	19.0520	19.2718
4	49227	49413	10.1569	10.0580	96.0617	94.3973	12.6926	12.8539	41.3309	41.7158	7.8328	7.7661	19.0460	18.8269
5	48418	47777	10.4378	10.5196	94.5036	96.8117	12.4148	12.3472	41.7347	42.0056	7.6084	7.5332	18.9053	18.9796
6	48524	48725	10.1586	10.1306	96.7089	96.7334	12.8193	12.6734	42.2260	41.8388	7.7754	7.6689	19.2753	18.8131
7	48728	48380	9.9552	9.8296	96.1482	95.6175	12.4267	12.3759	41.4100	41.6379	7.7946	7.7903	18.9184	19.0155
8	49646	48928	11.1723	11.1374	96.3977	97.9650	13.0272	13.1486	42.0341	43.2509	7.8093	7.6576	19.2824	19.0904
9	49055	48942	11.0021	10.6090	97.1062	93.8325	11.8163	12.1482	40.4700	41.8840	7.8746	7.8768	18.9472	18.9476
10	49160	49183	9.8377	9.9215	94.5080	95.8823	12.7491	12.5083	42.7884	41.6918	8.0017	7.9981	19.0113	19.0522
11	48677	48452	11.0293	11.0075	96.3000	96.5794	11.9343	12.0495	41.1588	41.7729	7.7973	7.7628	19.0119	19.0068
12	49648	49605	10.4552	10.5447	93.5233	93.8719	12.7107	12.4698	41.5389	40.8092	7.6806	7.6928	18.5930	18.6591
13	48449	48335	10.6571	10.4309	99.4554	97.0587	13.4912	13.4062	42.9669	43.0380	7.4969	7.4488	19.2367	19.1019
14	48700	49274	10.9167	10.8454	98.0052	96.2384	11.6792	11.7011	40.3416	40.1032	7.9219	8.0461	19.1228	19.1467
15	49776	49730	10.3461	10.3497	98.9930	98.4398	12.8081	13.2273	40.8883	42.3367	7.8644	7.8192	18.9414	18.8583
16	49107	49143	10.3662	10.4313	96.5809	97.9807	13.3809	13.1197	42.5841	41.6464	7.5654	7.6120	18.9207	18.9947
17	49913	49410	9.5090	9.5272	94.6513	95.9136	13.3460	13.4802	42.4751	43.4666	8.0089	7.9124	19.0504	18.9696
18	48250	48273	10.0001	9.9721	98.2060	98.6771	12.4571	12.4298	42.0563	41.8256	7.8123	7.9081	19.0835	19.2995
19	48531	48487	9.8869	9.8419	97.8699	97.2298	13.0909	13.0249	42.7416	42.6406	7.6604	7.6342	18.9237	18.8646
20	49059	49098	10.0597	10.0849	96.8068	96.8768	13.5734	13.4006	42.7579	42.2906	7.6469	7.6691	19.1320	19.1236
21	48950	48835	10.1423	10.1164	95.7224	95.3728	13.0310	13.0815	41.7134	42.4010	7.5936	7.5961	18.9296	18.8623
Avg	48974.1429	48870.2857	10.3742	10.3235	96.5853	96.3893	12.7166	12.7309	41.7710	42.0183	7.7534	7.7441	19.0116	18.9902
[+ -] 20% PE	9690.9714		2.0242		19.1211		-2.5291		-8.1069		1.5413		3.7809	
[+ -] 15% PE	7242.2643		1.5055		14.2918		-1.8932		-6.0183		1.1537		2.8303	
[+ -] 10% PE	4793.5571		0.9868		9.4625		-1.2574		-3.9298		0.7660		1.8797	
[+ -] 05% PE	2344.8500		0.4681		4.6333		-0.6216		-1.8412		0.3783		0.9291	
[+ -] 01% PE	385.8843		0.0531		0.7699		-0.1129		-0.1704		0.0682		0.1687	
[+ -] 20% TS	148.4798		83.4430		69.2004		-48.3639		-44.5272		97.4540		125.3664	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 15% TS	113.3636		65.5201		50.3290		-39.1620		-34.0373		75.2185		91.9967	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 10% TS	76.0080		43.4218		32.3614		-28.0805		-22.8720		50.8270		59.7583	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 05% TS	37.3184		19.8879		15.3647		-14.9074		-11.0193		25.1768		28.8339	
P-Value	0.0000000000		0.0000000000		0.0000000000		0.0000000000		0.0000000003		0.0000000000		0.0000000000	
Reject?	0		0		0		0		0		0		0	
[+ -] 01% TS	6.1179		2.1339		2.4887		-2.8477		-1.0420		4.4995		5.1280	
P-Value	0.0000027982		0.0227091877		0.0108760786		0.0049740123		0.1549175107		0.0001095173		0.0000256205	
Reject?	0		0		0		0		1		0		0	
CI UL	235.6758		0.1034		0.8455		0.0675		0.0920		0.0411		0.0904	
CI LL	-27.9615		-0.0021		-0.4535		-0.0960		-0.5866		-0.0224		-0.0475	
Avg Diff	-103.8571		-0.0506		-0.1960		0.0142		0.2473		-0.0094		-0.0215	
% Diff	-0.21%		-0.49%		-0.20%		0.11%		0.59%		-0.12%		-0.11%	

I.5 Best Fit Rank 1 vs Best Fit Rank 2

Table I.33 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 30 Observations, 1st Replicate

Ist	Best Fit R1 vs Best Fit R2 with CV = 0.25, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	55762	55653	10.4591	10.3968	88.1985	87.9156	12.2451	12.2045	35.1888	35.1276	8.3498	8.3296	17.8973	17.8882
2	54485	54585	9.8009	9.7018	91.3538	90.4580	12.1896	12.0767	35.3447	34.9749	8.1142	8.1673	17.6814	17.7357
3	55861	55802	9.5348	9.5252	88.7276	88.6038	12.1435	11.9931	35.7149	35.4051	8.6008	8.5636	17.6572	17.5727
4	54752	54906	10.1703	10.1444	87.8669	87.6777	12.4190	12.4909	35.5346	35.6484	7.9767	7.9665	17.6806	17.5835
5	54574	54699	9.8649	9.9770	88.9195	89.4339	11.8809	11.9207	34.9414	35.0119	8.0726	8.0891	17.4681	17.4581
6	55518	55577	9.6641	9.5896	89.2756	89.0241	12.4809	12.4416	35.6636	35.5275	8.3944	8.3829	17.8237	17.7500
7	55589	55436	8.9002	8.9082	85.6244	85.9867	12.3158	12.2531	35.6985	35.5838	8.3734	8.4047	17.3985	17.5209
8	57078	57375	9.7975	9.7075	87.7760	86.4874	12.8232	12.8983	35.4240	35.5247	8.5920	8.6182	17.8434	17.7774
9	55820	55895	9.6453	9.6859	88.8623	88.8423	12.0423	11.9724	34.6120	34.5328	8.4332	8.4935	17.6507	17.7043
10	55330	55459	9.8813	9.7440	90.9297	89.5436	11.8559	11.9302	34.4403	34.6009	8.3576	8.5244	17.6751	17.9705
11	55066	54712	10.1546	10.2310	87.0592	88.5645	12.6012	12.5602	36.2264	36.3198	8.1466	8.1201	17.8168	17.8717
12	54407	54468	10.6530	10.7112	89.0166	89.1732	11.4457	11.4662	34.5464	34.4892	8.1257	8.1156	17.6977	17.6918
13	54350	54705	10.0364	9.9872	89.4515	88.9316	12.2835	12.3504	35.8408	35.8137	8.1898	8.1934	18.0181	17.8766
14	56523	56561	9.8423	9.8971	86.1072	86.0063	12.1691	12.2181	34.6996	34.7293	8.5011	8.5437	17.6803	17.8138
15	56321	56543	9.3124	9.3538	87.9195	88.3658	12.9063	12.8735	35.5387	35.3822	8.2625	8.3430	17.4460	17.5019
16	53478	53651	10.4377	10.5190	89.5772	89.6591	11.9449	11.8790	35.5456	35.3176	7.8829	7.9048	17.8279	17.8061
17	57843	57957	9.5053	9.6240	85.9458	86.2147	13.5009	13.4926	35.6498	35.6127	8.4383	8.4953	17.6286	17.7148
18	55213	55093	10.8192	10.8289	89.4900	89.8218	11.9717	12.0555	34.5574	34.8350	8.2053	8.1342	17.9765	17.8731
19	55175	55257	10.4257	10.4657	89.1620	89.8947	12.0603	12.0891	35.1759	35.1139	8.1120	8.1208	17.5006	17.5043
20	54802	54790	9.8598	9.8734	87.7759	87.1313	11.8922	12.0076	35.2848	35.6373	8.3449	8.2955	17.8360	17.7681
21	55906	55883	9.6479	9.6521	89.6298	89.5151	12.2008	12.0645	34.8672	34.5761	8.4652	8.4982	17.7015	17.7515
Avg	55421.5714	55476.5238	9.9244	9.9297	88.5080	88.4405	12.2558	12.2494	35.2617	35.2269	8.2828	8.3002	17.7098	17.7207
PE	-54.9524		-0.0053		0.0675		0.0064		0.0348		-0.0174		-0.0109	
TS	-1.578272205		-0.343714263		0.466354739		0.381066808		0.862680292		-1.541788886		-0.49776773	
P-Value	0.130189552		0.734648308		0.646001143		0.707171506		0.398540076		0.138799451		0.624076611	
Reject?	1		1		1		1		1		1		1	
Avg Diff	-54.9524		-0.0053		0.0675		0.0064		0.0348		-0.0174		-0.0109	
% Diff	-0.10%		-0.05%		0.08%		0.05%		0.10%		-0.21%		-0.06%	

Table I.34 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 30 Observations, 2nd Replicate

2nd	Best Fit R1 vs Best Fit R2 with CV = 0.25, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	55089	54954	10.3691	10.4439	91.5369	92.3464	11.3369	11.1547	33.6067	33.1552	8.2650	8.2979	17.5391	17.6515
2	55845	55732	10.8719	10.7484	91.4963	91.0459	11.6833	11.7076	33.6564	33.8988	8.0544	8.0506	17.1830	17.1574
3	53709	53319	10.9363	11.0076	91.9511	93.5065	11.3854	11.3674	33.2265	33.4983	7.6574	7.6509	17.5101	17.5750
4	55139	55103	10.4109	10.3896	91.5285	91.6966	11.5765	11.6776	33.5727	33.9998	8.1508	8.0857	17.5598	17.3658
5	53863	53473	10.5898	10.8052	90.6239	92.8393	11.3322	11.2039	33.7629	33.6674	7.8208	7.7518	17.4160	17.3873
6	54430	54137	10.3075	10.3590	91.6206	92.4535	11.5891	11.4828	33.8101	33.6599	7.9291	7.8556	17.4054	17.3546
7	54440	54140	10.1897	10.2840	91.6200	92.8031	11.3709	11.2259	33.6808	33.4581	8.0799	7.9781	17.4791	17.3524
8	54936	54579	11.6387	11.6755	95.7370	96.7048	11.5979	11.6214	33.4864	33.7870	7.9339	7.8434	17.5668	17.4743
9	54555	54422	11.0691	11.0241	92.2105	92.1483	10.7935	10.7785	32.9744	33.0643	8.1163	8.1219	17.4380	17.4722
10	55072	55127	10.1971	10.2545	92.1689	92.5315	11.3953	11.3129	33.6933	33.4295	8.2500	8.3238	17.4425	17.5807
11	54291	54313	11.2866	11.3410	93.2372	93.5510	10.8865	10.8746	33.3679	33.2224	8.1277	8.0806	17.6281	17.5581
12	55222	55059	10.7045	10.7498	90.5623	91.2435	11.3933	11.4375	33.0402	33.3253	7.9161	7.9248	17.1663	17.2133
13	54096	54011	10.6069	10.6251	93.1023	93.4890	12.1005	12.0951	34.3344	34.3600	7.7069	7.7252	17.5585	17.6284
14	54253	54362	11.0300	11.0715	92.2958	92.7347	10.5638	10.5727	32.6260	32.4953	8.1612	8.1743	17.5559	17.5716
15	55921	55623	10.6345	10.5753	94.7924	94.5437	11.7778	11.8085	33.2275	33.5366	8.0926	8.0417	17.2555	17.2187
16	54869	54887	10.6809	10.6883	93.8229	93.6417	12.0112	12.0008	34.0020	33.9696	7.8667	7.8350	17.4452	17.3738
17	56192	56117	9.7703	9.8164	91.1215	91.3140	12.2651	12.1839	34.3239	34.2018	8.2278	8.2841	17.2994	17.4232
18	54037	54131	10.3685	10.3331	95.4227	94.8331	11.2396	11.2611	33.4568	33.5476	8.1033	8.1032	17.6226	17.5605
19	54531	54508	10.0510	10.0741	92.8761	92.9446	11.6775	11.6258	33.7508	33.6143	7.9221	7.9201	17.2840	17.2946
20	55067	55178	10.3668	10.2622	93.5838	92.7078	12.3533	12.3709	34.4596	34.3174	7.8551	7.8877	17.3615	17.4393
21	54676	54436	10.3252	10.3036	90.6608	91.1818	11.7243	11.6894	33.5545	33.6537	7.8558	7.8520	17.3845	17.4116
Avg	54773.0000	54648.1429	10.5907	10.6111	92.4748	92.8696	11.5264	11.4978	33.6007	33.6125	8.0044	7.9899	17.4334	17.4316
PE	124.8571		-0.0203		-0.3947		0.0286		-0.0118		0.0145		0.0017	
TS	3.439917759		-1.266353638		-2.492340658		1.872949639		-0.236481285		1.388559628		0.093092299	
P-Value	0.002591281		0.219937685		0.021583483		0.07576721		0.815464351		0.18023877		0.926756476	
Reject?	0		1		0		1		1		1		1	
Avg Diff	124.8571		-0.0203		-0.3947		0.0286		-0.0118		0.0145		0.0017	
% Diff	0.23%		-0.19%		-0.43%		0.25%		-0.04%		0.18%		0.01%	

Table I.35 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 100 Observations, 1st Replicate

3rd	Best Fit R1 vs Best Fit R2 with CV = 0.25, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	54940	55125	10.9097	10.8957	91.5096	91.3413	12.1261	12.1460	35.6351	35.5805	8.3117	8.3644	18.0644	18.1031
2	53493	53531	10.1250	10.2300	93.9072	94.7113	11.9384	12.0882	35.6457	35.9777	8.0980	8.0728	17.9124	17.8913
3	54778	54902	9.9163	9.9532	91.6266	91.7854	11.7195	11.7535	35.5088	35.6277	8.5304	8.5499	17.8398	17.7971
4	53638	53856	10.7157	10.6173	92.0224	91.0325	12.2923	12.3466	36.3496	36.3193	7.9636	7.9720	17.9657	17.9175
5	53821	53909	10.4625	10.5088	93.2199	93.1240	11.6588	11.6499	35.2170	35.0963	8.1228	8.2004	17.7580	17.9332
6	54569	54708	10.0620	10.0590	92.7180	92.6572	12.1951	12.3050	35.7389	35.9909	8.5020	8.4651	18.3394	18.1955
7	54489	54551	9.3377	9.2378	89.3275	88.3152	11.9016	12.0337	35.4474	35.9509	8.4399	8.4156	17.8807	17.7627
8	56449	56362	10.1353	10.1738	89.6431	89.7964	12.6662	12.5697	35.7098	35.6288	8.5821	8.5654	17.9977	17.9510
9	54824	54925	10.0875	10.0847	92.0593	92.0177	11.8320	11.8484	35.2226	35.1890	8.4003	8.4650	17.7910	17.8919
10	54082	54339	10.2646	10.2094	94.8188	93.2294	11.6110	11.7000	34.8890	35.1388	8.3399	8.3732	17.9797	17.9415
11	53836	53659	10.7144	10.7281	92.0423	92.2273	12.2814	12.2345	36.3976	36.4802	8.0318	8.0348	17.9657	18.0055
12	53423	53426	11.1423	11.1907	92.3121	92.8775	11.3925	11.2535	35.4449	34.8893	8.0802	8.0993	17.8908	17.9664
13	53511	53561	10.4903	10.5131	92.9844	93.3068	12.0330	12.1975	36.0258	36.5112	8.2164	8.1954	18.3141	18.2280
14	55791	55799	10.2340	10.2867	88.2820	89.2304	12.2015	12.2529	35.5728	35.5669	8.5218	8.5484	17.9563	18.0409
15	55146	55429	9.8139	9.7132	93.1394	91.8773	12.6594	12.6035	35.9660	35.7421	8.2242	8.2708	17.6588	17.6174
16	52381	52525	11.0080	11.0017	93.6597	93.1842	11.6732	11.6718	36.0028	36.0225	7.8247	7.8508	18.0089	17.9809
17	56775	56724	10.0927	10.0321	90.5337	89.9913	13.2510	13.3287	35.9582	36.2209	8.4072	8.3804	17.8878	17.8379
18	54243	54236	11.3958	11.4194	93.5096	93.4324	11.7986	11.9860	35.0628	35.6656	8.1157	8.0878	18.0661	18.0088
19	54391	54099	10.8148	10.9036	92.2476	93.2341	11.9210	11.8738	35.5767	35.5725	8.1364	8.0463	17.7661	17.7025
20	53969	53885	10.2929	10.2777	90.2740	89.9953	11.8317	11.7784	35.9834	35.9318	8.2995	8.2950	18.0223	18.0387
21	54661	54904	10.0972	9.9967	92.1566	91.8419	11.8377	11.8676	34.9853	34.9631	8.4612	8.5125	18.1123	18.0813
Avg	54438.5714	54497.8571	10.3863	10.3825	91.9997	91.8671	12.0392	12.0709	35.6352	35.7174	8.2671	8.2746	17.9609	17.9473
PE	-59.2857		0.0038		0.1326		-0.0318		-0.0822		-0.0074		0.0136	
TS	-1.85667119		0.278727372		0.880477817		-1.656903622		-1.410716647		-0.837495473		0.813426871	
P-Value	0.0781501		0.78331564		0.389058577		0.113143955		0.173693618		0.412210742		0.425551811	
Reject?	1		1		1		1		1		1		1	
Avg Diff	-59.2857		0.0038		0.1326		-0.0318		-0.0822		-0.0074		0.0136	
% Diff	-0.11%		0.04%		0.14%		-0.26%		-0.23%		-0.09%		0.08%	

Table I.36 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.25, 100 Observations, 2nd Replicate

4th	Best Fit R1 vs Best Fit R2 with CV = 0.25, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	55143	55200	10.0671	10.0592	89.2798	89.5285	12.3231	12.4013	36.3015	36.4921	8.4755	8.4618	18.0114	17.9447
2	55647	55988	10.4584	10.4487	88.9803	88.3946	12.7050	12.7722	36.5233	36.4745	8.1820	8.2729	17.5692	17.6589
3	53198	53375	10.6550	10.6369	90.4884	90.2905	12.4482	12.5056	36.4401	36.5546	7.7202	7.7697	17.9138	17.9246
4	55074	55244	10.1492	10.1358	89.9418	89.6543	12.6466	12.7312	36.5100	36.6554	8.2617	8.2701	17.8560	17.8095
5	53483	53669	10.4235	10.3851	90.1516	89.5528	12.3339	12.3605	36.7297	36.7188	7.9275	7.9222	17.8670	17.7698
6	54231	54194	10.0880	10.1264	90.1059	90.4988	12.6147	12.5545	36.7366	36.5985	8.0055	8.0442	17.7084	17.8014
7	54403	54428	9.9448	9.8775	90.3462	89.4785	12.2288	12.2676	36.0167	36.1798	8.1914	8.2459	17.7665	17.8683
8	55009	55244	11.2455	11.2226	92.2863	92.4026	12.8647	12.8861	36.9480	36.7407	8.0812	8.0849	17.9292	17.8674
9	54832	54507	10.5533	10.5093	88.2159	88.5663	11.8448	11.8693	35.8254	36.1669	8.3697	8.2580	17.9113	17.7545
10	55323	55156	9.7742	9.8757	88.2820	89.4986	12.5778	12.5840	36.7913	37.0061	8.4835	8.4599	17.9264	17.8875
11	54296	54279	10.9295	10.9995	90.5939	91.0124	11.9573	11.9300	36.3196	36.3605	8.2135	8.2096	17.9089	17.8754
12	55348	55562	10.4600	10.4040	89.0972	87.7857	12.3896	12.4707	35.7500	35.7876	8.1332	8.1611	17.5928	17.6271
13	54154	53992	10.3176	10.2105	91.1201	90.7234	13.2794	13.2342	37.2865	37.2925	7.8488	7.9082	17.9610	18.1284
14	54318	54218	10.6858	10.6610	89.8436	89.7342	11.4960	11.5477	35.2875	35.5116	8.3328	8.2653	17.9395	17.8339
15	55827	55910	10.2420	10.2929	91.7868	92.6654	12.8542	12.8704	36.1298	35.9443	8.2740	8.2901	17.7248	17.7775
16	54838	55090	10.2477	10.2958	90.3780	90.4783	13.2276	13.2854	37.2244	37.1268	7.9991	7.9613	17.8267	17.6872
17	55921	56000	9.5950	9.5454	90.7469	89.9974	13.1741	13.3883	36.9548	37.4850	8.4594	8.4877	17.8743	17.9160
18	53856	54248	10.0427	9.9937	93.3127	92.1539	12.2477	12.3364	36.5205	36.4313	8.2019	8.2846	17.8942	17.9783
19	54573	54565	9.7142	9.6524	89.9409	89.6909	12.8345	12.8681	36.7858	36.8487	8.0323	8.0399	17.5967	17.6169
20	54917	54900	10.0685	9.9389	91.5691	90.0414	13.5528	13.6583	37.6726	37.9219	8.0440	7.9887	17.8996	17.8179
21	54701	54744	10.0255	10.0336	89.0758	88.5302	12.9171	12.8679	36.6611	36.5402	8.0247	8.0455	17.7992	17.8481
Avg	54718.6667	54786.3333	10.2708	10.2526	90.2640	90.0323	12.5961	12.6376	36.5436	36.6113	8.1553	8.1634	17.8322	17.8282
PE	-67.6667		0.0182		0.2317		-0.0415		-0.0677		-0.0081		0.0040	
TS	-1.75585941		1.47091699		1.52216453		-3.088674825		-1.665042471		-0.749592921		0.208426344	
P-Value	0.094416767		0.156872854		0.143622715		0.005791663		0.111492681		0.462226785		0.837004063	
Reject?	1		1		1		0		1		1		1	
Avg Diff	-67.6667		0.0182		0.2317		-0.0415		-0.0677		-0.0081		0.0040	
% Diff	-0.12%		0.18%		0.26%		-0.33%		-0.19%		-0.10%		0.02%	

Table I.37 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 30 Observations, 1st Replicate

5th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 30 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	55474	55503	9.6410	9.6961	78.1543	78.7258	10.9378	10.8485	31.5126	31.2384	8.2436	8.2169	18.0051	17.9310
2	54584	54271	9.0662	9.0083	80.0533	79.7022	11.1085	11.1288	31.9313	32.1845	8.1262	8.0991	17.9773	18.0334
3	55251	55201	8.7490	8.7746	78.3377	78.4384	10.7591	10.8069	31.8968	32.1661	8.4845	8.4340	17.8477	17.7328
4	54311	54818	9.3794	9.4392	78.7361	78.0201	11.3111	11.3847	32.4476	32.4499	7.9515	7.9519	18.0212	17.8516
5	54398	54400	9.2990	9.3132	79.6717	80.0241	10.7456	10.7944	31.5781	31.8577	8.0931	8.0897	17.8581	17.7732
6	55152	55039	8.9366	8.9680	79.6956	79.7564	11.1380	11.2127	31.7773	32.0003	8.2672	8.2208	17.9535	17.9323
7	54343	54844	8.1705	8.1869	76.0332	76.1957	10.8446	10.9560	31.9344	32.0551	8.3202	8.3180	17.9923	17.7531
8	57044	56934	9.0027	8.8976	77.0720	76.0918	11.3372	11.4219	31.2186	31.4963	8.5737	8.5162	18.0565	18.0026
9	55050	55253	8.9268	8.9290	79.5781	78.5072	10.6361	10.7787	30.9968	31.4229	8.3800	8.3889	17.9749	17.9205
10	54984	54814	9.0912	9.0961	80.1640	80.2983	10.6664	10.6223	31.0012	31.0116	8.3504	8.2918	18.0535	17.9731
11	54324	54337	9.5995	9.5896	79.8825	79.6772	11.2053	11.3182	32.5170	32.9183	8.0586	8.0000	18.1293	17.9742
12	54038	54161	9.9826	9.8647	80.2432	79.4430	10.3021	10.4079	30.9547	31.5620	8.0309	8.0695	17.9713	17.8429
13	54110	54168	9.3319	9.2915	79.7546	79.4977	11.0125	10.9671	32.0849	31.9579	8.1436	8.1467	18.2905	18.2515
14	56071	56275	9.1742	9.1448	76.9713	76.9553	11.0522	10.7827	31.5352	30.8047	8.3811	8.4729	17.8870	17.9240
15	56002	55896	8.6329	8.7227	78.5274	79.5862	11.3605	11.4720	31.3841	31.6583	8.2815	8.1805	17.7922	17.6390
16	53367	53434	9.6992	9.7066	79.6819	79.6122	10.6998	10.8878	31.7984	32.3687	7.8466	7.7964	18.0537	17.8962
17	57536	57423	8.8636	8.8378	76.8755	77.0486	12.0650	12.0535	31.7316	31.9229	8.3959	8.3502	17.9639	17.8179
18	54673	54811	10.0990	9.9552	79.9623	78.8915	10.5672	10.7966	30.8326	31.3310	8.0522	8.0385	18.0648	18.0033
19	55172	54991	9.5980	9.6611	78.6896	79.1708	10.9260	11.0335	31.7942	32.2678	8.1147	8.0923	17.7331	17.7373
20	53935	54009	9.1517	9.1693	78.3996	78.7769	10.5851	10.6663	31.7578	32.0797	8.2142	8.1742	18.1479	17.9662
21	54990	55201	8.9560	8.9394	80.2045	79.0138	10.6861	10.7671	30.8160	31.0976	8.3558	8.3822	18.0846	18.0417
Avg	54990.9048	55037.2857	9.2072	9.1996	78.8899	78.7349	10.9498	11.0051	31.5953	31.8025	8.2222	8.2015	17.9933	17.9047
PE	-46.3810		0.0076		0.1550		-0.0553		-0.2072		0.0207		0.0886	
TS	-1.031148069		0.576410904		1.153043847		-2.386578348		-3.093203312		2.262568515		5.362468095	
P-Value	0.314780594		0.570768268		0.262487404		0.027000344		0.005732531		0.034948594		3.0047E-05	
Reject?	1		1		1		0		0		0		0	
Avg Diff	-46.3810		0.0076		0.1550		-0.0553		-0.2072		0.0207		0.0886	
% Diff	-0.08%		0.08%		0.20%		-0.51%		-0.66%		0.25%		0.49%	

Table I.38 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 30 Observations, 2nd Replicate

6th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 30 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	56336	55560	8.8302	8.9629	76.6370	77.3730	10.6827	10.4303	30.2568	30.0773	9.1538	9.3293	19.3027	19.9911
2	56951	56595	9.3160	9.2961	77.1794	77.4758	11.0010	10.6178	30.4226	29.6135	9.1295	9.1566	19.4167	19.5709
3	54770	54638	9.4665	9.4112	78.2177	77.3706	10.8058	10.5996	30.2027	29.8996	8.5071	8.6098	19.4156	19.6349
4	56310	55389	8.8708	8.8543	76.7527	76.5992	11.1137	10.5871	30.7305	29.8878	9.0779	9.1422	19.4869	19.9998
5	54672	54247	9.1473	9.1896	77.4193	77.2085	10.7305	10.5216	30.8981	30.4687	8.6394	8.6224	19.2208	19.4216
6	55538	54482	8.7335	8.8553	76.0350	77.8408	10.7134	10.5835	30.1292	30.1279	8.9076	8.7243	19.4076	19.5313
7	55747	54841	8.6505	8.7654	76.1353	77.8296	10.8193	10.5073	30.6702	30.3604	8.9116	9.0048	19.1013	19.6164
8	56579	55791	9.8044	9.8301	78.3280	79.3930	11.4044	11.0815	31.3517	30.8548	8.9233	9.0689	19.4699	20.1056
9	55391	55030	9.4413	9.4812	77.4291	78.0946	10.0781	9.8356	29.6678	29.1956	8.8524	8.9323	19.0280	19.3077
10	56561	55602	8.7480	8.6287	77.0742	77.2883	10.7578	10.8526	30.1671	31.0266	9.3674	9.3627	19.6583	19.9617
11	55488	54887	9.5428	9.7224	77.1641	78.4315	10.5284	10.0101	31.1708	29.7856	9.0327	9.0715	19.3380	19.7889
12	56270	55991	9.1888	9.1393	76.3240	75.8456	10.7790	10.6418	30.2044	29.9194	8.9223	8.8254	19.2083	19.1491
13	55649	54867	9.2013	9.0531	78.8356	79.4409	11.8619	11.4865	31.9132	31.1748	8.8312	8.9199	19.9435	20.4603
14	55020	54530	9.4399	9.4752	77.6172	78.4583	9.8672	9.8031	29.6717	29.5746	8.9804	9.0312	19.2278	19.6057
15	57253	56754	9.1204	9.0472	79.2653	78.9109	11.1852	10.9588	30.2316	29.6979	9.0844	9.1175	19.2176	19.5650
16	56404	55581	9.0619	8.9481	77.7991	77.5789	11.5908	11.3352	31.1742	30.9326	8.8419	8.9389	19.4086	19.9520
17	57207	56694	8.3853	8.5226	77.6192	78.3899	11.4770	11.2056	30.8544	30.5515	9.3569	9.4676	19.6143	20.0141
18	55378	54499	8.9257	8.7870	80.0439	78.9884	10.7132	10.4265	30.6670	30.1438	8.9711	8.9762	19.2469	19.7088
19	55739	54641	8.6294	8.6356	77.4977	79.1042	11.2178	10.7888	30.9214	30.2992	8.7734	8.7374	19.1325	19.4536
20	56565	55577	8.9202	8.9303	78.2766	79.9251	11.7659	11.3638	31.2597	30.5761	8.8902	8.7637	19.4555	19.6076
21	56189	54726	8.8658	8.8467	76.1658	77.2004	11.3283	10.8264	30.8620	30.2265	8.7489	8.6529	19.1554	19.5074
Avg	56000.8095	55282.0000	9.0614	9.0658	77.5151	78.0356	10.9724	10.6887	30.6394	30.2092	8.9478	8.9741	19.3551	19.7121
PE	718.8095		-0.0044		-0.5205		0.2837		0.4301		-0.0263		-0.3570	
TS	10.14953308		-0.210689781		-2.788163548		8.458526519		4.636772904		-1.297450617		-8.850185468	
P-Value	2.46353E-09		0.835261132		0.011350135		4.87564E-08		0.000159146		0.209242985		2.36641E-08	
Reject?	0		1		0		0		0		1		0	
Avg Diff	718.8095		-0.0044		-0.5205		0.2837		0.4301		-0.0263		-0.3570	
% Diff	1.28%		-0.05%		-0.67%		2.59%		1.40%		-0.29%		-1.84%	

Table I.39 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 100 Observations, 1st Replicate

7th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 100 Obs., 1st Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	50562	49958.0000	11.0105	10.8038	98.5298	98.4294	11.9020	11.8742	37.4508	37.7680	8.6500	8.5828	20.7689	20.8444
2	49260	48942.0000	10.3647	9.9865	102.6837	99.9613	11.8492	11.5776	37.7565	37.0716	8.5243	8.4577	20.8410	20.8218
3	50487	50272.0000	9.9910	9.8296	97.8413	97.8740	11.7455	11.3925	38.0320	36.9494	8.8592	8.8436	20.4298	20.4610
4	49510	49458.0000	10.8506	10.5728	99.6362	97.1843	12.1421	12.1556	38.2268	38.1205	8.3564	8.3047	20.7913	20.7536
5	49870	49284.0000	10.7180	10.4294	100.1722	100.8391	11.5524	11.5000	37.1185	37.1742	8.5235	8.3349	20.4787	20.2380
6	50286	49815.0000	10.1915	9.8492	100.0005	97.7310	12.1250	11.9227	37.8418	37.6219	8.6621	8.7006	20.6579	20.9100
7	50054	49674.0000	9.3726	9.3728	95.3571	96.0940	11.7479	11.7745	37.7016	37.9988	8.7216	8.6907	20.3907	20.4969
8	51699	51755.0000	10.3338	10.1252	97.8852	96.1440	12.3052	12.1386	37.2704	36.7502	8.8560	8.9390	20.6181	20.7573
9	50337	50226.0000	10.3194	10.0023	100.1331	96.3686	11.6215	11.7225	37.0237	37.3867	8.7356	8.7797	20.5389	20.7392
10	50077	49758.0000	10.4819	10.1526	102.0172	100.1503	11.5310	11.3585	36.7064	36.3258	8.7137	8.7140	20.7006	20.8216
11	49781	49331.0000	10.9975	10.6650	100.2227	97.5646	12.2756	11.8915	38.7793	37.9542	8.3776	8.3638	20.5905	20.7593
12	49300	49254.0000	11.4146	11.2308	100.3743	99.4340	11.3665	11.0205	37.5555	36.4728	8.4166	8.5239	20.5992	20.8445
13	49401	48992.0000	10.7206	10.4358	100.2909	99.5695	12.0292	11.8615	38.2231	38.0340	8.4895	8.4478	20.9479	20.9594
14	51640	50809.0000	10.5984	10.4643	95.8671	97.8283	11.8859	11.7764	36.9182	37.0071	8.8911	8.7872	20.5918	20.6729
15	51205	50898.0000	9.9102	9.7515	99.3050	98.4911	12.5831	12.4589	37.7504	37.7474	8.6789	8.6920	20.4659	20.5425
16	48606	47897.0000	11.0429	10.9885	99.8215	101.6798	11.6852	11.6149	38.1363	38.4743	8.1999	8.1272	20.6945	20.7704
17	52670	51718.0000	10.0957	9.9895	95.4905	96.9597	13.2293	13.2528	38.0424	38.7757	8.8768	8.8015	20.7327	20.9044
18	50152	49649.0000	11.5807	11.4045	100.6674	101.0042	11.5614	11.5499	36.5592	36.6555	8.4375	8.3107	20.6938	20.6251
19	50012	49669.0000	11.0150	10.6725	99.7130	98.1283	11.7160	11.5651	37.4529	37.0879	8.4308	8.4787	20.3771	20.6527
20	49891	49112.0000	10.6043	10.4349	98.0121	99.0668	11.7036	11.5963	38.0795	37.8809	8.6198	8.5583	20.5403	20.8419
21	50714	50354.0000	10.3111	10.0269	100.2685	98.5952	11.7139	11.6888	36.6463	36.8582	8.8863	8.7582	20.8352	20.6476
Avg	50262.5714	49848.8095	10.5679	10.3423	99.2519	98.5284	11.9177	11.7949	37.5844	37.4341	8.6146	8.5808	20.6326	20.7174
PE	413.7619		0.2256		0.7234		0.1228		0.1503		0.0338		-0.0848	
TS	7.117578434		9.986343292		2.010111673		4.203468965		1.414661696		2.102684498		-2.720225089	
P-Value	6.75028E-07		3.23731E-09		0.058101162		0.000437158		0.172548536		0.048357166		0.013180844	
Reject?	0		0		1		0		1		0		0	
Avg Diff	413.7619		0.2256		0.7234		0.1228		0.1503		0.0338		-0.0848	
% Diff	0.82%		2.13%		0.73%		1.03%		0.40%		0.39%		-0.41%	

Table I.40 Best Fit Rank 1 vs Best Fit Rank 2 with CV = 0.75, 100 Observations, 2nd Replicate

8th	Best Fit R1 vs Best Fit R2 with CV = 0.75, 100 Obs., 2nd Replicate													
	Throughput		WIP A		Avg Time A		WIP B		Avg Time B		WIP C		Avg Time C	
	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2	BFR1	BFR2
1	49107	49112.0000	10.1094	10.1586	95.2844	95.5650	12.4487	12.3053	41.8964	41.2050	8.0593	7.9449	19.2570	19.0574
2	49802	49730.0000	10.6875	10.7166	96.1914	96.7593	12.6294	12.8007	41.2998	41.6047	7.8106	7.7790	18.7690	18.8027
3	48012	47797.0000	10.7834	10.8930	96.3369	98.4174	12.3574	12.4941	40.8346	41.1652	7.4206	7.3524	19.0737	19.0520
4	49199	49227.0000	10.1585	10.1569	95.5490	96.0617	12.7715	12.6926	41.6933	41.3309	7.8359	7.8328	19.0674	19.0460
5	47909	48418.0000	10.4034	10.4378	95.3529	94.5036	12.4747	12.4148	42.2426	41.7347	7.5687	7.6084	19.0527	18.9053
6	48631	48524.0000	10.1566	10.1586	95.8956	96.7089	12.7632	12.8193	42.0896	42.2260	7.6595	7.7754	18.9300	19.2753
7	48846	48728.0000	10.0702	9.9552	97.2331	96.1482	12.3606	12.4267	41.1514	41.4100	7.8590	7.7946	19.0033	18.9184
8	49349	49646.0000	11.4242	11.1723	98.9012	96.3977	13.0818	13.0272	42.4231	42.0341	7.7340	7.8093	19.2434	19.2824
9	49082	49055.0000	10.8067	11.0021	95.9503	97.1062	11.9626	11.8163	40.9672	40.4700	7.8921	7.8746	18.9427	18.9472
10	49229	49160.0000	10.0727	9.8377	96.4439	94.5080	12.6774	12.7491	42.4370	42.7884	8.0211	8.0017	19.0539	19.0113
11	48493	48677.0000	11.1641	11.0293	98.5816	96.3000	12.0470	11.9343	41.7594	41.1588	7.7534	7.7973	18.9251	19.0119
12	49646	49648.0000	10.7235	10.4552	95.4918	93.5233	12.5488	12.7107	40.9971	41.5389	7.7186	7.6806	18.7060	18.5930
13	48442	48449.0000	10.4341	10.6571	97.9451	99.4554	13.3685	13.4912	42.5501	42.9669	7.5171	7.4969	19.2721	19.2367
14	48861	48700.0000	10.7968	10.9167	96.0350	98.0052	11.5452	11.6792	39.7758	40.3416	7.8864	7.9219	18.9934	19.1228
15	50001	49776.0000	10.3226	10.3461	97.2342	98.9930	12.8331	12.8081	41.0563	40.8883	7.8618	7.8644	18.8179	18.9414
16	49084	49107.0000	10.4127	10.3662	96.9948	96.5809	13.1670	13.3809	41.8445	42.5841	7.5345	7.5654	18.8717	18.9207
17	49655	49913.0000	9.5436	9.5090	94.5529	94.6513	13.3194	13.3460	42.5408	42.4751	7.9511	8.0089	19.0725	19.0504
18	48496	48250.0000	10.0334	10.0001	97.9210	98.2060	12.5323	12.4571	42.2542	42.0563	7.8596	7.8123	19.0555	19.0835
19	48649	48531.0000	9.6180	9.8869	94.0557	97.8699	13.1884	13.0909	43.0831	42.7416	7.5858	7.6604	18.6931	18.9237
20	48924	49059.0000	10.1661	10.0597	97.7162	96.8068	13.5767	13.5734	43.0454	42.7579	7.6824	7.6469	19.2314	19.1320
21	48944	48950.0000	10.0767	10.1423	94.7589	95.7224	12.8373	13.0310	41.4062	41.7134	7.6018	7.5936	18.8673	18.9296
Avg	48969.5714	48974.1429	10.3793	10.3742	96.4012	96.5853	12.6900	12.7166	41.7785	41.7710	7.7530	7.7534	18.9952	19.0116
PE	-4.5714		0.0051		-0.1840		-0.0266		0.0074		-0.0004		-0.0164	
TS	-0.111962188		0.158796878		-0.51753949		-1.043578703		0.078829485		-0.033282262		-0.602313928	
P-Value	0.911969472		0.875421469		0.610456848		0.309130967		0.937951642		0.97377942		0.553733375	
Reject?	1		1		1		1		1		1		1	
Avg Diff	-4.5714		0.0051		-0.1840		-0.0266		0.0074		-0.0004		-0.0164	
% Diff	-0.01%		0.05%		-0.19%		-0.21%		0.02%		-0.01%		-0.09%	