Majors: MKT F. No. 21

"How Telecom Companies in Pakistan use Data Science Techniques to Drive Their Marketing Campaigns"



By:

Name: Mahira Iqbal Enrolment # 01-222171-040

Supervisor: Malik Husnain

Department of Management Sciences

Bahria University Islamabad Fall 2018

FINAL PROJECT/THESIS APPROVAL SHEET

Viva-Voice Examination

Date 21/01/2019

Topic of Research: How Telecom Companies in Pakistan use Data Science
Techniques to Drive Their Marketing Campaigns

Names of Student(s):

Name: Mahira Iqbal Enrollment No:01-222171-040

Class:MBA

Approved by:

Malik Husnain
Supervisor

.____

Qazi Ahmed

Examiner-I

Adil Hashmi

Examiner-II

Dr. Sarwar Zahid

Research Coordinator

Dr. ArifKhattak

Head of Department - Management Sciences

ACKNOWLEDGEMENTS

First of all I am thankful to Allah Almighty for giving me strength and showing me the right path always.

I am truly grateful to all the experts for their input and helping me successfully conduct this study.

It goes without saying that my supervisor, Mr. Malik Husnain, extended his support during my thesis without him this could not have been possible.

Special thanks to My Mother, my siblings (Abir&Masaab) for their blinding faith on my abilities, Bilal &Ramzan for their constant support, JZ for motivating me to conquer my fears, Usman, Sitara&Soniya for making last two years bearable, to Kiran &Rabia for adding fun to life and last but not the least to all my teachers who have shown their unconditional support to me and helping me in every step to achieve this milestone and grow both professionally and personally.

ABSTRACT

Over the past few years, we have seen evolution in the world of internet as well as marketing. New buzzword is Data Science. Data science is all about using predictive models, complex machine learning algorithms and statistical analysis techniques to understand and gain knowledge of the business customers. These data analysis techniques can be utilized by marketers to extract relevant consumer insights in order to design and deliver campaigns to customers in catering their needs and demands. This lays the foundation of answering business questions which help in further expansion of business. This study aims to prove that the need of the hour is to understand the importance of abundance of data that is being generated by consumers and is saved by companies and utilize that data to make customer experience better. This study further explores some of the famous methods used for customer segmentation in telecom industry of Pakistan and also looks into the predictive models used to drive marketing campaigns. In-depth interviews from expert data scientists are used as a mean to gain knowledge into the practical world of data science and this study also explains the gap that exists between theory and practical implications of data science. Study also reveals how data science improves marketing campaigns and how telecom companies are going towards precision marketing. It also explains that due to very tough competitions between major telecom companies of Pakistan each and every company is looking for ways to drive their marketing campaigns successfully by reducing the cost associated with them and increasing the revenue.

Table of Contents

ACKN	NOWL:	EDGEMENTS	1
ABST	RACT		4
1 In	ntroduc	ction	7
1.1	Wł	nat is Data Science?	7
1.2	Use	e of Data Science	8
1.3	Pro	oblem Statement	12
1.4	Re	search Question	12
1.5	Re	search Objective	12
1.6	Sig	nificance of Study	13
2 L	iteratu	re Review	14
2.1	Co	ncepts and Definitions	14
2	.1.1	Data Science	14
2	.1.2	Big Data, Data Analytics & Data Mining in Marketing	17
2	.1.3	Customer Segmentation in Light of Data Analysis	25
2	.1.4	Targeted Marketing Campaign	26
2.2	Cri	tical Analysis of Literature	27
2.3	Co	nceptual Framework	28
3 N	Methodology		
3.1	Int	roduction	30
3.2	Na	ture of Research	30
3.3	Re	search Approach	30
3	.3.1	Inductive approach	30
3.4	An	alysis Technique	30
3.5	Saı	mpling	31
3	.5.1	Probability Sampling	31
3	.5.2	Non-Probability Sampling	32
3.6	Eth	nical Research	32
4 R	lesearc	h Findings and Analysis	33
4.1	Int	roduction	33
4.2	Fin	Findings	
4.3	An	alvsis	33

	4.3.1	Understanding of Business Needs	33	
	4.3.2	General Idea around the Buzz Word "Data Science"	35	
	4.3.3	Abundance of Data all Around the World	37	
	4.3.4	Understanding the Need of Data Science for Telecom Industry in Pakistan	38	
	4.3.5	Use of Data in Telecom Sector of Pakistan	40	
	4.3.6	Purpose of Using Data Analysis in Marketing in Pakistan's Telecom Industry	43	
	4.3.7	Data Analysis Techniques Used	46	
	4.3.8	Customer Segmentation in Accordance with Pakistan's Telecom Industry's Needs	47	
	4.3.9	Customer Segmentation Algorithms Used in Pakistan's Telecom Industry	49	
	4.3.10	Data Science Role in Marketing and Marketing Campaigns	50	
5	Conclus	ion	55	
6	Limitations			
7	Future Recommendations			
8	Reflecti	ons	59	
9	Referen	ces	60	
Ap	pendices		62	
Ap	Appendix I			
Interview Questions				
Ap	Appendix II			
Inte	erview Tra	anscript of Expert 1	63	
Ap	Appendix III			
Inte	Interview Transcript of Expert 2			
Ap	Appendix IV			
Inte	nterview Transcript of Expert 3			