

# Analyzing The Impact of Social Media Marketing on Sales of "Yamaha Music Waves" - Montage 8 Synthesizer.

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## Introduction

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The "YAMAHA CORPORATION" unveiled the new brand promise "MAKE WAVES" to the customers which represents the transformational impact that sound and music can have on individuals. The "YAMAHA Music Waves" has developed its business activities focusing on musical instruments, audio products, Yamaha music schools, and other products and services related to sound and music. On the whole, it is committed to creating excitement and cultural inspiration together with people around the world. Recently, this company has launched the next milestone "MONTAGE 8 SYNTHESIZER" with sophisticated dynamic control, massive sound creation, and streamlined workflow exclusively for DAW under the category of Music Production Tools and Gears.

## Problem Statement

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Takuya Nakata the Director, President, and Representative Executive Officer of Yamaha Music Waves inscribed that Yamaha has been unable to escape the heavy impacts of the COVID-19 pandemic, which has continued since 2020. This catastrophe has had a myriad of impacts, both positive and negative, on their products and business activities. It has also affected different areas of operations to varying degrees in the audio equipment and music production tools business, and very peculiarly this business posted a huge decrease in revenue as well as profit. But now to some extent, they are poised to combine their diverse technologies and sensibilities to create new value for the digital society in the post-COVID-19 era and to improve lifetime value for customers.

So, to make progress, they approached and paid the social media site that is Facebook to Launch a Campaign on its brand-new release of Montage Series 8 Synthesizer. Now since they rely heavily on the

success of this brand-new Montage 8 Synthesizer, they would leave no stone unturned while trying to market and promote this Music Production Gear.

Now, let's come into play, what if they only advertise their Music Production Gear to the perfect horde? It would really help them in boosting their sales. So, now we have to find out the perfect horde, to which they need to advertise this Music Production Gear and find out the people who are most likely to buy this based on certain features which describe the type of users who have bought other series of this Music Production Gear erstwhile by clicking on the ads. Ultimately, we have to analyze whether a user on Facebook ends up buying the product or not by clicking on the ads displayed to them. Thus, the results that are produced from this analysis would be really helpful for them in selling their brand-new Music Production Tool that is the Montage 8 Synthesizer.

## Objective

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- To analyze the dataset and check for missing values.
- To analyze and visualize the target using a plot and heat map.
- To statistically analyze the target concerning Gender.
- To perform Feature Scaling to make sure they all take values on the same scale.
- To apply the KNN algorithm for classification.
- To evaluate the KNN classifier.
- To choose K – Value to see how accurately KNN performs.
- To perform and evaluate the SVM with Linear Kernel and with Kernel Radial Basis Function along with grid search to find the optimal value for "C" and "gamma" as well as the best kernel for SVM
- To perform Logistic Regression, Naïve Bayes, Decision Tree Classifier, and Random Forest to check their accuracy.
- To Compare the performance of all the classification models as a whole and choose the best one out to advertise the Music Production Gear to the perfect horde.