Sales base for forecast. average sales of this

Sales revenue of Amazon.

com is showingan increasing trend and it also has a seasonal component i. e. Q4 of every yearis exceptionally high as compared to rest of the three quarters. Triple ExponentialSmoothening also known as the Holt-Winters method is used for forecasting thesales of Amazon from Q4 2017 till Q3 2018 as it has a trend and seasonal impact. Quarterly data from Q1 2007 till Q3 2017is used for calculating the forecast. Sales data from Q1 2007 till Q4 2018 i. e. 8 quarters is taken as the base for forecast.

Average sales of this period aretaken as the starting point for calculating the starting level and seasonalfactor for the same period. (Hyndman and Athanasopoulos, 2013) To keep a check on the forecast errorvarious indicators are calculated namely BIAS, MAD, MSE & MAPE. ?, ? &? are then solved using the solver tool in excel to find out the optimum levelwhere MSE is the lowest. ?, ? & ? is kept in the range of 0.

05 to 0. 95. Theoptimum solution provided by the solver tool and two other scenarios are shownbelow.   Solver Scenario 1 Scenario 2 ? 0. 25 0. 70 0. 50 ? 0.

58 0. 70 0. 50 ? 0.

95 0. 70 0. 50 BIAS 0. 36 0.

08 0. 20 MAD 0. 73 1. 65 1. 19 MSE 1. 23 5.

77 3. 02 MAPE 3. 73% 7. 73% 5. 60% It can be observed from the above tablethat solver's solution is the optimum one with the lowest MSE.

The optimumsolution has a low alpha factor which means that forecast have lower impact ofhistorical data and higher weightage of the average of the base quarters andtrend. High beta & gamma factors mean that trend and seasonality havehigher impacts on the forecast. Graph showing actual and forecasted values areshown below. Source: Amazon. com Investors Relations, 2017 Multiple Regression Analysis Multiple regression analysis is used tofind if there is a statistically significant relationship between several predictorvariables and dependent variable and the strength of the relationship. It helpsin analysing and finding trends if any in different sets of data.

(Statsoft, 2013) Amazon is an e-commerce company and isaccessed through internet by its customers. Year on year worldwide internetuser data from 1996 to 2016 is tested as predictor variable against net revenueof Amazon. com i. e. dependent variable. The data is plotted on a scatter graphas shown below. Source: Internetworldstats, 2017 . com Investors Relations, 2017 A regression analysis was run on thedata.

The coefficient of correlation was 98. 84% which indicates a very highcorrelation between the variables. The coefficient of determination came out tobe 97.

69% which indicates that ~ 98% variance can be explained through theinternet user statistics during the analysis period. The statistical p-testshows that the probability of null hypothesis being true is less than 5% hencenull hypothesis was rejected. Linear equation generated through the multipleregression analysis is as follows: $y = 50. 629 * x – 62. 565$ The

internet users line fit plot, trendline and equation are shown in the below graph. Regression analysis can be used by thecompany to predict the growth or change in the dependent variable based on thepredictor variable.

As in this case the company can predict its revenue basedon the increase in the number of internet users. This kind of analysis willalso help the company in taking strategic decisions like how they cancontribute or take steps to increase the number of internet users. Correlation Correlation analysis is used to test therelationship between two or more variables.

It is important to understand thecorrelation between different variables so that accurate predictions could bemade about the future. A positive correlation means that the variables move inthe same direction and negative correlation means that the variables move inthe opposite direction. It differs from regression in the terms thatcorrelation quantifies the degree to which two variables are related but itdoes not fit a line through which the value of another variable can becalculated whereas regression provides a line of best fit through which thedependent value can be calculated. (Statisticshowto, 2017) A correlation analysis has been run onnumber of active users and net revenue. The correlation between the two comesout to be 99. 8% which means that they are highly positively correlated i. e.

ifthe company works towards increasing the number of active users the revenuewill increase in the same proportion. Below graph shows the net revenue andactive users' data. Recommendation Basis the above analysis it isrecommended that data warehousing solution must be implemented in the company.

This will help the company in accurate forecasting and planning, assist intaking strategic decisions and help in efficient utilisation of resources. Implementation process, major risks and steps to overcome these issues whileimplementing the data warehousing solution are mentioned in the report whichwill help in effectively planning the implementation and will lead to a smoothtransition. Wordcount: 3982   References 1.   Bosa, D. (2017). Alibaba vs Amazon: The race to $500 billion. online CNBC. Available at: https://www.

cnbc. com/2017/09/01/alibaba-vs-amazon-the-race-to-500-billion. html.

2.   ReutersEditorial (2017). Amazon.

com Inc (AMZN. O) Company Profile | Reuters. com. onlineU. S. Available at: https://www. reuters. com/finance/stocks/company-profile/AMZN.

O. 3.   Amazon. com(2017). Amazon. com: Online Shopping for Electronics, Apparel, Computers, Books, DVDs & more.

online Amazon. com. Available at: http://www. amazon.

com. 4.   Amazon(2017). Amazon. com Annual Report 2016. online Seattle: Amazon.

com. Availableat: http://phx. corporate-ir. net/phoenix. zhtml? c= 97664&p= irol-reportsannual. 5.   Amazon. comInvestor Relations (2017).

Amazon – Investor Relations – Press Release. online Phx. corporate-ir. net. Available at: http://phx. corporate-ir. net/phoenix.

zhtml? c= 97664&p= irol-newsArticle&ID= 2311817. 6.   Wulfraat, M.

(2017).

Amazon Distribution Network Strategy | MWPVL International. onlineMwpvl.

com. Available at: http://www. mwpvl. com/html/amazon_com. html.

7.   Dunn, J. (2017). Amazon's logisticsfootprint in the US is only getting

bigger.

online Business Insider. Available at: https://www. businessinsider.

in/Amazons-logistics-footprint-in-the-US-is-only-getting-bigger/articleshow/

56744828. cms. 8.

Molla, R. and Ray, J. (2017). Amazon's epic 20-year run as a public company,

explainedin five charts. online Recode.

Available at: https://www. recode. net/2017/5/15/15610786/amazon-jeff-

bezos-public-company-profit-revenue-explained-five-charts. 9.   Wahba, P.

(2017). Amazon Will Make Up 50% of All U. S.

E-Commerce by 2021. onlineFortune. Available at: http://fortune.

com/2017/04/10/amazon-retail/.