Business Analysts' Education Needs and its Impact on their Employment Opportunities

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In Sri Lanka many universities and institutions provide business analytic related modules to their undergraduates. But the problem is whether actually the modules they provided and knowledge they have given are sufficient for their students to be successful in business domain. Because of this problem, this study has been conducted and it is about exploring the education needs testing how those education needs make impact to employment opportunity of a business analyst.

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GJMBR-A Classification: JEL Code: M10

Strictly as per the compliance and regulations of:

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Abstract- Business analytics is a highly trending job role in modern world and demand is creating for quality business analysts day by day. Sri Lanka is developing country which is creating valuable job opportunities in the cooperate business environment. Graduates and undergraduates are seeking demanding job roles such as business analysts and they are willing to acquire the education needs which demanded for those job roles.

In Sri Lanka many universities and institutions provide business analytic related modules to their undergraduates. But the problem is whether actually the modules they provided and knowledge they have given are sufficient for their students to be successful in business domain. Because of this problem, this study has been conducted and it is about exploring the education needs testing how those education needs make impact to employment opportunity of a business analyst.

According to the literature it has identified ten common variables which might impact on employment opportunities of business analysts. And using results of the respondents it has concluded that only problem-solving ability, domain knowledge and analytical skill have impacted on getting analytics jobs for business analysts. According to the industry specialists' opinion, they have given an overall opinion on which factors impact mostly. Some of the responses from two parties were match and some were not. According final results it shows that there are common factors which may impact and some critical factors such domain knowledge and analytical skill important to get into business analytics job.

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I. Introduction

Today there is a rapid development in the world almost all of the areas including businesses field. So, the competition between the companies in the business world getting increased as the technological development. Not only keeping touch on the latest technological updates it is also important businesses to have good data analysis in order to predict future trends. So, business analytics in companies now have become very urgent field in developed countries including U.S.A, Australia and UK (Anon., 2020). But in developing countries like Sri Lanka it is now becoming a trending job. Requirement for business analytics and demand for business analysts will surely increase in Sri Lanka within next couple of years.

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Sri Lankan universities now trying to provide business analytics related degrees to their undergraduates after considering this industry expectations. Students who are studying in business administration, information technology or related degree programs are looking forward to find jobs related to their specialization. But issue is that students who are studying from this field do not find specific career paths like students in medicine, law or teaching. The study areas are wide ranged and career opportunities are not defined in specific way. For professions such as business analyst, industry expectations may different from organization wise, society or some other related aspects. Graduates or undergraduates from different degree programs may have the chance to enter the field or there might be chance for those who are not graduated but highly experienced in cooperate.

II. Litereture

a) Role of business analysts

The business analyst's role is very difficult to define but a business analyst can mention as a person who is working with an organization that helps to solve problems by using different skills as well as business analysis techniques. Using business analysts' wide knowledge and skills they need to cover three areas. Business, interpersonal and professional are those areas. It has also found that business analysts can make a huge impact on information system growth of organizations (Paul & Tan, 2015).

(Robert Half, 2020) Has stated that a business analyst should carry out certain works including identifying and implementing business solutions that help to achieve business goals, forecasting and budgeting financial performances using resources available that will help to decrease the chances of financial crisis in future. Furthermore there are some other responsibilities on the hand of business analysts. Financial modeling, reporting and defining business requirement, pricing, planning and monitoring various analysis and reporting business analyzations to stakeholders also in business analysts' job profile.

b) Education needs of business analyst

Educational needs a business analyst should have identified by a study and it has described about the skills that business analyst should have to

successful in their careers as well as to find relevant career related to their studies. It says a business analyst should have skills like fundamental, analysis as well as technical skills. Where the fundamental skills have divided in to problem solving, communication, management and research skills. Technical skills like knowledge of IT skills and domain knowledge. Business analysis skills such as requirement elicitation, documentation, decision making and analytical skills (Anon., 2019).

c) Problem solving skills

Problem solving skills helps to find out why the issue is happening and how to solve the problem. If a person having good problem-solving skills, then he/she able to solve a problem quickly and effectively. Problem solving skill is a soft skill and in the process of problem solving there are five steps. They are analysing causes, generating alternative interventions for the problem, evaluation of best solution, implementation of the plan and finally assess the effectiveness. If a person good at going through this process he/she is having good problem solving skills and nowadays it has been proven it is the one of important skill that employers seek from candidates when hiring for jobs (Doyle, 2020).

d) Communication skills

According to (Hubble, 2018) business analysts are constantly communicating. Good communication of business analysts will help to keep touch with stakeholders and according to him verbal, non-verbal communication as well as writing skills also important for a business analyst. So according to this statements business analytical students that who are going to work in the industry tomorrow should develop their communication skills when they were in universities because according to literature given communication skills are one of most consequential skills for them to find relevant business analysis job in future.

e) Analytical skills

Analytical skill is some person's ability of identifying and solving unstructured problems and giving judgments based on unfocused facts. Analytical skills should also be developed throughout the students staying at university and it is a foundation for other skills as well (Banderlipe, et al., 2006). (Alison Doyle, 2020) describe include ability of detecting patterns, data interpretation, and brainstorming, theorizing and giving decisions based on options available. Analytical skills can be divided in to several sections. They are communication, critical thinking, creativity, and research and data analysis. If a person is excellent in above mentioned sections, he/she has good analytical skills.

According to (Wilder & Ozgur, 2019) both business analytics and business intelligence both needs set of skills and software and in the process of business analytics and business intelligence there should be gathering and transformations of raw data in to actions that gives insights. According to him the responsibility of preparing students for business environment by developing business analytics and business intelligence is in the hand of business schools. There are three main business analytics jobs and they are data scientist, business analyst and business users. If we consider about business analyst specially, a business analyst should have the ability of data management and knowledge of statistics. However, a business analyst should not need to have a high knowledge in mathematics but he/she should have considerable computer knowledge as well as mathematical and statistical knowledge that will help to analyze data and help to make decisions.

f) Research skills

According to (Anon., 2020) research skills are the ability of searching, collecting, analysing, evaluating and interpreting information that are available for studying a subject. Research skills can be gained by using tools such as internet, interviews, books, surveys, books, studies, experiment and articles. Research skills are a "must" because nowadays when recruiting employees for a job because many companies related to business field are expecting their workers to have good research ability because it will help companies to remain valuable workers.

g) Decision making skills

Decision making is about choosing and identifying the bet among alternative choices available to give a solution to a problem. The decision is based on the value and believes of the decision make uses and the decision of the decision makers foo same problem may deferent from each other for a same problem. To make decisions more effectively the relevant information and should be gathered first. Then by developing different alternatives and identifying pros and cons of each alternative best alternative can be selected and implementation can be done. Delaying decision making maybe sometimes good as it will help to gather more information available that help to make the decision more successfully. (Parcon , 2006).

h) Requirement elicitation

According to (Modern Analyst.com, n.d.) the requirement elicitation is about quickly gathering information for a project. But this process cannot be done very quickly. And if any mistake made in elicitation process can course a project or work failure. The requirement elicitation process includes identifying business needs, assumptions and risks associated with any project.

i) Documentation skills

The most important of good documentation is inviting as possible. Documentation is comprehensive. It means all aspect of the project are documented. It helps

to users find the content they need quickly. Documentation include use clear heading, bullet list and links. Large project document can clear navigation, table of content. Good documentation should give the idea they wanted to tell very clearly, precisely and concisely and also needed to use appropriate tools that can be presented worldly as well as visually. (Anon., 2018).

j) IT skills

According to (Heinrich, 2017) people who are working in business domain needs IT skills such as Microsoft office, database knowledge, SQL, CRM software, programming languages and cloud computing tools. According to him due to the growth of technology the competition in business domain has been increasing day by day and the business students need to develop the knowledge of IT because when recruiting for jobs they need to have expected knowledge that companies are looking for.

k) Domain knowledge

this website describes about various kinds of options to gaining more and more domain knowledge. Exploring more and more on Google, discuss with different people working on the similar domain, reading blogs and articles, gain more ideas through applicable websites are the main options in there. However, there are some different ways to develop domain knowledge in business analysis. They are Do research in the particular domain and gain more knowledge, Interview key stakeholders, Gain more experience. There are important skills needed in the business analysis domain Communication skills, Business knowledge and critical thinking, Problem solving skills, Technical skills, Methodology skills (Anon., 2017).

l) Management skills

We can simply define management as the administration and coordination of tasks to obtain a goal. When we talk about administration it includes setting the organization's strategy and coordinates the efforts of the staff. And there are 5 main functions to identify they are planning, organizing, staffing, directing and controlling. When we talk about planning function there are several activities to do they are; Analyzing the current situation, Anticipating the future, Determining the organizational objective, Choosing strategies (indeed career guide, 2020).

m) Employment Opportunities of business analyst

(Anon., n.d.) Describes business analysts as a person who gather and analyse big data to take a good use of them in decision making processes. There are five demanding business analysts' jobs nowadays and they are, data analyst scientist, IT business analyst, business analyst manager, system analyst and computer science data analysts.According to (Carpenter, 2020) business analyst mostly works in industries such as health care, development area in businesses, manufacturing, information system management and supply chain management fields. There are some organizations hiring business analysts for planning assistance in execution and planning of projects as well. He also states that many business analysts start working in companies when they are undergraduates and he also states that if this entry level business analyst have enough experiences and good performances, they can easily move in to junior analyst and senior analyst positions. According to observations it has also approved that companies expect entry level analyst should have at least a bachelor degree in business analytics and for senior business analyst there should be at least master's degree.

III. Problem Statement and Objectives

a) General Objective

To assess how the Business Analysts education needs impact on their employment opportunities.

b) Sub Objectives

- To determine education background of a Business Analyst.
- To assess Business analyst's education needs and employment opportunity of graduates and undergraduates.
- To determine the impact of working experience of graduates and undergraduates on their employment opportunity for BA job roles.
- To assess Industry specialist's perception for Business analyst's education needs and employment opportunities.

c) Statement of the Problem

There are some researches that have been conducted all over the world about employment opportunities for graduates in different fields and some had researched on roles and practices of Business Analysts. But few had given their attention on Business analytics field and job opportunities for the field. Business analyst has become a key role in recent business opportunities. Therefore, organizations are seeking highly qualified and skilful people for their BA roles. However, to be ideal business analyst he or she should possess many skills & experiences.

When it comes to Sri Lankan context Business Analytics practices only in major organizations and their willing to hire highly qualified persons as in global. There are state universities and private institutes which produce Business Analytics graduates every year. Past researches had found that in Sri Lankan context there is a gap between graduate's qualifications and industry expectations when recruiting (Weligamage & Siengthai, 2003). A recent study done by (Ariyawansa, 2013) state that most of the graduates in Sri Lanka wait for a long period to find a suitable job for their background of

study and the reason for this crisis is mainly the mismatch between graduates degree and industry demands for job roles. There are many graduates and undergraduates who are willing to enter business analytics field. But the issue is industry is not welcoming most of them for the roles. There is a need of finding what the skills & experiences graduates are lacking to enter for BA roles and also, what the industry is expecting from applicants for their employment opportunities

IV. Results and Discussion

In the quantitative data analysis data set were analysed with 95% confidence level and to test whether each variable significantly impacting or not significance of the coefficient should be less than 0.05. Logistical regression model results shown as follow.

Out of ten variables tested only three made significant impact on the employment opportunity. Problem solving ability significance of the coefficient was $0.002 \leq 0.05$, domain knowledge significance of the coefficient was $0.044 \leq 0.05$ and analytical skill significance of coefficient is $0.02 \leq 0.05$ are the variables which make significant impact. These variables make a positive impact which shown in β column if the education needs are high employment opportunity as business analysts also will be high.

When data set tested with working experience it gives results as management skill, domain knowledge and decision-making ability relationships between employment opportunities are positively impacted by work experience. As shown in the table 2 other variables were not significantly impacted by work experience.

In the narrative analysis done on industry specialists' responses it had found that problem solving ability, knowledge of IT, communication, domain knowledge, management skills and documentation skills are important for to be an analyst. But deep analyzing of it shows that problem solving skill is really essential to case in business analytics. Statement from respondent A justifies that.

"First of all, communication skills, good communication skills is a key factor, negotiation, problem solving ability to immediately change according to situation, that is adoptability then I also look at willingness to learn."

Also, two of the respondents (A & C) stated that domain knowledge is really essential to have high opportunity to get a business analytics job role.

Response from specialist A

"I look at it as a must I also look at other studies they have done like diplomats, SLIM or whatever other courses where they have got exposed in to other domains. Also, when it comes to education needs, I look at in to different certification related to business

analyst. There are different tools and techniques that are important for business analyst to do their work. I also check whether they have got basic statistical knowledge."

Response from Specialist C

"If you have domain knowledge like HR, Finance, Telco knowledge, finance technology knowledge it will add an advantage. example say if you coming to a general IT project which related to mobile application, I think IT knowledge is the key aspect of that and say you are going for a Telco organization so in that case you need to have Telco knowledge as well."

For the Analytical skill it has not mentioned in terms it is important but one of the respondents (specialist A) have stated that statical knowledge and working with analytical tools is required for an analyst.

"Also, when it comes to education needs, I look at in to different certification related to business analyst. There are different tools and techniques that are important for business analyst to do their work. I also check whether they have got basic statistical knowledge."

Excepting significantly impacted factors according to industry specialist it key factor which need to have IT skill. But some it won't be need much in some analytical positions. It depends on the domain area.

According to specialist D:

"If the candidate is applying to position in that system we will look for an IT degree but there are some system they don't need lot of technical knowledge, as an example the system which I'm working we don't need lot of IT knowledge, so my business degree specializing in business analytics is enough."

Other factors also which may not show impact on regression model but according industry specialists management skills, documentation skills, communication also important for an analyst. Also, most of the respondent's state that there are number of opportunities for business analysts and as shown in the results it depends mostly on domain area of, they are going to work. According specialist D,

"It also depends on what type of job they have to do. Some system they don't need lot of information technology, so system like that there more chance for a business analyst to be working there, we don't have IT analysts from what I know all are business analysts, with in that we have people who are very technical, we don't call them IT analyst all of them call Business Analyst only.

V. Conclusion

According to results from 230 respondent's quantitative data and 5 respondents' qualitative data

there are important education needs to be covert by business analyst to find a job. IT skill, communication, management skill, problem solving ability, domain knowledge and analytical skill are common factors which are important for an analyst. Management skill, domain knowledge and decision-making skill can be affected based on person work experience. However out of the common variables problem solving ability, domain knowledge and analytical skill have found as significantly impacted factors when graduates and undergraduates find analytics job roles.

Finally, we can suggest that those who willing to be business analysts need to find degree programmes which created with wide areas of domains and modules which can cover about analytical techniques and tools. Also, universities can develop their programmes with giving deep knowledge domain areas such as HR analytics, marketing analytics or social media analytics, etc.

Further, this research has given considerable and important outcomes about educational needs of business analysts as well as employment opportunities of them. Future researchers can conduct their researches using the theories and results generated from this research. Even so it is better to conduct future researches related to this topic for different levels of business analysts. Because different level of business analysts need different education needs and having different employment opportunities it had been quite difficult and complicated for the researchers of this research to define the sample of the population.

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