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TECHNIQUE OF SOFT SET MODEL AND ITS APPLICATIONS

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Abstract. In this study, we use rough mathematics to answer a marketing decision-making problem by using the theory of soft sets.

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1 Introduction

Most of the traditional tools we use for formal reasoning, modelling, and computing have a clear, deterministic, and exact nature. But many challenging issues in the fields of economics, engineering, the environment, social science, and medicine, among others, include data that are not always clear. Due to the many forms of uncertainty prevalent in these problems, we cannot always apply the classical methods. Considered to be mathematical tools for dealing with uncertainties are the following significant existing theories: theory of probability, theory of fuzzy sets [16,19 20], theory of intuitionistic fuzzy sets [2,3], theory of vague sets [5], theory of interval mathematics [3,7], theory of rough sets [13]. But as noted in [12], each of these hypotheses has its own flaws. The inadequacy of the theories' parameterizations tools may be the cause of these issues, which is why Molodtsov [12] introduced the idea of soft set theory as a fresh mathematical approach to handling uncertainty that is free from the aforementioned issues. Soft set models have a wide range of potential uses, only a few of which Molodtsov demonstrated in his ground breaking work [12]. As established by Thielle [20], soft sets are a specific case of context dependent fuzzy sets and are referred to as (binary, basic,