

JOURNAL OF GENERAL MANAGEMENT RESEARCH

Factors influencing popularity of Business Analytics as specialization

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Abstract

Universities and education institutes have realized the need to focus on the behavior of the students regarding selection of specializations. Business Analytics is currently an upcoming area in data science that focuses on using data to develop some business insights that gives benefits to the organization. Business Analytics provides organizations with skills which help them in making quick and better decisions. Companies are eager to have candidates that come from an analytical background. It consolidates the organizations have understood the power of analytics and as a result a lot of job openings are there in this field. This is one of the important reasons for the universities to offer related courses. The students are also interested to fit in this new area of job opening with their specific area of interest. The current paper aims at understanding the reasons due to which the business analytics course is an ongoing trend among the undergraduate students.

Keywords: *Business analytics, data driven decision making, specialization and undergraduate students.*

INTRODUCTION

The education sector is getting hugely impacted by the industry trends. This also reflect in the way students choose the specialization and universities come up with new offerings in terms of wide variety of specializations Masuku, Tsikati, & Dlamini. (2015). The factors which affect the student's choice are of great interest for not only universities and institutes but for researchers as well. Business Analytics is currently

an upcoming area in data science that focuses on using data to develop some business insights that gives benefits to the organisation. Business Analytics provides organisation with skill which help them in making quick and better decisions. Companies are eager to have candidates that come from an analytical background. It supports the organization in various strategic decision making processes. The strategic excellence comes from the operational efficiency supported through analytics. This is possible since both primary and secondary

data which is numeric or text can be analysed through mining tools. The study done by Henke et. al. (2016) highlights that the organizations have understood the power of analytics and as a result lot of job openings are there in this field. This is one of the important reasons for the universities to offer related courses. The students are also interested to fit in this new area of job opening with their specific area of interest.

The degree that was earlier only a part of Master's Program is now a part of so many undergraduate courses, BBA being one of them. All these colleges who are providing "business analytics" as a specialization to their undergraduate students are preparing them to be a part of the data driven world and allowing them to have strong critical thinking abilities. It helps the undergraduate students in having a competitive edge over those who might have an additional Master's degree but are on the same level in terms of their knowledge. The students at both post graduate and undergraduate are learning how to gather, analyse, and interpret business data using computers and software applications. Processing information and using data to develop solutions to business problems, creating strategies to improve operations, and securing information are just some of the practical ways that individuals with business analytics degrees apply their skills and knowledge (Conboy, Mikalef, Dennehy & Krogstie, 2019).

Nowadays analytics as a course have become very popular among the students and with so many undergraduate colleges offering "business analytics" as a specialization, it is going to create a new competitive business landscape. It is the ongoing trend in education Carlton (2021).

UNIQUENESS OF THE STUDY

There is very less academic research done in this area. And with reference to Noida there are no studies. The study by Paul & MacDonald (2020) highlights the curriculum for undergraduate & graduate students but does not focus on the reasons for the choice of analytics as a specialization.

LITERATURE REVIEW

Business Analytics

Most of the students in this global era are looking beyond the traditional courses. They lay a lot of importance on the specialization offered even at undergraduate level. Business analytics has emerged as a field which is now driving data analysis based decision making. This has created a lot of career opportunities and the students from early stages are inclined to take this as a long term career (Bobalca, Tgulea & Bradu, 2014; Sarwar & Masood, 2015 & A-Lawati, Kumar & Subhramaniam, 2017). Business Analytics is the subject that makes considerable utilization of various models of analytics and numerical analysis which includes predictive and explanatory models and management based on facts to help in making decisions. Hence, it is very much related to the business world. The online analytics processing supports automated decision making through multidimensional data mining.

History of Analytics

Although business analytics is considered to be a new area of organizational working it is there from the late 19th century and Mr. Frederick Winslow Taylor takes the credit for the same. Even Henry Ford made use of analytics to study the assembly lines. However, analytics became more prominent in the late 1960s. It was the time when computers were used to make support decisions however with the advanced technology of enterprise resource planning and warehousing the decision support system has advanced a lot. In the next few years, analytics got cracked with the introduction of computers and has resulted in bringing a new level with infinite possibilities. If we talk about the history of analytics, early 1900 are marked with the pioneering effort of Mr. Ford. There are multiple aspects of business analytics descriptive analytics helps to discover a phenomenon or pattern of data. This enables organizations to make decisions beneficial for the long term. Business Analytics can also be used for another type of analysis called prescriptive analysis which is formed to obtain the optimised techniques and build stronger business results, for instance, Business analytics can be cast off to decide the prices of various goods in stores based on its previous and current data. (Ramanathan, Philpott, Duan & Cao (2017).

Benefits of Analytics

1. Business analytics is a method or a tool that helps in making business decisions. Hence, it impacts the whole organisation's functioning. Therefore, it helps to increase the market share, profitability of the organisation and long term profitability
2. It gives better insights from various sources and format of data to understand the whole business
3. It also provides competitive advantages to organisations. Every company nowadays has equal information and data but how the data is utilised by the company makes it competitive.
4. It converts important data into valuable information.

Data Driven Decisions and Processes

The current business scenario is digital and requires agility in all the processes. The older way of making decisions based on intuition and experience of few people sitting at the top of the pyramid. The technology has enabled decisions which can be extrapolated through organizational data. The organizations have already been using enterprise based soft wares and the transactional data is the source for populating the warehouse (Duan & Cao, 2015).

Accessibility and Availability of Data

The digital transformations in the organization enables

Add automatic source of data like RFID tags, sensors, point of sale eliminate the manual entry of data. This leads to collection of daily data in a very fast manner, while maintaining the quality of the data. The Internet of things (IoT) has dramatically changed the way data could be collected from a variety of sources. This is possible since all the digital devices are connected through a single network with continual communication. The reduced cost of IT infrastructure also enables automatic collection of data. The emergence of cloud has still taken data collection and storage to a new dimension (Delen & Demirkan, 2013).

Analytics as a Course and Specialization

There are few studies related to both graduate and undergraduate analytics programs and

corresponding curriculum Gormanand & Klimberg (2014) and George Washington University, (2014). The researcher has tried to analyze the offerings at both levels and it was found that those at undergraduate level are more innovative. Probably this is also acting as a reason for growing popularity of analytics specialization at this level. The students who are inclined for problem solving techniques prefer analytics over traditional specializations like economics and statistics. A very nice implementation of such innovative thought processes is reflected in the courses offered by George Washington University; healthcare analytics and sports analytics. This shows that the education ecosystem is also providing a platform for the students to go for very specialized courses (Cegielski, & Jones-Farmer, 2016).

On the basis of the literature following factors have been identified, which influence the choice of specialization. The questionnaire is based on these factors:

- Is the specialization significant for top management?
- Does the specialization lead to higher salary?
- Is the specialization offered at the undergraduate level?
- Does the specialization lead to capability building in terms of freelancing?
- Is the specialization in alignment with the upcoming industry requirements?

RESEARCH OBJECTIVE

To identify why "business analytics" is an ongoing trend among the undergraduate students and due to what factors they have chosen it as one of their specializations.

RESEARCH METHODOLOGY

Source of Data is Primary collected from students of under graduate courses in Noida through questionnaire in Google form. The question in the questionnaire includes Name, Batch, whether they are or willing to study Analytics and their interest, awareness on various analytical tools and reason for choosing or willing to choose analytics by rating the statement. The primary data gave us evidence about

students and their working environment. The The descriptive research design was used to analyze primary data was collected through Google Form. the data.

Table 1: Descriptive Statistics

Var	N	Mean	S.Dev	Skewness		Kurtosis	
				stat	Std.err	stat	Std.err
Significant for top management	150	3.41	.74	-0.45	0.167	0.45	0.33
Higher salary	150	3.27	.89	-0.28	0.167	-0.46	0.33
Offered at undergraduate level	150	3.33	.61	-0.53	0.167	-0.45	0.33
Gives freelancing opportunity	150	3.07	.91	-0.64	0.167	-0.50	0.33
It is an upcoming field	150	3.6	.76	-0.23	0.167	0.18	0.33

Descriptive Analysis

According to Table 1, an examination of skewness outcomes exhibits within the acceptable range (± 1) and kurtosis coefficient outcomes also lies in the

range (± 1). According to George & Mallery (2010). Skewness values are of more importance.

Table 2: Regression Results

DV	R square adjusted	F-value	IV	Coefficient
Willingness to choose Analytics	0.73	5.315	Significant for top management	0.74
			Higher salary	0.45
			Offered at undergraduate level	0.67
			Gives freelancing opportunity	0.56
			It is an upcoming field	0.77

Data Analysis

The above model is significant as per Table 1, with $F=5.315$ and adjusted $R\ square=0.73$. This implies 73% variance in dependent variables is explained through all the five independent variables. From the coefficient column, it is clear that “It is an upcoming field” is having the highest effect with beta value= 0.77 and the one having least effect is “Higher salary” with beta value= 0.45 .

FINDING AND CONCLUSION

Students awareness level in terms of career needs and the specialization they choose have increased

a lot Levaillant et.al.(2020). This is to be taken care by the universities while launching any new course of offering specialization. People study business analytics due to gaps. People who are very good at 'business' may realize that they have a gap in their understanding of what is possible in terms of advanced analytical techniques. The courses of analytics are becoming a popular choice of career even at undergraduate level. If the students are aware about the courses available and the corresponding career path, there is a higher

likelihood of choosing business analytics as the career choice.

LIMITATIONS

The study has been carried out on a limited sample of respondents. There was an unwillingness of some of the respondents to take out their time to fill the questionnaire. The study only talks about a few factors like “upcoming field, high salary, significant for top management”.

IMPLICATIONS

Today the business world is changing the way in which the decision is taken and planning is done. From the brainstorming of people sitting at top of the pyramid the entire business process and strategy formulation has become data driven. Analytics has enabled this data driven approach. The students have also realized the huge opportunity provided by this field. At undergraduate level they are inclined to choose the analytics course or specialization. Instead of opting for a general undergraduate course and getting into a specialized field in post graduate, now the trend for specialised studies have started right from the beginning. It is important for higher education to create a teaching process based on knowledge, skill and abilities. This is quite prominent in the case of an analytics course and specialization.

REFERENCES

- Allen, C., Kumar, P., Tarasi, C., & Wilson, H. (2014). Selling sales: Factors influencing undergraduate business students' decision to pursue sales education. *Journal of Marketing Education*, 36(2), 94–104
- Al-Lawati, E. H., R, R. K., & Subramaniam, R. (2017). An Empirical Study on Factors Influencing Business Students' Choice of Specialization with Reference to Nizwa College of Technology, Oman. *International Business Research*, 10(9), 177. doi:10.5539/ibr.v10n9p177
- Bobâlcă, C., Țugulea, O., & Bradu, C. (2014). How are the Students Selecting their Bachelor Specialization? A Qualitative Approach. *Procedia Economics and Finance*, 15, 894–902. doi:10.1016/s2212-5671(14)00553-x
- Conboy, K., Mikalef, P., Dennehy, D. & Krogstie, J. (2019). Using Business Analytics to Enhance Dynamic Capabilities in Operations Research: A Case Analysis and Research Agenda. *European Journal of Operational Research*. DOI: 10.1016/j.ejor.2019.06.051
- Carlton, G. (2021). What Kinds of Teaching and Education Specializations Are There? Retrieved from: <https://www.collegechoice.net/faq/what-kinds-of-teaching-and-education-specializations-are-available/> on 5th April, 2021
- Cegielski, C. G., & Jones-Farmer, L. A. (2016). Knowledge, skills, and abilities for entry-level business analytics positions: A multi-method study. *Decision Sciences Journal of Innovative Education*, 14(1), 91–118.
- Delen, D. & Demirkan, H. (2013). Data, information and analytics as services. *Decision Support Systems* 55(1):359–363. DOI: 10.1016/j.dss.2012.05.044
- Davenport, T. H., & Patil, D. J. (2012). Data scientist: The sexiest job of the 21st century. <https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century>
- Duan, Y & Cao, G (2015). The affordances of business analytics for strategic decision-making and their impact on organisational performance. Conference: Proceedings of the 19th Pacific Asia Conference on Information Systems (PACIS 2015), At: Singapore. Retrieved from: https://www.researchgate.net/publication/279058858_The_affordances_of_business_analytics_for_strategic_decision-making_and_their_impact_on_organisational_performance/citations

10. Glassdoor.com. (2017). 50 best jobs in America. https://www.glassdoor.com/List/Best-Jobs-in-America-LST_KQ0,20.htm
11. George Washington University. (2014). MS Business analytics curriculum. <http://business.gwu.edu/programs/specialized-masters/m-s-in-business-analytics/>.
12. George, D., & Mallery, M. (2010). SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 update (10a ed.) Boston: Pearson.
13. Gorman, M. F., & Klimberg, R. K. (2014) Benchmarking academic programs in business analytics. *Interfaces*, 44(3), 329–341
14. Jain, P. (2015). 5 steps to transition your career to analytics: Step 1—identify your ideal job. <https://www.forbes.com/sites/piyankajain/2015/01/05/5-steps-to-transition-your-career-to-analytics-step-1-identify-your-ideal-job/#4479cad77f19>
15. Levaillant, M., Levaillant, L., Lerolle, N., Vallet, B., & Hamel-Broza, J.-F. (2020). Factors influencing medical students' choice of specialization: A gender based systematic review. *EClinicalMedicine*, 28, 100589. doi:10.1016/j.eclinm.2020.100589
16. Masuku, M. B., Tsikati, A. F., & Dlamini, B. M. (2015). Factors Influencing the Choice of an Agriculture Specialisation by Primary teachers' Diploma College Students in Swaziland. *Journal of Agricultural Studies*, 4(1), 12. doi:10.5296/jas.v4i1.8153
17. Paul, J.A & Mac Donald, L (2020). Curriculum for Undergraduate and Graduate Students. *Decision Sciences. Journal of Innovative Education*, Volume18Number1, January2020. PP:22-58. Retrieved from: <https://onlinelibrary.wiley.com/doi/full/10.1111/dsji.12196> DOI:<https://doi.org/10.1111/dsji.12196>
18. Ramanathan, R, Philpott, E, Duan, Y. & Cao, G (2017). Adoption of business analytics and impact on performance: a qualitative study in retail. *Production Planning and Control* 28(11-12):985-998. DOI: 10.1080/09537287.2017.1336800.
19. Sarwar, A. and Masood, R.(2015). Factors affecting selection of specialization by business graduates. *Science International*, 27 (1), 489-495.