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Using Part of Business Analytics for Learning and Working

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Abstract

The purpose of this study was to demonstrate some parts of business analysis, more specifically, to show the application of knowledge in business management and real-life situation. The research explores some aspects of business analysis, including enterprise management, foundations of business analysts, planning and monitoring, and data science statistics. Business analysis is a crucial discipline in the growth and development of business through implementing change. This paper covers the overview of business analysis and the application of knowledge in real life and business management. This brief demonstrates a summary of the business analysis programme, including the business analysis foundations and statistics for data science. The primary concepts outlined in business analysis foundations include business competencies, enterprise analysis, requirements, and solutions. Similarly, the paper covers statistics for data science, where vital concepts such as regression analysis, numerical and categorical variables, fundamentals, distribution, and hypothesis testing are presented. In addition, the analysis presents the most exciting discovery during the course elaborating on the birth and development of business analysis from the 1940s until today. Additionally, the paper covers the most crucial information presented in the course: business analysis application and its benefits in organizations. Also, it presents the application of business knowledge in daily life to define needs and solve problems. Furthermore, business analytics knowledge is applied during doctoral research and personal healthcare management. The brief covers the practical application of business analysis skills in large corporations such as Apple Inc., including big data analysis, HR management, communication, and manufacturing. Besides large corporations, business analytics skills apply in small companies in mitigating risks, operation analysis, and market analysis. Lastly, the paper demonstrates the practical application of knowledge in individual entrepreneurship, such as innovation analysis, revenue generation, system analysis, and mind mapping.

Keywords

Business Analysis, Enterprise Analysis, Statistics for Data Science, Application of Knowledge

1. Introduction

Business analysis is a research discipline that helps to identify business needs and look for solutions for organizations' problems (Paul et al., 2014). In business analysis, many solutions that companies try to execute IT systems, but this becomes unlikely due to the progressive business change. These solutions may have a broader scope integrating changes to job roles and business processes. The primary objective of this study is to reflect on business analysis and the range of techniques used. In this case, while many companies employ business analysts, there needs to be more clarity about the exact roles of the business analysts. This regularly creates more questions than answers. For example, many business analysts need a more comprehensive understanding of IT and software development. This can result in problems where IT is considered part of a solution, and the business analysis needs more extensive experience. The objective of business analysis is to pinpoint the solutions that meet the need for improvement. In addition, it is used to articulate the change in how the business works and to enable that change (Paul et al., 2014). Conversely, a business analyst is a person responsible for the change. In this case, the business analysts will find and define the solutions which will result in maximum value delivered by the organization to its stakeholders. In most cases, the business analysts will work in all business departments of a company and may deal with all types of work, from implementing the strategy to leadership roles, supporting the continuous process, and developing enterprise architecture. Furthermore, they may conduct a market analysis, monitor data quality metrics, and ensure the reporting needs are achieved (Paul et al., 2014).

The business analysis process provides the insights and concepts involved in developing the core framework for any business project (Albright & Winston, 2014). It acts as the main guide to shareholders for a project that initiates a business modelling process in a more organized manner. In addition, business analysis ensures good governance, structure, and testability to ensure that individuals understand the change and good management to enhance the company's value. However, organizations can achieve all these processes by encouraging employees to understand the structure of the business and the processes, and the data information used in the processes. Therefore, business analysis helps to clarify the structure, the dynamics of the business, and current problems in the organization (Albright & Winston, 2014). This paper aspires to discuss the business analysis summary, the most interesting discovery, and crucial information. It will also demonstrate the application of knowledge in daily life, doctoral

research projects, and other cases. Finally, the paper will explain the practical application of knowledge in small companies, big corporations, and individual entrepreneurship.

2. Business Analysis Foundations

Business analysis is all about change which business analysts facilitate to achieve that change. In most cases, the organization must move, add, change, or remove something from the systems or the environment to achieve the needed change (Albright & Winston, 2014). In addition, it entails defining the business needs and adding value. Also, the analysts contribute critically by enhancing continuous processes and identifying the solutions to business challenges. To identify the prevailing problems, analysts perform a root cause analysis to identify what is happening and find the gaps in the process. In addition, the analyst will investigate the need for improvements and, most likely, what the end users experience and the solutions to their problems. For example, the analysts will recognize and introduce IT software programs to enable efficiency in transactions for end users (Albright & Winston, 2014). However, to implement the change, an individual must possess the relevant skills and knowledge relating to the IT environment. Also, business analysts can perform other roles such as quality assurance, product analysis, software development, and project management (Paul et al., 2014).

In business analysis, an analyst must have strong and effective skills such as critical thinking to enhance competency (Paul et al., 2014). Analysts must have deep knowledge to identify problems and devises strategies to solve challenges. In addition to critical thinking, an analysis should demonstrate excellent analytical skills. These are the skills to analyze, assess, solve problems, and implement the solutions to achieve change. The analyst must understand how things work and seek opportunities that will help to improve processes. In this process, they change the nature of the current state and increase future opportunities. When looking for solutions, business analysts should adopt logical thinking to understand the problem and devise a strategy to solve or get the results. Furthermore, business analysts need to be efficient communicators. Effective communication skills involve using verbal, written, and non-verbal language. Good communication improves engagement, teamwork, and collaboration with employees, and managers, thus enabling the team to achieve better results. However, to achieve credible results, business analysts will usually work closely with project managers (Paul et al., 2014).

2.1. Enterprise Analysis

Enterprise analysis means that all the activities in the business must support the business's value. The projects must support the organization's vision, mission, and goals. For example, if the organization manufactures vehicles, starting to produce bicycles will not align with the company's vision and mission (Jin & Kim, 2018). Therefore, all projects in the business should align with the organization's vision and mission. Another crucial analysis is strategic thinking in the

development of new products and services. For example, if the company intends to create new software, it should develop software to solve or help end users solve their problems (Jin & Kim, 2018). In addition, the organization's framework demonstrates the flow between departments or lines of the business. The projects are part of the enterprise analysis, operate within the framework, and must align with the vision and mission. The analysts try to understand the problem and devise solutions that align with the business value. However, the solution must be effective and integrate logical and critical thinking (Jin & Kim, 2018).

The next step is understanding the prevailing problem and each individual's different roles and responsibilities (Paul et al., 2014). In addition, it involves sketching the requirements during projects and working with stakeholders, managers, or business owners to prioritize the requirements. Also, it entails working with stakeholders and managers to define the time to perform tests and analyze how capital and time will directly affect how the business analysis influences activities. Additionally, business analysts must evaluate the metrics for monitoring the business analysis work to assess, in the long run, the outcome of their projects (Jeong et al., 2016). Another role is gathering the right requirements that support the business value in terms of workshops, documentation, prototypes, and interviews. Also, it entails creating solutions that solve the challenges if the requirements are not necessary before the project is launched. Therefore, the primary activity is to produce the requirement analysis once the analysts understand the problem (Jeong et al., 2016).

Analysts need to communicate effectively with other stakeholders (Paul et al., 2014). In addition, effective communication depends on the people involved, categories, and groupings of the stakeholders that influence the depth of the communication. In the communication process, conflicts may arise, leading to disagreements. However, a business analyst acts as an intermediary to explain every group problem and reach a consensus about the issue. In this case, the analysts create a required package for all relevant information to understand the problem. In addition, the package will move through a series of evaluations, committees, and the core stakeholders as they look for commonalities, accord, and sufficient understanding of the problem. Business analysts verify and assess built projects to ensure quality control and alignment with the company's vision. In addition, the value created should function to satisfy the stakeholders and needs of end users and must accomplish what the stakeholders targeted (Jeong et al., 2016).

2.2. The Analysis in Depth

When identifying and planning for solutions or looking for opportunities, analysts and managers must understand the rigour and depth of the research to perform in this case (Paul et al., 2014). Some opportunities and problems will be bigger than others. In this case, they may need more effort and complexity than others. The rigour assessment evaluates the degree of risks involved during the

analysis. For example, in stock markets, an individual does not know the risks of whether the stock will increase or decrease (Paul et al., 2014). Additionally, risks may negatively affect the projects; project managers must identify and mitigate the risks. Another crucial factor is considering the in-depth analysis by understanding the timeline, marketplace, unproven technologies, and quality. In addition, analysts must consider the scope and the necessary cost budgets to initiate projects. Similarly, the analysts must consider the human and physical resources that help to control quality. In this case, all communication processes are initiated to achieve these activities (Jeong et al., 2016).

In most cases, business needs and opportunities may be a prevailing problem that needs to be solved. Also, it involves analyzing the tangible and intangible aspects of the problem, for example, tangible facets, such as software that does not perform well or too slowly, and intangible aspects, such as reputation, goodwill in business, culture, or market (Jeong et al., 2016). In every process, there must be a problem hindering smooth workflow in the company's value or causing frustrations that need to be assessed. Also, the business needs to increase revenues and reduce costs since it allows capital to flow and be available. In addition, the business needs to get more customers and sales while simultaneously saving on costs. Business analysts need to understand the key stakeholders and the need to formulate solutions to their problems. Similarly, the company should evaluate the ripple effects since one solution can lead to another problem. Also, there may be a complication in the idea of change to increase efficiency and productivity. In addition, the analysts need to define the boundary of the solution to resolve a specific problem (Jeong et al., 2016).

When business analysts identify the requirements and involve the shareholders, they have to evaluate the solution and think about the capabilities to implement the solutions (Paul et al., 2014). In addition, the business must assess the skills needed and the resources available, time, and funds to solve the problems. Also, what is the possible return on investments, and what are the accumulated risks when investing in the organization? Furthermore, it will involve achieving the set objectives, capabilities, and training needed to solve the solutions (Paul et al., 2014). Furthermore, the analysts need to examine the processes, work performance, and how people will embrace the change to the problem. The organizations must also assess all day-to-day activities and the skill gap created frequently. Moreover, they must consider the organization structure and how it is affected, how to embrace it, and what changes have been induced. Similarly, the analysts need to examine the solution approach and analyze the inventory and skills available in the company (Paul et al., 2014).

2.3. Performing the Feasibility Analysis

Performing a feasibility analysis involves studying the solution by looking at the capability gaps, business models, and value of the business racing (Chiang et al., 2018). Also, what will meet business needs, achieve available resources function-

ality, and bring problem-solving abilities? The subsequent analysis assesses the legal business case to evaluate the problem and solutions and make a recommendation. In addition, it will involve talking about technological availability and people's capability. For example, the required skills needed to set future strategies (Chiang et al., 2018). Feasibility analysis also entails studying the competition in the market by employing the bleeding edge to incorporate money to capture the market. Business analysts should examine the cost-benefit analysis, such as the cost accrued to create a solution and the return benefits when the solution is accomplished. In addition, the financial analysis technique should support the organization's vision, mission, and goals. Feasibility also entails conducting research and information analysis to examine current trends and understand how to plan and coordinate activities (Kraus, Feuerriegel, & Oztekin, 2020).

The solution scope entails creating a business case and developing a solution to achieve the desired plan. The solution scope helps the company manage activities and make robust decisions (Kraus, Feuerriegel, & Oztekin, 2020). Also, the business needs to perform a risk analysis. In this case, the risks involved during the implementation of the solutions. The business analysts should also evaluate the solution scope, such as boundaries focused on and the effect of ramifications of implementing the solutions. In addition, the skills required and the capabilities supported in current and future endeavours. Also, the scope should define the deliverables and identify the assumptions and constraints limiting the business activities. Comparatively, business analysts should evaluate the environment and how the solutions interface with the current situation (Kraus, Feuerriegel, & Oztekin, 2020).

3. Planning and Monitoring Requirements

Planning and monitoring involve analyzing business activities, assessing the deliverables, and implementing the solutions.

The deliverable involves the results of an endeavour or a project (Chiang et al., 2018). Also, it refers to the feeling that stakeholders anticipate a successful project. In most cases, organizations use templates or forms that are common words for developing the deliverables. Communication is crucial in running activities or project deliverables. Project deliverables are typically things that business analysts do with project managers but not as an individual (Chiang et al., 2018). In addition, the analysts have to identify the main stakeholders for a requirement in elicitation, such as people interested in the functional facets of the products. Comparatively, business analysts should learn how to approach the relevant stakeholders. Also, they should ensure all projects and endeavours comply with business policies and requirements. They have to identify an effective approach for analyzing and documenting the business requirements, implementing tasks for project managers, and evaluating metrics for shareholders' needs (Kraus, Feuerriegel, & Oztekin, 2020).

Business analysts can use various approaches to gather requirements, with two major considerations being the business environment where analysts work. The first approach is the plan-driven methodology that incorporates formal documentation of the process (Chiang et al., 2018). It involves predicting what will happen during the project. This process helps reduce the upfront risks and enhance control over the results. In addition, it helps to avoid risks of incorrect implementation. Another approach is the change-driven methodology, where the business analysts begin by prioritizing the least important to most important activities. In this stage, there is quick delivery of the solution capabilities incrementally, and there is also a direct involvement of stakeholders to gather the information. In addition, the analysts provide the flexibility to manage the requirement changes and accept higher risks (Kraus, Feuerriegel, & Oztekin, 2020).

Project managers and business analysts deal with many people with different roles. Roles are assigned functions to each employee with different responsibilities. For example, software developers, salespersons, or business analysts have different roles and responsibilities (Chiang et al., 2018). During the project, different team members will interact with business analysts to execute projects. For example, the business analysts work with project requirements, while the project managers oversee the project. In addition, the software developers create and enhance IT engineering solutions, while quality assurance ensures that all project activities are conducted as stated by the organizational or professional standards (Chiang et al., 2018). The roles and responsibilities go hand-in-hand, but the responsibility is the function to be done. Therefore, analysts and project managers must develop a role and responsibility matrix. However, the role and responsibility intersect in the type of activity that role is supposed to be. For instance, having a RACI chart where 'RACI' means an individual is responsible, accountable, consulted and informed (Kraus, Feuerriegel, & Oztekin, 2020).

In most cases, business analysts need to plan for business activities by identifying the deliverables, feasibility, study case, and recommendation (Chiang et al., 2018). In addition, it will involve defining the business analysis activities and resources to complete those activities. Furthermore, there is a need to understand the geographical distribution of the stakeholders. Also, the larger the project or the endeavours, the more important the communication since there are more employees to engage. Business analysts must plan for all communication and understand stakeholders' expectations and modalities. For example, how the analysts communicate with managers in management is different from communications with team members. In addition, planning communication is crucial to understand how to write, store, and retrieve information during project development (Kraus, Feuerriegel, & Oztekin, 2020).

3.1. Working with Stakeholders

Stakeholders are people involved in the project as business analysts and may

have negative or positive effects on the projects (Kraus, Feuerriegel, & Oztekin, 2020). As a business analyst, stakeholders are crucial people to work with them and elicit requirements. In addition, it involves determining the end users such as the people doing the work. For example, those responsible for financial resources and those who initiate project decisions. The information relating to stakeholders and their respective roles is stored on the stakeholder's registry. In addition, business analysts need to identify as many stakeholders as possible through questionnaires, google surveys like Mailchimp, or conduct interviews if there is a large product project (Kraus, Feuerriegel, & Oztekin, 2020). Furthermore, business analysts may incorporate various steps, such as identifying the stakeholders and their interests during the project and the amount of influence they have on the project. Secondly, the analysts must prioritize and classify the stakeholders. This is based on the amount of power they possess and their influence on the project. Lastly, planning involves anticipating and critical thinking and planning how stakeholders will behave in different circumstances (Kraus, Feuerriegel, & Oztekin, 2020).

This process deals with stakeholder analysis, mapping, and their impact. Also, the analysts have a powerful interest grid known as the influence impact, based on where they are in the organization. In addition, business analysts possess a salience model that maps urgency, power, and legitimacy. Another crucial section is mapping which is a powerful interest model. The high amount of interest means stakeholders will be managed easily since a low amount of interest means a high amount of power with low satisfaction. In addition, the analysts need to consider the influence of stakeholders. In this process, the influence depends on their position in their organization, for instance, the organization chart and the amount of political capital they possess. Furthermore, some stakeholders are more important than others in prior decisions (Kraus, Feuerriegel, & Oztekin, 2020).

The classifications of stakeholders can help in communication and planning and determine who needs the information most. For example, the investors, CEO, or management need to understand the high-level and summaries description of customers. In addition, they need to understand the project team's functions, roles, and responsibilities. Other communication criteria to consider are the details, depth, and communication version. Also, the analysts have the responsibility of approving the requirement for change. In addition, business analysts must outline the purpose of the communication, such as providing comments and brainstorming the requirements. Other communications criteria include the degree of formality and the version of the requirement being communicated. Conversely, change is inevitable in a predictive environment, and business analysts have to plan upfront. The analysts plan for the project based on the scope of the work they gather but welcome any change. In addition, changes to the environment and scope should be formally documented and approved. Furthermore, the project managers have direct control over the changes. Additionally, the change requests, such as scope, directly relate to analysts' requirements.

Nevertheless, they have project policies that determine how the change will occur (Kraus, Feuerriegel, & Oztekin, 2020).

3.2. Eliciting Requirements

Eliciting requirements is a process where a business analyst draws out the requirements from stakeholders. Business analysts try to elicit some response from individuals by asking questions (Chiang et al., 2018). In addition, business analysts may ask questions actively by participating or passively by observing others' work to understand an opportunity or a problem. The elicitation occurs when starting a project and is done upfront to seize an opportunity and solve a problem. Business analysts may incorporate various elicitation techniques, such as brainstorming (Chiang et al., 2018). Brainstorming involves free thinking to identify the solutions to the problem. Another procedure involves document analysis, such as cross-checking the findings with the subject matter experts. Another essential role of business analysts is interviewing stakeholders through one-on-one surveys to engage them on concerns of the projects. Eliciting requirements also need elicitation tools such as an approach to model the solution—for example, throwaway prototyping, functional prototyping, and storyboarding. Also, a business analyst may use the context diagram, such as the scope model or the affinity diagram (Kraus, Feuerriegel, & Oztekin, 2020).

After eliciting the requirement, business analysts will analyze the requirements to assess the risks and elaborate on modelling the requirements (Chiang et al., 2018). A business analyst will analyze the requirements and search for conflicting objectives. Additionally, analysts must define and redefine the requirements, and the solutions created must match the stakeholders' needs. Furthermore, the solutions should create a business value, support the stakeholders' vision and mission, and align with that of the organization. Also, business analysts must prioritize the requirements based on the inherent risks, implementation, and business value. Besides prioritizing the requirement, business analysts must explore the risk requirement, including conflicts with other stakeholders, changing priorities, and the inability to communicate effectively (Chiang et al., 2018). In addition, the analysts should consider the model requirements using consistent terminologies, clear actions, and case diagrams. Business analysts must consider working with data models and consider non-functional requirements. Conversely, business analysts should consider verification, validation, and quality requirement. Verification entails providing detailed data and building a solution, while validation is creating what the customers expect, while also, ensure the requirements are testable, correct, consistent, and adjustable to achieve the desired quality (Kraus, Feuerriegel, & Oztekin, 2020).

4. Statistics for Data Science and Business Analysis

During the statistical analysis, the first step is determining whether the data is a population or a sample (Chiang et al., 2018). A population involves a collection

of all items of interest during the study and is denoted by the uppercase (N). In contrast, a sample is a population subset represented by lowercase (n). The numbers obtained when working with a sample model are called statistics, while that of a population are called parameters (Chiang et al., 2018).

Business analysts and researchers incorporate two types of data when working, numerical and categorical data. The categorical data presents the groups or categories, while numerical data describe the numbers. The numerical data is also classified into discrete and continuous. Discrete numerals include money, grades, and several objects, while continuous data include area, time, distance, and height. Conversely, the descriptive data can be classified according to the level of measurements, including qualitative and quantitative data. Furthermore, qualitative can be categorized as ordinal or ordinal nominal variables, mostly ordinal and comprising groups that follow a strict order. In contrast, the quantitative variables are further split into interval and ratio intervals, but one unique difference is that ratios have zeros while intervals do not. For example, in reality, most of the items we observe are ratios, such as having two and six fruits, or the number of objects in general, such as time and distance (Albright & Winston, 2014).

After identifying different data and levels of measurements, the next process is to explore graphs and tables that allow the researcher to represent the data. Data visualization is the most intuitive way to interpret data. For analysts, it will be much easier to virtualize the data if they know the type and the level of measurement. There are two types of variables, including numerical and categorical variables (**Figure 1**). Categorical variable visualization can be done using various methods such as pie charts, distribution tables, Pareto diagrams, and bar charts (Chiang et al., 2018).

In contrast, similar methods, such as frequency distribution tables, can be used to present numerical variables. However, it is more sensible to group the data into intervals and find the conforming frequencies when dealing with numerical variables. In addition, the researchers will summarize the data encouraging meaningful visual representation.

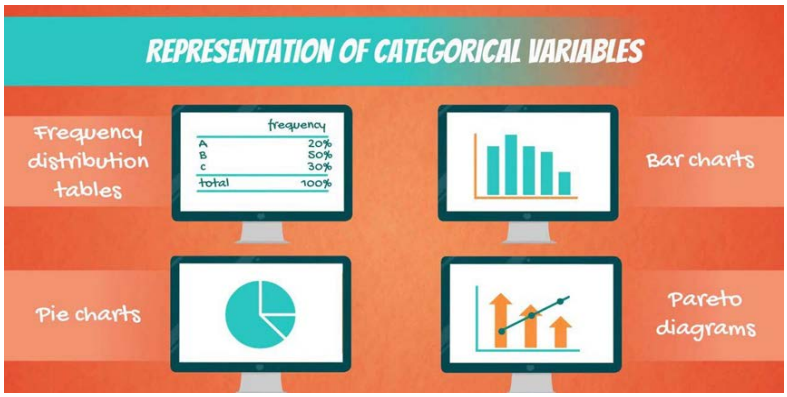

Figure 1. Representation of categorical variables. Sources: Statistical Aid: A School of Statistics.

When choosing the intervals, the researcher will prefer working with a group of data comprising five to twenty intervals. In most cases, statisticians will use graphs to inform a histogram to represent the numerical data. In addition, cross tables and scatter plots are employed if the statisticians want to present two variables (Albright & Winston, 2014).

The main measures of central tendency (**Figure 2**) include the mean, median, and mode. The first measure is the mean or simple average, which is determined by calculating the sum of the dataset or components and then dividing the outcome by their number (Chiang et al., 2018). The second measure is the median, the middle number in the outlined dataset. However, the researcher must order the data ascendingly to calculate the median. Conversely, the mode refers to the value that recurs most often. The mode, for example, can be used in categorical or numerical data. Besides exploring the measures of the central tendency, the next process is measuring the skewness. Skewness will show whether the observations in the dataset are concentrated to one side. The most common tool is to measure asymmetry skewness, but most statisticians use software to calculate the performance. It is used together with the frequency distribution tables (Chiang et al., 2018).

In addition to calculating the skewness, the next measure is exploring the data spread and variance. This entails calculating variabilities such as the coefficient of variation and standard deviation in statistics. When a statistician has a whole population, they recognize each data point. Therefore, they will take a population sample and calculate the sample statistic (Chiang et al., 2018). The variance is the dispersion of the set of data points around their mean values. A Sigma represents the population variants, and the squared is the equal sum of the squared differences between the observed values and the population mean divided by the total number of observations. In contrast, sample variance is represented by (S) squared and is equal to the sum of the squared differences between the observed sample values over the sample mean divided by the number of sample observations (Chiang et al., 2018). Another measure is the standard deviation and coefficient of variation. In most cases, the variance is a common measure of dispersion. However, the resulting figure is large and therefore it is difficult for a statistician to compare the units of measurement squared. Therefore, the easy way is to compute the square root and obtain the standard deviation (Chiang et al., 2018).

The other measure is the coefficient of variation, which is equal to the standard deviation divided by the mean value. The coefficient of variation helps to compare different datasets. After calculating the standard deviation and coefficient, another crucial measure is the covariance. Covariance is computed when working with two or more variables to understand their relationships. In this process, the researcher must calculate the covariates and the linear correlation coefficients (Chiang et al., 2018). The covariance will give a direction in which the two variables will move. Conversely, the correlation coefficient is computed by dividing the covariance by the value of the standard deviation of the provided variables (Chiang et al., 2018).

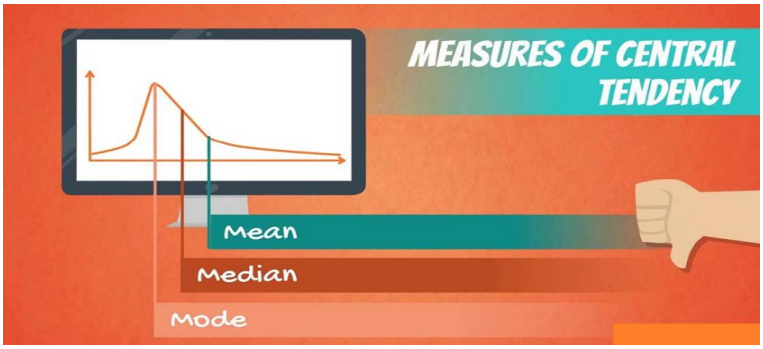

Figure 2. The measures of central tendency. Sources: Statistical Aid: A School of Statistics.

The distribution encompasses the inferential statistics that rely on the probability theory and the distributions to forecast the population values based on the sample data (Chiang et al., 2018). Distribution involves probability distribution such as normal, binomial, or uniform distribution. In most cases, the distribution will show the possible values for the variables and how they take place. The normal distribution indicates the frequency where the possible values are within the intervals. The binomial distribution summarizes the likelihood that statistical value takes one or two independent values in a given parameter. In contrast, uniform distribution is a probability distribution where all the outcomes are likely to be equal. In addition, every distribution can be standardized where the mean and the variance are mews, and the Sigma squared. In this case, the normal distribution can be standardized by shifting the mean by mew and the standard deviation by Sigma for the normal distribution (Chiang et al., 2018).

Another crucial measure in distribution is the Central Limit Theorem (**Figure 3**), which states that as the sample size becomes larger, the sampling distribution of the mean will be normally distributed, despite the data within the sample failing to be normally distributed (Chiang et al., 2018). The central limit theorem is crucial because it allows the statistician to carefully assume the sampling distribution of the mean will be normal in most scenarios. The central limit theorem helps the statistician to make inferences using the normal distribution and perform the tests to solve problems even when the population is not normally distributed. Another crucial element is the standard error which indicates the standard deviation of the distribution formed by the sample means or the standard deviation of the sampling distribution. The standard error reflects the variability of the means from the different samples (Albright & Winston, 2014).

An estimate is an approximation that depends merely on the sample information. In addition, an estimate is a specific value and can be classified as a point estimate or confidence estimate. A confidence interval is an interval, while an estimate is a single number (Chiang et al., 2018). The two factors are closely related, but the confidence intervals provide more information and are preferred when making inferences. However, confidence intervals are unreliable tools for making business decisions.

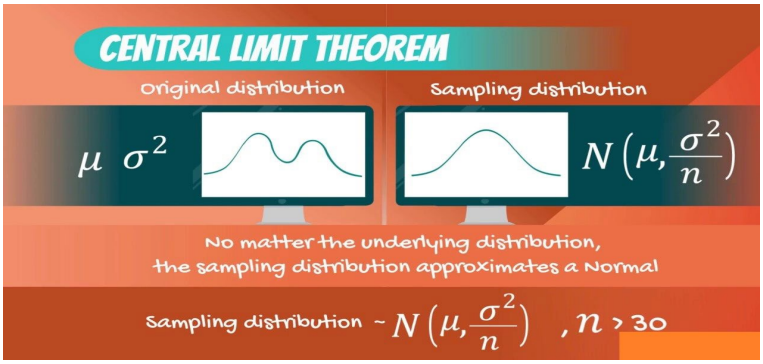

Figure 3. The Central Limit Theorem. Sources: Statistical Aid: A School of Statistics.

When computing the confidence intervals, there is a range that a statistician expects the population parameter to lie within, and the estimation depends on the data contained in the sample (Chiang et al., 2018). In this case, there are two situations when calculating the confidence intervals when the population variance is known and when it is not. In addition, confidence intervals with a distributed population are calculated using the T statistics. Conversely, the margin of error is used to determine the span of the confidence interval (Chiang et al., 2018).

4.1. Hypothesis Testing

The hypothesis can be categorized as a null or alternative hypothesis (Albright & Winston, 2014). During the decision-making process, the statisticians must formulate the hypothesis, look for the right tests for the hypothesis, execute the test and make the right decision based on the results. In statistics, the null hypothesis will predict no relationship of effect between the variables. In contrast, the alternative hypothesis predicts that there will be a close relationship or effect. Another crucial element is determining the significance level and establishing a rejection region. Mostly, the researcher will reject the Null hypothesis if it is not true or false (Albright & Winston, 2014). The significance level is represented by the alpha and shows the probability of rejecting the Null hypothesis. Conversely, the statistician must consider type I and type II errors. Type one error is when the researcher rejects the Null hypothesis, and the probability of this error is alpha, level of significance. In contrast, type two errors occur when a researcher accepts the false Null hypothesis. The probability of this error is represented by the beta and is based on the sample size and degree of the effect.

After testing the hypothesis at various levels of significance, another vital element is measuring the P-value.

It is a common method of testing a hypothesis where, instead of testing the pre-assigned significance levels, the statistician looks for a minor level of significance that can still reject the Null hypothesis (Albright & Winston, 2014).

4.2. Regression Analysis

Regression analysis is a common prediction method used when there is a causal

relationship between the variables. In these cases, the regression reflects the differences between correlation and causation. Causation shows that one event is due to the results of the occurrence of another event. At the same time, correlation indicates that the change in one variable is the cause of the change in another variable. The correlation is identified by plotting the variables in the scatterplot, reading the line chart, and finding the pattern. Another crucial factor is the linear regression model, which shows a linear approximation of the causal relationship between two or more variables. The linear regression model is a valuable way of making inferences and predictions.

In the process of regression, there are three elements: the sum of the squares and the sum of square regression. The sum of the squares (SS) T is the squared differences between the observed dependent variables.

In addition, the total sum of squares (TS) measures the total variability of the dataset. Another term is the sum of the squares (SRR), which is the sum of the differences between those predicted. Conversely, the R-squared is a crucial and practical tool for statistics.

The R-squared is equal to the variability described by the regression divided by the total variability. It is a relative measure and takes values ranging from zero to one, and they are squared of the zero means (Albright & Winston, 2014).

Before a statistician performs the regression analysis, they must understand the assumptions before computing the analysis. The first assumption is linearity which is the simplest non-trivial relationship. The assumption is linear since the equation is linear. The easiest way to identify linearity is to select the independent variable X and then plot against the dependent Y on a scatterplot. Another assumption is no endogeneity which involves the prohibition of the connection between the errors and independent variables. In this case, the error occurs due to the difference between the observed and the predicted values. The third assumption is normality and homoscedasticity, where ii comprise normality, zero, and mean and good error density. In this case, the normal distribution is not necessary for developing the regression but for creating inferences such as regression tables. A central limit theorem is applied to the error terms if the error term is not normally distributed. Another assumption is autocorrelation or serial correlation, which is common in time series data. In this case, the error is assumed to be uncorrelated (Albright & Winston, 2014).

A regression analysis uses a dummy variable to show categorical data in a regression model. In most cases, the dummy variables represent the subgroups of the sample data, while in research, they can represent different treatment groups. For example, it indicates brand, gender, or season variables. In addition, the statistician will use a (0, 1) dummy variable where an individual is given a value of Zero if they are presented in a control group or one if they are in a treated or actual group (Albright & Winston, 2014).

The dummy variables are vital since they enable the statistician to incorporate

a single regression equation to epitomize multiple groups. Therefore, a person does not need to write down different equation models for each data or subgroup. Although the 0, 1 dummy variable is nominal-level, it is also treated like an internal-level variable (Albright & Winston, 2014).

5. Most Interesting Discovery

The most exciting discovery was IT specialists and programmers' birth and development of business analysis. Business analysis has always existed in that people practice it with or without their knowledge (Albright & Winston, 2014). However, its practice within the organization or company began in the 1940s with the first programmed computer. In addition, computer systems were used in institutions and government offices during this era. As the change was inevitable in the early 1990s, there was a sudden increase in the need for organizations to use Information Technology (IT) in business. Researchers started inventing interfaces, user-friendly programs and data storage during this process (Albright & Winston, 2014). Due to these inventions, the demand for software programming began to grow. However, the development and growth of IT created another problem since it was expensive and complex. Many corporates could spend large sums of money on maintaining the costs, developing software infrastructure, resolving defects, and updating the systems to meet their business needs; despite business users having experience and expertise, communication in the organization became harder. The business users found it difficult to communicate their needs, while the IT programmers found it hard to internalize what the business users were trying to convey. In the process, this led to the birth of business analysis (Albright & Winston, 2014).

The benefits and application of business analysis is to provide business organizations with the most vital information. In most cases, business analysis is used to drive business strategies to achieve the business plan and goals. Most corporates work with IT business analysts who work widely with rated methodologies and integrate software development processes (Ashrafi et al., 2019). Business analysis is crucial and plays a major role in an organization. Business analysts have a major responsibility, including strategic planning, formulating business policies, identifying areas of improvement, documentation, and driving the organization towards a common solution. A company can control or influence the business analysis to achieve a strategic plan by detecting and instigating specific business changes. In this process, the nature of the change could be structural or strategic, sometimes initiating various policies and processes within the business to achieve competitive advantage (Ashrafi et al., 2019). Business analysts act as a communication bridge between the main stakeholders and the project teams. In this case, business analysts work with investors or stakeholders to translate the business requirements to enable program developers to understand and communicate the concerns of the development team to specific managers (Ashrafi et al., 2019).

6. Application of Knowledge

Business analysis knowledge and skills can be applied in personal life and not in a business organization. Business analysis skills are crucial and valuable for making critical and effective decisions. Business analysis involves analyzing the underlying problems and executing the most credible changes (Ajah & Nweke, 2019). Therefore, knowledge of business analysis is incorporated into real life in the following ways:

Problem analysis: In most cases, a learner or an individual is faced with challenges in life. A learner may experience many issues, such as financial constraints, assignments, personal activities, and emotional problems (Ajah & Nweke, 2019). However, business analysis helps define the problem and write down every part of the problem by listing any observable symptoms, causes, strategies, and potential solutions to clear the pressing challenges. In addition, an individual can apply the "Aristotelian Problem Symptom Reduction," a tried-and-true criterion that helps to pinpoint the actual problem and reduces the time spent trying to identify various personal issues. Problem analysis help to critically analyze the root cause and strategically mitigate the issue (Ajah & Nweke, 2019).

Requirement definition: Business analysts will first define the requirement before they execute and implement the solutions to the business problems (Ajah & Nweke, 2019). Similarly, in real life, whether an individual wants to learn, prepare dinner, go on vacation, or go for a colonoscopy, they must be aware of the requirements before starting the activity to reduce the probability of making bad decisions. For example, when an individual wants to bake a cake for dinner, they must identify and collect all the necessary requirements to facilitate a smooth baking process. For example, they need flour, sugar, fats, salt, and spices to create the end product. Every organization develops every new process or product in response to business needs. Without integrating the necessary business analysts' concepts, organizations spend time and resources mismatching with what was designed and needed. Hence, this knowledge helps a learner define the requirement before initiating a decision in their daily activities (Ajah & Nweke, 2019).

Business analysts learn every day to improve their decision-making process. In most cases, analytics will incorporate technology and expertise to solve complex problems (Ashrafi et al., 2019). In addition, they may integrate data analysis procedures, quantitative methods, research, and statistical models to identify and implement strategies and ideas in the organization. Understanding business analytics skills helps professionals to gain more ability to look for a correlation between actions and results. Furthermore, business analysts act as a communication bridge between the main stakeholders and the team project employees and managers (Ashrafi et al., 2019). A learner can apply these skills and knowledge of business analysis to work on a degree research project.

Analytical and critical thinking are vital skills in business analysis. As the

well-known saying by Thomas Edison goes, "5 percent of individuals think; 10 percent of individuals think they think; and 85 percent would rather die than think." In this case, analytical thinking is underrated sometimes, but critical thinking is crucial in business analysis (Ashrafi et al., 2019). Similarly, a learner integrates analytical and critical thinking when working on a specific doctoral research project. Critical thinking helps the learner to identify the project requirement and assess the multiple options or ideas to arrive at project solutions or answer the research questions. In addition, critical thinking skills help a learner to be creative, devising new concepts or ideas related to the research questions (Ashrafi et al., 2019). Also, students with critical thinking skills are more likely to solve problems fast and efficiently. Albert Einstein, a critical thinker, stated, "It is not that I am so smart, it is just that I stay with problems longer." This means that critical thinkers are committed and patient in problem-solving. Hence, critical thinking helps a researcher in problem-solving (Ashrafi et al., 2019).

Communication and interpersonal skills are vital during business analysis. In most cases, business analysts act as a bridge between stakeholders, team members, or clients (Albright & Winston, 2014). A business should be able to communicate efficiently to communicate business requirements and needs to the main stakeholders. In this process, they incorporate communication when collaborating with stakeholders, launching a project, collecting requirements, and solving problems. Business analysts will also use written, verbal, and non-verbal communication to convey concepts, ideas, and facts to the stakeholders (Ashrafi et al., 2019). Likewise, a learner incorporates practical communication skills when handling a Ph.D.—research project. A learner will use writing skills to prepare the draft and final project for the instructors. They also need good verbal and listening skills to interact and collaborate with their instructors and colleagues. In addition, clear and concise communication help in documentation and presentation. Learners must present their ideas, concepts, and data to relevant instructors and institutions (Ashrafi et al., 2019).

Furthermore, technological advancements in business analysis help individuals monitor and manage their lifestyles and health through data analysis. In addition, with new technology, people can control their health and wellness. Data analytics knowledge and tools are being used to track and monitor health wellness. For example, wearable technology devices such as smartwatches monitor vital signs such as exercise routines, sleep patterns, and heart rate (Ashrafi et al., 2019). Wearable devices help people manage their daily health activities and link with healthcare experts to improve their well-being. The Healthcare industry incorporates effective data analysis processes to encourage honest and open communication between physicians and patients. However, to facilitate this communication, individuals are using wellness apps that help to monitor and track the vital signs of exercise, heart rate, and sleep pattern giving health experts more insights into patients' conditions. In this process, a person gets more

health solutions due to the positive influence of health experts and collaboration (Ashrafi et al., 2019).

6.1. Practical Application of Knowledge

6.1.1. Big Data Analysis

Business analysis is vital for the survival of big companies where data management is not navigated manually for solutions (Ajah & Nweke, 2019). A business analysis process entails incorporating technological tools, processes, and systems to gain insights into company operations. These tools and systems become the source of required data and information that provide performance metrics for a business. This article uses Apple Inc as an example for illustration. Apple Inc. is a giant corporation that uses business analytics to drive operations and achieve its goals. Therefore, the company incorporates business analysis skills in the following ways:

Apple has been integrating big data analytics as a part of its technology to drive operations and makes robust decisions (Ajah & Nweke, 2019). The company uses big data to initiate decisions on the efficient approach toward its customers with new products and services. One such area that the company has discovered is application design. In this case, using big data, Apple discovers how the customers use apps in their real life and future designs to meet their needs. For example, the development of wearable devices such as the Apple watch is an example of the company's strategy to capitalize on extensive data management. Nevertheless, the Apple watch is not just a wearable device but has the potential to gather data from clients. The company data analysts can capture information from its customers every day (Globaldata, 2022).

Marketing analysis: Apple uses business analytics tools to perform and drive marketing analysis strategies (Ajah & Nweke, 2019). The analytics analyze the market trends, forecast supply, study consumers' buying patterns, and employ advertising techniques. For instance, Apple's business analytics helps to gauge the efficiency and impact of marketing strategy on consumers. In addition, through technology tools, the company collects data relating to their demographics, psychosocial and geographical, allowing them to provide or satisfy their needs. In addition, the company integrates Customer Relationship Management (CRM), which consists of IT programs that analyze consumer data and present it to the management to help the organization streamline effective business decisions. For instance, Apple's CRM software for Mac is designed to operate on Mac OS that assists in managing customers' contact data or information (Ajah & Nweke, 2019).

Human resources management: Apple incorporates business analytics tools and software to manage and improve employee and staff management (Krishnamoorthi & Mathew, 2018). The HR business analysts use data to look for information concerning the employee's educational background, attrition rate, gender, number of years in services, and age. The applicant's data and informa-

tion play a significant role in the recruitment criteria for the candidate. For instance, HR managers can concisely predict the employee retention rate based on the data provided by business analytics. Business analytics helps HR managers devise a strategic plan and enhance organizational change. In addition, business data analytics assist HR managers in collecting, measuring, and analyzing employee data, thus enhancing better decision-making. For example, by applying statistical data analysis, Apple's HR managers can predict the future of the workforce. Similarly, the HR managers will be able to assess the financial impacts of the HR practices (Krishnamoorthi & Mathew, 2018).

Communication: In most cases, business analysts possess strong communication skills to communicate between stakeholders and managers (Krishnamoorthi & Mathew, 2018). Business analysts at Apple help in software program development. They enhance the software development processes to provide the necessary project analysis on different levels. In addition, the business analyst keeps working and updating the project managers by integrating various communication techniques, including: documentation writing, requirement review sessions, work meetings, and online discussions (Krishnamoorthi & Mathew, 2018). Business communication will mainly integrate analytics tools such as skype or e-mail for writing or presenting project documentation such as requirements and test cases. Furthermore, the software developers in Apple Inc. create Apps that are used to communicate with its customers to develop relationships and drive sales. The Application devices created by Apple's software developers help to collect data relating to customers and employees, thus driving strategic decisions (Krishnamoorthi & Mathew, 2018).

Manufacturing process: Apple's business analytics use the data to enhance inventory management, risk mitigation, and supply chain management, evaluate performance targets and improve efficiency based on the given data (Krishnamoorthi & Mathew, 2018). Apple's business analysts collect manufacturing data that help them understand the costs and efficiency of every component during the production life-cycle. In addition, advanced analytics encourage data analysts to make robust decisions by visualizing how each process or concept influences the final results (Krishnamoorthi & Mathew, 2018). If the managers realize that a particular component or system is not performing as required, the business analysts help to spot or identify the issue and provide adequate solutions. Similarly, the company conducts value chain analysis through manufacturing analytics through an analytical framework that helps identify the business opportunities that create value and improve competitive advantage (Krishnamoorthi & Mathew, 2018).

6.1.2. Small Company Analysis

Business analysis skills and knowledge are also applied in small companies to help businesses adapt, grow, and drive change (Albright & Winston, 2014). Business analysts identify business needs and devise practical solutions to solve challenges. In this case, they dig deeper to find the root cause of the underlying

issues in the company to drive possible solutions. Furthermore, business analysis bridges the gaps between the technology and what the business needs (Albright & Winston, 2014). In this process, the application of techniques and concepts of business analysis occur in the following ways:

Mitigating risks: In small companies, business analysts help identify risks and formulate strategies for management to mitigate the underlying risks (Albright & Winston, 2014). The business analysts develop plans to avoid, reduce, and manage risks and, if necessary, implement these plans. In addition, they work closely with the main stakeholders and managers throughout the project to identify new risks and monitor existing risks. In most cases, business analysts identify the risks through stakeholders' input, past experiences, expert judgement, experimentation, and historical analysis. The main idea is to spot the possible set of applicable risks during a project (Albright & Winston, 2014). Then they document the identified threats in a risk register that help to analyze and manage them. After this process of identification, the risk analysis will follow, which involves understanding and evaluating the risk levels. The probability or likelihood of incidence can be assessed as low, medium, or high. Furthermore, the impact of the risks is demonstrated in terms of duration, scope, costs, quality, or compliance. Then based on the assessment level, the risks are mitigated through avoiding, accepting, modifying, or transferring them (Ashrafi et al., 2019).

Financial analysis: In small companies, business analysts can apply analytics tools in forecasting and budgeting analysis. Financial analysis entails identifying the requirements and needs of financial strategy in a company (Palepu et al., 2020). In this case, the analysts will assess the business projects, financial transactions, and budgets to determine business performance. The financial analysis evaluates whether the company is solvent, profitable, liquid, or stable enough to warrant business investments. For example, business analysts integrate predictive sales analytics models to determine a company's sales revenue. In this process, an accurate sales forecast enhances important strategic and technical implications for the business (Palepu et al., 2020). Similarly, business analysts incorporate various approaches to predict sales, including the correlation analysis method or the past trend data to forecast business sales. In this process, they contribute to the business plan and manage high-peak and off-peak revenue generation (Palepu et al., 2020).

Operations analysis: Small businesses may incorporate operation analytics to collect data relating to all business operations, including sales, team management, logistics, and automation (Palepu et al., 2020). Business operational analytics involves reinventing the modern data load that the business worked to invest in—integrating the tools within the load more effectively to achieve the strategic goal and empower the data team to improve performance. Business operation analytics help the experts sync the organization's data into the frontline tools like the salesforce, which the project team and managers rely on to drive everyday operations (Palepu et al., 2020). Efficient operation analysis im-

proves process automation, cohesive cross-functional teams, and increased effective workflows. In addition, operation analytics allows analysts to request and process real-time data like demographic details, web traffic, and user search patterns on a real-time basis. For instance, adapting the reverse ETL solution such as 'Hevo Activate' can help to sync data across the SaaS platforms, thus enhancing easy thinking, delegation, and quick action (Palepu et al., 2020).

Market analysis: Small companies use marketing analytics to improve their marketing plan and strategy. Marketing analytics involves using the data to assess the efficiency and success of the marketing activities in a business (Aydiner et al., 2019). The marketing data help business analysts to optimize business marketing objectives, gather detailed consumer insights, and evaluate the return on investments. Business analysts develop software tools that help customers view personalized ads that demonstrate their specific needs and interests preventing communication that is not relevant (Aydiner et al., 2019). Business analysts can analyze the marketing data using various methods and models depending on the evaluated Key Performance Indicators. For instance, the analysis of brand awareness depends on different data and models to that of the analysis of conversions (Aydiner et al., 2019). Business analysts may use analytic models such as the Media Mix Model (MMM) that assess the aggregate data over a long period and Multi-Touch Attribution (MTA) that enhances individual-level data from across the customer's journey (Aydiner et al., 2019).

Technology analysis: Business analysis helps to drive business changes using data analytics tools (Aydiner et al., 2019). Similarly, business analysts help to innovate new processes and systems as they work between the stakeholders and team members. Analysts often use IT tools to analyze data for effective business management, operations, and marketing (Aydiner et al., 2019). Small businesses employ data analytics tools to extract and aggregate data and transform it to meet business needs and perform complicated analysis, gaining insights from the analytics and making robust business decisions. In addition, business analysts manage information systems through IT development. Information analysis involves using technology to support business operations, perform analysis of data, support financial processes, and solve business problems (Aydiner et al., 2019). Conversely, analytics deals with data governance which involves managing the data for its entire life cycle, such as data validation, usability, data gathering, authorization, and data security. In addition, data visualization encompasses visually presenting the business data to identify relationships, correlations, patterns, and trends in the data to improve business decision-making (Aydiner et al., 2019).

6.1.3. Individual Entrepreneurship Analysis

Individual entrepreneurs can employ business analysts to help them in making critical decisions. In most cases, individual entrepreneurs may fail to see the need for business analysts (Mikalef et al., 2020). However, business analysts can come in and help an entrepreneur expand their businesses. Individual entrepre-

neurs can benefit from business analysts much more than large corporations. Business analysts will often see the bigger picture of business growth, while entrepreneurs can only view the bottom line. Entrepreneurial businesses can benefit from business analysis in various ways, including:

Systems analysis: Many small business entrepreneurs may fail to realize the need for information systems in their business or company (Mikalef et al., 2020). Systems analysis deals with analyzing the prevailing problem-solving techniques for collecting and interpreting data, identifying entrepreneurial problems, and evaluating system weaknesses. The process decomposes systems into smaller parts and minimizes errors on various issues. Business analysts help identify the business goals and perspective, creating a process to improve systems (Ashrafi et al., 2019). An entrepreneur may not see the need for systems analysis, but with business analytics, it becomes easier to achieve the target goals. For instance, business analysts will take less time to analyze IT systems to come up with a comprehensive solution than a business owner. Therefore, business analysts help to understand business systems and formulate solutions to existing and new problems (Mikalef et al., 2020).

Revenue generation: A business analyst can help the business owner realize or discover more strategies for earning revenues. The advertising and promotion techniques an entrepreneur may be using may be fruitless. However, incorporating business analytics in the business will help to collect data about market promotions and devise new advertising strategies to boost business revenues (Mikalef et al., 2020). When executing advertisement strategies, an entrepreneur could target a specific customer rather than a general population. In contrast, a business analyst will point out a sale income, which an entrepreneur could not think of when making the advertisement. Furthermore, business analysts bring new insights, such as branding and repackaging in different sizes, that will attract more potential buyers. Business analysts help entrepreneurs generate more income through full advertisements by gathering collected data (Mikalef et al., 2020).

Innovation analysis: The adoption of data analytics helps business analysts to generate more ideas and concepts in entrepreneurial business. Data analytics in entrepreneurship, marketing, and innovation, covers the tools, practices, techniques, models, and processes for developing business opportunities through business data analysis (Mikalef et al., 2020). In this case, the data analysis process features case studies that facilitate realistic examples of the applications. For example, this multi-layered data analytics considers things like developing new products, applying predictive analytics, technopreneurship, and marketing and customer analytics. The new technology, performing scientific research, and assessing the current problems give new insights to the data analysts, which helps them innovate new ideas, processes, and concepts for entrepreneurship. In this process, innovation analytics help to develop new products and services, improve manufacturing processes, and enhance delivery systems (Mikalef et al.,

2020).

Mind mapping: In many cases, business analysts help entrepreneurs with mind mapping. Mind mapping involves evaluating efficient business analysis techniques that provide a concise and visual understanding of business problems, thoughts, and ideas (Mikalef et al., 2020). Mind mapping resembles the structure of the brain neurons since it keeps on adding branches and structures to expand new ideas and resources. Business analysts' critical roles in entrepreneurial business are to examine, identify, and assess the prevailing problems faced by the stakeholders, business owners, or customers, and integrate mind maps to solve the problems through the structured details of any information, ideas, and thoughts. In addition, the business analysts ensure that all the mind map techniques and all approaches needed to analyze the problem have been considered or omitted. Today, several mind mappings tools such as Canva, Freemind, and Mindmap analytics tools assist in business analysis (Mikalef et al., 2020).

Business model analysis: Business analysts play a significant role in creating new business models for entrepreneurial development. A business model analysis regularly helps to understand the entrepreneurial business by evaluating the techniques, the business policies, and the marketing approaches (Ashrafi et al., 2019). Most entrepreneurs may lack the knowledge and skills to evaluate their business model. Furthermore, the business model helps the business owner understand the revenue model, costs in value-addition, the company's effects in case of change, and the value offering to the consumer segment (Ashrafi et al., 2019). In addition, the business analyst assesses and tends to understand insights on the crucial factors in the business, such as marketing or promotion, the cost of production, and operation management. Additionally, business analysts engage in a deep analysis of marketing strategy, study design, possible change, and growth that help improve the business's revenue. In this process, business analysts help individual entrepreneurs develop and expand their business models (Ashrafi et al., 2019).

7. Conclusion

Business analysis is vital for any business transformation and growth. A business analysis identifies and articulates the need for change in a company and enhances those changes. Furthermore, business analysts are experts in financial, human resources, operation, or marketing departments who identify problems and provide possible strategies to solve the problems and maximize the value of the organization. The paper covers various critical concepts in business analysis, including business analysis foundations and statistics for data science. The business foundations enumerate various concepts, such as planning and monitoring requirements, demonstrating different ideas such as business analysis methodology, team roles, and deliverable implementation. In contrast, enterprise analysis contains critical concepts such as business needs, capability gaps, and feasi-

bility analysis. Conversely, the paper covers statistics data science with core thoughts such as categorical and numerical variables, a measure of central tendency, distribution, regression, and hypothesis testing.

In addition, the analysis demonstrates the most exciting discovery: the development and birth of business analysis from the early 1940s and helpful information reflecting the application and benefits of business analysis in organizations. The analysis validates the application of business knowledge in daily life, such as problem-solving and requirement identification. Other cases include a doctoral research project and personal health management. Comparatively, the brief covers the practical application of knowledge in big corporations such as Apple Inc. and how they apply business analysis knowledge such as big data and marketing analysis in operations. Small companies also apply this knowledge to mitigate risks and financial analysis. Finally, individual entrepreneurs incorporate this knowledge in systems analysis, innovation, and revenue generation. In this case, organizations and small businesses should adopt business analysis approaches to implement change, drive strategic plans, and achieve organizational goals.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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