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# A New Data Gathering Exponential Type Ratio Estimator for the Population Mean

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### Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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## ABSTRACT

In this article we proposed a new data gathering exponential ratio type estimator for the estimation of finite population mean under systematic sampling .The mean square error of the suggested estimator is computed up to the first degree of approximation and we find suggested estimator is efficient as compared with existing estimators. Furthermore this result is supported by numerical examples as well.

Keywords: Exponential ratio type estimator; systematic sampling; mean square error (MSE); efficiency.

## **1. INTRODUCTION**

"In the literature of survey sampling, a simple technique of utilizing the known information of the population parameters of the auxiliary variables is through ratio, product, and regression method of estimations using different probability sampling designs such as simple random sampling, stratified random sampling, cluster sampling, systematic sampling, and double sampling. In the present paper we will use knowledge of the auxiliary variables under the framework of systematic sampling. Due to its simplicity, systematic sampling is the most

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