Vol. 13 No. 1 ISSN 2220-3796

Editorial

Information Management and Business Review (IMBR) provides a unique platform for scholars around the world to share their knowledge and publish research work in the fields of information management, business, management and related disciplines. The work submitted for publication consideration in IMBR should address empirical and theoretical developments in the subjects related to the scope of the journal in particular and allied theories and practices in general. Scope of IMBR includes: subjects of finance, accounting, auditing, cost & management accounting, financial psychology, financial literacy, marketing, information management, human resource management, knowledge management, innovation, change management, enterprise management, e-commerce and information system. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal and that all listed authors approve its submission to IMBR. It is IMBR policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of IMBR comprises papers of scholars from Nigeria, Indonesia, Lebanon, United Kingdom and Uganda. Utility Measurement in Integrative Negotiation, Strategic Agility and the Global Pandemic, Conceptual Framework on the Corporate Social Responsibility Disclosure, Building an Automated Win-Win Negotiation Process Model and The Effect of Leadership Styles on Employee's Productivity are some of the major practices and concepts examined in these studies. Journal received research submission related to all aspects of major themes and tracks. All the submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer-reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. The current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

Editor In Chief

Ijaz Ur Rehman PhD

Editorial Board

- Lew Tek Yew PhD, Curtin University Sarawak, Malaysia
- Mohammad Kazemi Reza PhD, University of Tehran, Iran
- Chandana Prasad Withana PhD, Charles Sturt University, Sydney, Australia
- KOH Noi Keng PhD, National Institute of Education, Nanyang Technological University, Singapore
- Boubker Sbihi PhD, I-school ESI, Rabat, Morocco
- Ayhan Kapusuzoglu PhD, Yildirim Beyazit University, Turkey
- Sameer Babu M PhD, University of Kerala, India
- Dong Hwa Kim PhD, Hanbat National University, Daejeon, Republic of Korea
- Muhammad Adil Khattak PhD, Universiti Teknologi Malaysia, Malaysia
- Benedict Valentine Arulanandam PhD, University Putra Malaysia, Malaysia
- Yousef Daradkeh PhD, Prince Sattam bin Abdulaziz University, KSA
- Ari Warokka PhD, University Utara Malaysia, Malaysia

TABLE OF CONTENTS

Description	Pages
Title	I
Editorial	II
Editorial Board	III
Table of Contents	IV
Papers	V
Utility Measurement in Integrative Negotiation Latifa Ghalayini, Dana Deeb	1
Strategic Agility and the Global Pandemic: The Agile Organisational Structure. A Theoretical Review Michael A. Arokodare, Blessing R. Falana	16
A Conceptual Framework on the Corporate Social Responsibility Disclosure: Profitability, Leverage and Company Size Noegrahini Lastiningsih, Ermawati	28
Building an Automated Win-Win Negotiation Process Model Latifa Ghalayini & Dana Deeb	33
The Effect of Leadership Styles on Employee's Productivity in the Nigerian Oil and Gas Industry Adegboyega Olayisade[1] & Olawumi D. Awolusi	47

PAPERS

Information Management and Business Review (IMBR)
Vol. 13, No. 1, March 2021 (ISSN 2220-3796)

Utility Measurement in Integrative Negotiation

Latifa Ghalayini[1], Dana Deeb[2]
[1]Lebanese University, Faculty of Economic Sciences and Business Administration, Lebanon
[2]Lebanese University, Doctoral School of Law, Political, Admin and Economic Sciences, Lebanon
lghalayini@hotmail.com, danahdeeb@gmail.com

Abstract: This paper develops an adjustment to utility measurement in integrative negotiation where the negotiation information context is incomplete. The developed function reveals not only win-win outcomes but also deceptive practices where negotiators accept a win-lose deal and then compensate their loss in a deceptive way and greedy practices where negotiators realize their strong competitive position and try to extremely maximize their gains. However, to realize the objective, the utility measurement function literature and theories are reviewed to determine the relevant function structure and the necessary attributes that reveal the desired outcome in an incomplete information context. After examination, relationship measurement is added to the function under two utilities: Decision Utility and Experienced Utility. The foundation of the utility measurement function contributes to revealing satisfying win-win outcomes in an incomplete information negotiation context. Therefore, it develops the negotiation field by designing win-win deals that are beneficial and satisfying in which the advantage is distributed between the negotiators.

Keywords: *Negotiation, Integrative Negotiation, Utility Measurement, Relationships, Win-win Outcomes.*

1. Introduction

Negotiation exists in many forms all along with human life. Every human being negotiates at some point in his life, whether at home, at work, at the market, etc. People use negotiation as an interaction tool to realize their needs. Countries use negotiation in external trade and economic strategies and politics. It is "a basic means of getting what you want from others, a back-and-forth communication designed to reach an agreement when you and the other side have some interests that are shared and others that are opposed" (Fisher & Ury, 1981). It's the process to optimize the individual gain. To maximize gains in negotiation and reach a desired outcome, negotiators follow certain negotiation approaches that assist in building a solution. Distributive negotiation approaches result in win-lose outcomes, in which one negotiator earns at the expense of the other. In short-term deals, this could be profitable and satisfying for the winning party, however, in long-term relationships, these traditional approaches are not desired. On the other hand, integrative negotiation approaches result in win-win outcomes. These approaches use objective criteria, seek designing solutions of mutual gain, and give importance to exchanging information and group problem-solving. Integrative approaches are beneficial for long-term relationships, where both parties are satisfied with the negotiation outcome reached and thus preserve these relationships. Even though distributive strategies could be beneficial in the short term, theoreticians debate on the findings of the negotiation process.

A deal created with a win-lose outcome, or with one party non-satisfied could result in implementation defects. No one pleasure loses. A losing or a non-satisfied negotiator could try to compensate his loss in a way or another, and sometimes in deceptive ways. For example, a contractor signing a deal with an entity having a hard negotiator who designed a deal at the expense of the contractor leaving him unsatisfied could lead this contractor to recover this misplaced deal by lowering quality. Therefore, win-win outcomes and integrative negotiation approach unlike the distributive (win-lose) approach, frame negotiations as a win-win potential, where negotiators create value and distribute gains leaving both sides satisfied. Additionally, win-win outcomes could sometimes be more satisfying for one party than the other. A negotiator with a strong position could exploit his position to extremely maximize his gain at the expense of the other party. Although a win-win outcome is reached, one negotiator earns the biggest portion of the gains' pie leaving the other partially satisfied. Measuring satisfaction and gains entails a utility function that reflects, on one hand, the profitability of an outcome and on the other hand the negotiator's satisfaction with this outcome. However, utility measurement has always been a controversial issue. In multi-attribute negotiations, multi-attribute utility measurement adds additional conflict and complexity. Automating multi-attribute negotiations and utility measurement could serve to deal with part of this complexity.

Moreover, in integrative negotiations which aim at win-win outcomes, to measure the utility of an outcome, both parties', utilities are to be considered. A win-win outcome should reflect both sides' satisfaction. However, in most negotiation cases, information about the other party is incomplete, where the first party doesn't realize the utility function of the other party. Therefore, the assessment of the utility measurement constitutes an issue in the negotiation process. In other terms, *how to assess the utility of an outcome in an incomplete information negotiation context? Could a win-win outcome and negotiators' satisfaction be revealed in this utility function?* The objective of this paper is to design a utility measurement function that reflects win-win negotiation outcomes in an incomplete information context. The function reveals not only win-win outcomes but also deceptive practices where negotiators accept a win-lose deal and then compensate their loss in a deceptive way and greedy practices where negotiators realize their strong competitive position and try to extremely maximize their gains. This utility measurement is also helpful in automated negotiations in which measurement is digitized adding more objectivity and transparency to the process. This paper is organized as follows: the second and the third sections cover the methodology in which it overviews the theories behind utility function measurement. Section four demonstrates and details the interrelation between negotiation, relationships and utility measurement. Subsequently, section five describes the adjustment to utility measurement in integrative negotiations. Finally, section six concludes the foundation and contribution of the paper.

2. Methodology

To build the utility measurement function, theories form the base to determine the relevant function structure and the necessary attributes that reveal the desired outcome in an incomplete information context. The foundation of such a utility measurement function is a vital step in automated negotiations to assess negotiation offers and reflect whether they are win-win. Theories behind utility measurement function are various. A sort of utility measurement is through the expected value of an outcome using probabilities, while another uses preferences. Measuring utility through its expected value is equal to its payoff times its probability (Bernoulli, 1954 [1738]). While measurement according to *expected utility theory (EUT)*, uses preferences to derive utility (von Neumann & Morgenstern, 1944). P*rospect theory* is a further utility measurement theory, which uses probability weightings to describe how people actually make decisions under risk (Kahneman & Tversky, 1979). Moreover, *decision utility theory* distinguishes decisions from perception utility under risk rather than how they are perceived (Kontek, 2010). However, utility measurement in a multi-attribute context, like in *multi-attribute utility theory (MAUT)*, assumes that outcome attributes are independent and each has a utility function, which also divides into functions that interrelate linearly or non-linearly (Shaheen, Wooldridge, & Jennings, 2009). The utility measurement literature is reviewed and the various utility measurement theories are demonstrated to set the relevant measurement function in an incomplete information negotiation context.

3. Overview of Utility Measurement Function

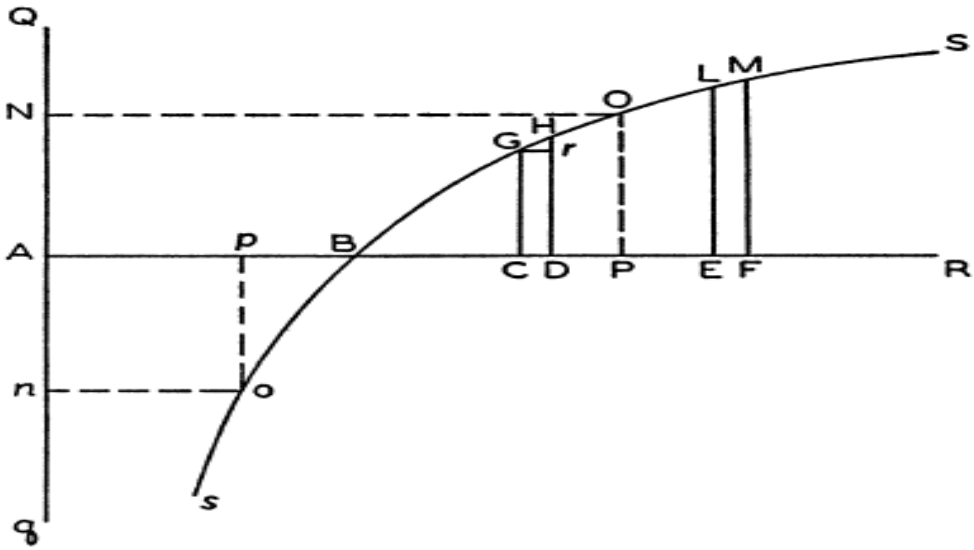
Utility in economics is "a measure of satisfaction". It is "the satisfying power of a good or service" (Surbhi, 2016). Economic Utility gives "a relative measure of satisfaction for a product. Based on the requirement of the customer, the product may be assigned its utility. It relies completely on the need and preferences of a customer" (Wall Street Mojo, 2019). Measuring utility has always been arguable. There are two principle theories for utility: *cardinal utility* and *ordinal utility* (Surbhi, 2016). The differentiation between cardinal and ordinal numbers was put forward by the German mathematician Ernst Schröder in 1873 (Moscati, 2018). Schröder's cardinal numbers match the unit-based understanding of number and measurement as stated by Aristotle: "cardinal numbers express the total number of units constituting a given quantity, for example, five, and thus are the relevant ones for its measurement. Ordinal numbers, by contrast, come to the fore in the process of counting the units belonging to a quantity and express the position of a specific unit of the quantity, for example, the fifth unit" (Moscati, 2018). Neo-classical economists believed that utility is cardinal, thus can be measured quantitatively like other mathematical variables like weight, height and temperature. They believed that everything could be given a score. As they developed a unit to measure utility known as 'utils'. Thus, 'util' represents "how much psychological satisfaction a product generates for a subset of consumers in many different situations" (Market Business News, 2019). However, modern economists argue that the idea of cardinal utility is unrealistic and they believed that utility is ordinal.

The utility cannot be measured numerically, but it can be ranked. It is a qualitative measure rather than a quantitative one. It expresses utility in terms of 'less than' or 'more than. Agents (i.e. negotiators) usually have preferences regarding the issues under negotiation, and those preferences guide their behavior. Rational agents aim to maximize their outcomes and choose the ones they most prefer. When preferences are mapped to utility, then the ones with higher utility mean greater preferences but according to Wilkes (2008) two parties' utility values cannot be compared nor can be normalized into a common set. However, von Neumann & Morgenstern (1944) utility function eventually led economists to elaborate a conception of utility measurement that definitely liberated it from any association with units. It comes from the *expected utility* hypothesis and states that when a consumer has a list of choices with different probabilities, the optimal choice is the choice that enlarges the expected value of the utility (i.e., satisfaction).

Expected Utility Theory (EUT): Expected Utility Theory emerged with Bernoulli who was the first who argued the expected value of a decision. Then, Von Neumann–Morgenstern used preferences to derive utility instead of using a utility to define preferences as in Bernoulli's model. The following section illustrates EUT according to Bernoulli and Von Neumann–Morgenstern and then demonstrates its formula.

Bernoulli's Formulation: Expected value is among of the first theories of decision-making under risk. The expected value of an outcome "is equal to its payoff times its probability" (McDermott, 1998). This model did not succeed to assume outcomes in many cases because the payoff for an individual is not always only linked to its monetary worth. Bernoulli (1954 [1738]) was the first who noticed the idea and introduced the idea of systematic bias in decision-making based on a "psychophysical" model. Bernoulli explained the constraints of expected value as a decision rule through a coin toss game referred to as the "St. Petersburg paradox". He analyzed that the value that someone links to an outcome can be affected by many conditions as the potential of winning, or probability, among other things and not only linked to the absolute amount of the payoff, or expected value. The subjective value or utility that a payoff has is what explains people's chosen action. People try to increase their utility and not their expected value. Bernoulli proposed a utility function that is not linear, rather it has a concave shape reflecting the notion of decreasing marginal utility i.e. a $1 is a lot compared to nothing, whereas $101 is not significantly different to most people than $100. Bernoulli's model was the start of utility theory.

Figure 1: Bernoulli's Utility Function



Adapted from "Exposition of a New Theory on the Measurement of Risk (Translation of Bernoulli 1738 Specimen theoriae novae de mensura sortis; Papers Imp. Acad. Sci. St. Petersburg 5 175–192)" by Bernoulli, 1954 [1738], Econometrica, 22(1). Two centuries later, von Neumann and Morgenstern developed Bernoulli's expected utility theory by adding the notion of "revealed preferences" (McDermott, 1998).

Von Neumann–Morgenstern Formulation: In 1944, John von Neumann and Oskar Morgenstern published their book "Theory of Games and Economic Behavior". They proposed an expected utility function over lotteries, or gambles rather than the utility function over wealth, proposed by Bernoulli. They used preferences to derive utility. In Bernoulli's model utility was employed to define preferences, because it is supposed that people prefer the option that presents the biggest utility. While in von Neumann and Morgenstern model, being aware of the utility of an option gives an idea of a player's preferences, because utility symbolizes the player's preferences (McDermott, 1998). This allowed various individuals to have various preference orderings. In their model, there is no direct differentiation between normative and descriptive aspects. It is stated that the subjective utility value is how individuals usually behave and not how they should behave. To build a utility function, von Neumann and Morgenstern set a number of assumptions with regard to people preferences that are considered as axioms. These assumptions deal with people's rationality and define preference relationships in probabilistic outcomes (Goyal & Saxena, 2002). They are "(i) completeness, (ii) transitivity, (iii) independence and (iv) continuity" (von Neumann & Morgenstern, (1953) [1944]).

(i) *Completeness* means that "people have well-defined preferences and they can decide between alternatives" i.e. they can rank them;

$$L < M, M < L \text{ or } L \sim M$$

(ii) *Transitivity* assumes that "preferences are consistent across any three options";

$$If\ L < M \text{ and } M < N, then\ L < N$$

(iii) *Independence* assumes that "a preference holds independently of the possibility of another outcome";

$$If\ L \leq M, then\ for\ any\ N\ and\ p \in [0,1],$$
$$pL + (1-p)N \leq pM + (1-p)N$$

(iv) *Continuity* assumes that "there is a tipping point between being better than and worse than a given middle option";

$$If\ L < M < N, then\ there\ exists\ a\ probability\ p \in [0,1]\ such\ that$$
$$pL + (1-p)N \sim M$$

If all the assumptions are fulfilled, then a player is said to be rational and his preferences can be stated in a utility function. Outcomes' preferences are assigned numbers and choosing the best outcome is through selecting the outcome with the greatest expected utility. Then, a rational individual chooses an alternative over the other only if its expected utility exceeds the other. The expected utility of any decision may be represented as a linear combination of the utilities of the outcomes, with the weights being the respective probabilities. An individual selects not the highest value of an outcome, but rather the highest expected utility.

Expected Utility Formula: When the entity x whose value x_i affects a person's utility takes on one of a set of discrete values, the formula for expected utility, which is assumed to be maximized (Kontek, 2010) is:
Equation 1. Expected Utility Formula

$$E[u(x)] = \sum_{i=1}^{n} u(x_i)\, p_i$$

Where; the left side is the subjective valuation of the gamble as a whole, x_i is the ith possible outcome, $u(x_i)$ is its valuation, and p_i is its probability. Adapted from "Theory of Games and Economic Behavior (Third ed.)" by von Neumann & Morgenstern (1953) [1944]), Princeton University Press.

Confidence and Skepticism to EUT: According to (Moscati, 2018), EUT measurement history is split into a notion of confidence in EUT and EUT-based measurement of utility, and another notion of skepticism to the model and its theory. In the 1950s, a number of researchers showed trust in EUT-based measurement, while from the mid-1970s other researchers doubted its validity. Among the researchers believing in EUT, are three groups of scholars who conducted research at Harvard and Stanford: statistician Frederick Mosteller and psychologist Philip Nogee (1951), philosophers Donald Davidson and Suppes with the collaboration of psychologist Sidney Siegel (1957), and Suppes and his student Karol Valpreda Walsh (1957). They aimed to validate the theory by neutralizing some psychological factors. Their findings were in line with both the

experimental measurability of utility based on EUT and the descriptive validity of the theory. In line with these findings, another two studies were conducted at Yale in the 1960s.

One by economist Trenery Dolbear (1963), and the other by psychologist Gordon Becker and statistician Morris DeGroot in association with Marschak (1964) also supported EUT and showed its validity in decision making. However, between the late 1960s and the early 1970s, a group of young psychologists at the University of Michigan: Sarah Lichtenstein, Paul Slovic, and Tversky argued the validity of EUT. And their work began to be called "Behavioral Economics" in the late 1980s. Moreover, and in contrast to Mosteller, Suppes, and the other experimenters of the 1950s and 1960s who used psychological factors to validate EUT, Karmarkar (1974), McCord and Neufville (1983), and Hershey, Kunreuther and Schoemaker (1982) used such factors to falsify it. They found that different elicitation methods to measure utility, which according to EUT should come up with the same outcome, in fact, generate different measures. They undermined the earlier confidence about EUT. Moscati (2018) concludes that "such findings contributed to destabilizing EUT.

As the dominant economic model of decision-making under risk and helped foster the blossoming of non-EUT models that began in the mid-1970s and has continued to the present". Additionally, applying expected utility to decision-making entails being aware of the probabilities of various outcomes. But practically probabilities might be unknown in many situations. Thus, probabilities are assumed and then the expected values become sensitive to such assumptions. Another point to consider when using EUT is the incomparability between agents. EUT does not give any canonical way to distinguish two utility functions. Hence expressions like $u_x(L) + u_y(L)$ and $u_x(L) - u_y(L)$ are not canonically defined, nor are comparisons like $u_x(L) < u_y(L)$ canonically true or false. In particular, "total VNM-utility" and "average VNM-utility" of a population are not canonically meaningful without normalization assumptions. So, despite the truth that all of the assumptions of von Neumann and Morgenstern seem logically correct, people do violate them in actual choice behavior. This is one of Tversky and Kahneman's crucial findings (McDermott, 1998) of Prospect Theory (PT).

Prospect Theory: Tversky and Kahneman (1979) argued that the majority of people disobey most of the assumptions of subjective expected utility theory. They empirically presented a critique to the theory through controlled experiments and developed an alternative model, called *prospect theory*. It is a descriptive theory of choice, where it describes how people actually make decisions. It states that people are more risk-averse in the domain of gain and risk seekers in the domains of losses. Like Bernoulli's proposition, prospect theory is based on psychophysical models. Psychophysics studies the correlation between the "physical" and the "psychological worlds"; usually mathematically expressed. The aim is "to determine the point at which a change in the physical stimulus is psychologically perceived as a sensory change by the subject" (McDermott, 1998). Tversky and Kahneman used psychophysical principles to study "judgment" and "decision-making". For example, when the brain translates vision into sight, people do not know how the brain engages. The same applies to decision-making when editing and evaluating choices, people do not know the computations the brain does. Thus, people make a decision according to how their brain processes information and not only to the utility a certain option possesses for them. Prospect theory describes the decision process in two stages: "(i) editing or framing phase and (ii) evaluation phase".

(i) The *Editing* phase is meant to serve as a preliminary analysis of a prospect. It specifies rules on how to simplify a problem. People split outcomes by setting a reference point and then regarding lesser outcomes as losses and greater ones as gains. It attempts to reduce the framing effects and resolve the isolation ones. This model changes the whole cumulative distribution function instead of transforming each probability separately, as it separates gains from losses and preserves most of the essential features of the prospect theory. Framing effects "refer to the way in which a choice, or an option, can be affected by the order or manner in which it is presented to a decision-maker" (McDermott, 1998). And isolation effects stem from individuals' tendency to often remove consecutive probabilities instead of treating them together. "When multiple stimuli are presented, the stimulus that differs from the rest is more likely to be remembered" (von Restorff, 1933).

(ii) In the *Evaluation* phase, people choose among the options the alternative with the highest utility. This is influenced by the subjective value and the perceptual likelihood of an outcome. Prospects theory has common features with prior principles of expected utility. Like Bernoulli, it assumes that

the value functions of all individuals have the same shape of the curve. And like von Neumann and Morgenstern, it considers that the curve is not a straight line and the utility of the curve might vary between individuals (McDermott, 1998).

Figure 2: The Value Function Assumed by PT and CPT (concave for gains, convex for losses)

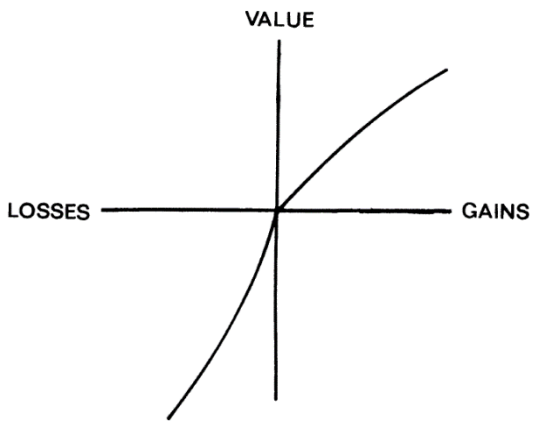


Figure 31: A Typical Weighting Function for PT

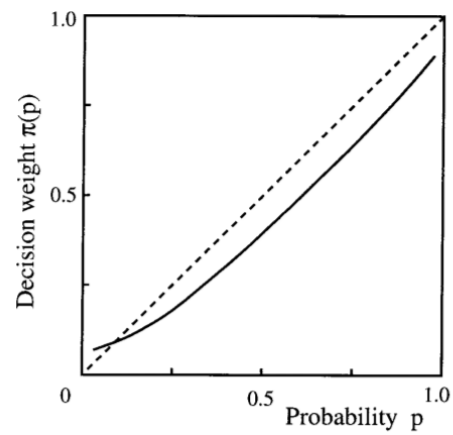
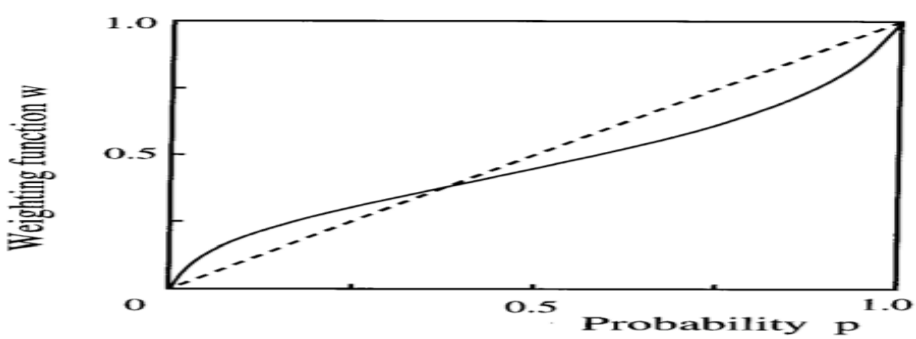


Figure 2 and Figure 3 are adapted from "Prospect Theory: An Analysis of Decision under Risk" by Kahneman and Tversky (1979), Econometrica.

Because all individuals have the same value curves' shape, it is not necessary to be aware of a person's specific utility in every scenario. Whenever the domain is clear, assumptions become possible regardless of the particular individuals' utilities. It predicts according to a distinction between a decision that occurs in the domain of gains or in the domain of losses (McDermott, 1998). Tversky and Kahneman (1992) developed a new sort of prospect theory that uses cumulative rather than separable decision weights and develops the theory in different dimensions. This version is called Cumulative Prospect Theory (CPT). It permits different weighting functions for gains and for losses, as it is used to any number of outcomes.

Figure 4: A Typical CPT Weighting Function



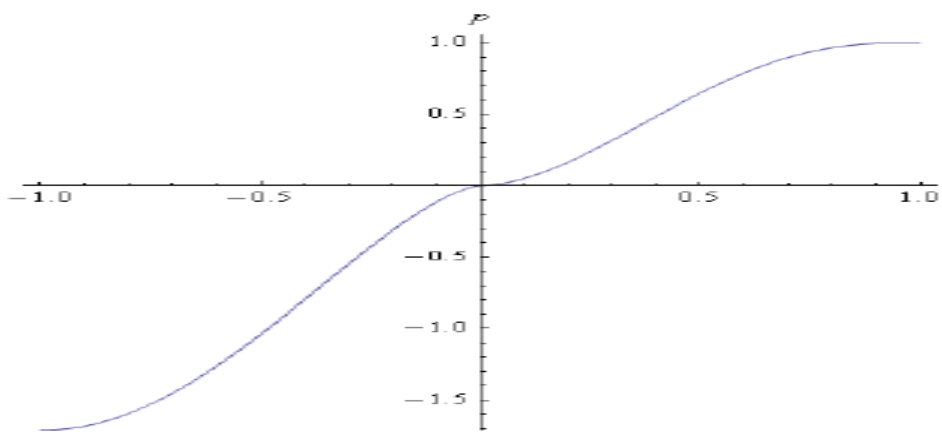
Adapted from "Advances in Prospect Theory: Cumulative Representation of Uncertainty" by Tversky and Kahneman (1992), Journal of Risk and Uncertainty. In the classical theory, the utility of an uncertain prospect "is the sum of the utilities of the outcomes, each weighted by its probability" (Kahneman & Tversky, 1979). Tversky & Kahneman suggested two important alterations of this theory: "(i) the carriers of value are gains and losses, not final assets; and (ii) the value of each outcome is multiplied by a decision weight, not by an additive probability". The weighting scheme adopted in the prime version of prospect theory and in other models is a monotonic change of outcome probabilities (Tversky & Kahneman, 1992). This scheme faces two

issues. First, it does not always fulfill stochastic dominance[1], which several theorists refuse to neglect. And second, it is not easily expanded to a large number of outcomes.

Tversky and Kahneman (1992) proposed solving these issues by applying the rank-dependent or cumulative functional, first suggested by Quiggin (1982) for decision under risk and by Schmeidler (1989) for decision under, uncertainty. Results from their experiments assert a distinctive fourfold pattern of risk attitudes: "risk aversion for gains and risk-seeking for losses of high probability; risk seeking for gains and risk aversion for losses of low probability".

Decision Utility Theory: Prospect Theory (1979) and its Cumulative version (1992) use probability weighting to assess outcomes. Decision Utility Theory provides another solution, which does not use this concept, to solve most of the problems encountered in expected utility theory as argued by Kontek (2010). It "distinguishes decision and perception utility, postulates a double S-shaped decision utility curve similar to one hypothesized by Markowitz (1952), and applies the expected decision utility value similarly to the theory by von Neumann and Morgenstern (1944)" (Kontek, 2010). Decision utility theory describes decisions made under risk rather than stating how individuals perceive outcomes. It compares outcomes by their certainty equivalents instead of the hypothetical "utils" used in EUT and PT, thus allows for cardinal measurement instead of ordering options. Kontek (2010) explains two interesting findings in his experiments. He found that "the utilities are not concave as usually assumed by economists. Instead, they are S-shaped and, interestingly, seem to be similar in all the ranges considered". However, no single utility presents in all the ranges. The decision utility curve shape represents the one hypothesized by Markowitz (1952). It has three inflection points as Markowitz predicted. But it differs in that the decision utility is a function of outcomes expressed in relative rather than absolute terms as suggested by Markowitz. It is almost identical to EUT's formula, but rather expressed in relative terms.

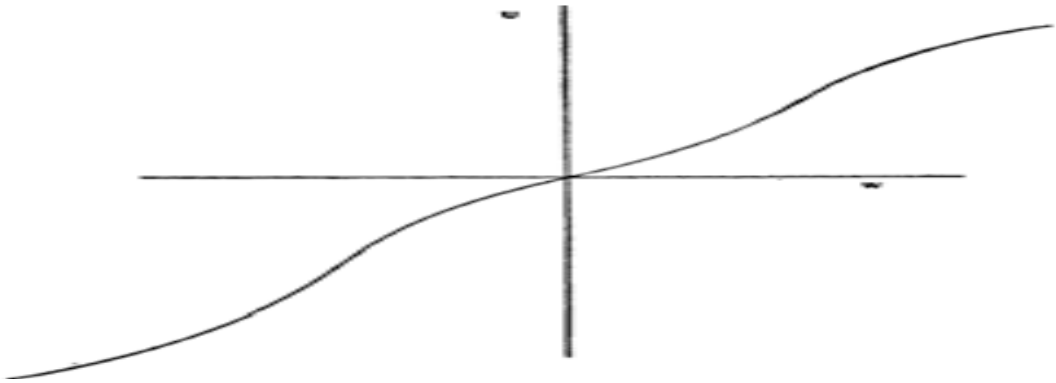
Figure 5: Decision Utility Function p = D(r) for Gains and Losses



Adapted from "Decision Utility Theory: Back to von Neumann, Morgenstern, and Markowitz" by Kontek, 2010, MPRA: Munich Personal RePEc Archive.

[1] Stochastic dominance "is a partial order between random variables. It is a form of stochastic ordering. The concept arises in decision theory and decision analysis in situations where one prospect can be ranked as superior to another prospect for a broad class of decision-makers. It is based on shared preferences regarding sets of possible outcomes and their associated probabilities" (Hadar & Russell, 1969).

Figure 6: Utility Function as Presented in the Markowitz Hypothesis



Adapted from "The Utility of Wealth" by Markowitz, 1952, Journal of Political Economy, 60

Markowitz's assumption of expressing the utility function absolutely i.e. in monetary terms has impeded it from explaining the paradoxes observed in experiments and drove to the enhancement of prospect theory (Kontek, 2010). Moreover, and even though experiments from cumulative prospect theory confirmed the distinctive "fourfold pattern of risk attitudes", Kontek (2010) argues that decision utility theory offers a simpler explanation to this pattern. One relates to the double S-shape of the decision utility curve and another relates to the idea of aspiration level i.e. "people take risks until prospective gains are lower than their aspiration levels; people will avoid risks until prospective gains exceed their aspiration levels". This interpretation is not modern and is referred to in Simon's theory of bounded rationality (Simon, 1982). This idea interprets why people initiate new businesses, enter the stock market and alter their partners. It also interprets why people get rid of businesses, buy bonds and stop searching for a new job. Additionally, decision utility theory eliminates stochastic dominance violations, as the way a lottery has resembled does not affect its equivalent probability.

Thus, decision utility theory offers a very different model from Prospect Theory and its cumulative version and returned back to Expected Utility Theory. It eliminated the editing phase, probability weighting, cumulative probability representation and outcome ranking. It doesn't consider the behavioral paradoxes as paradoxical when deviating from the rationality axioms set by EUT but rather describes them as *irrationality illusions*. Prospect theory and Cumulative Prospect Theory with their descriptive nature and Decision Utility Theory which was originated to describe decisions made, including behavioral paradoxes, all push us to use von Neumann–Morgenstern's Expected Utility Theory as a model to measure outcome utility. The assumption behind EUT regarding "not only the way rational people should behave but do behave" seems relevant to a decision support system trying to explore a win-win collaborative outcome. EUT's rational axioms should reflect negotiators' preferences and resemble their rationality that would be bounded through direct contact. Negotiation automation with a robust rational decision model i.e. EUT model would serve as a promising tool to reach win-win satisfying solutions.

Back to EUT: Enormous theoretical efforts have been devoted to developing alternatives to EUT. Some of these theoretical developments include: regret theory (Loomes & Sugden, 1987), weighted utility theory (Chew & MacCrimmon, 1979), the theory of disappointment (Bell, 1982), quadratic utility theory (Chew, Larry, & Segal, 1991), prospect theory (Kahneman & Tversky, 1979) and cumulative prospect theory (Tversky & Kahneman, 1992), rank-dependent expected utility theory (Quiggin, 1981), prospective reference theory (Viscusi, 1989) etc. However, "the field of applications was relatively underdeveloped" as stated by Mark J. Machina[2] in a roundtable discussion in a conference on the establishment of utility and risk[3] in 1994

[2] Mark Joseph Machina is an American economist noted for work in non-standard decision theory.
[3] FUR VII, Oslo

(Starmer, 2000). Additionally, Robert Sugden[4] also suggested in the same roundtable that a basic theoretical problem needs to be fixed before we claim to have a general descriptive model of choice. He argues that actual choice behavior is more complex than our models and the conventional theories do not reflect such complexity (Starmer, 2000). Furthermore, Blavatskyy (2013) conducted a study to determine the best theories for analyzing decisions under risk. Among the decision theories studied: maximization of expected value (EV), expected utility theory (EUT), Yaari (1987) dual model, Quiggin (1981) rank-dependent utility (RDU), mean-variance approach (MV) proposed by Blavatskyy (2010), Chew (1983) weighted utility (WU), quadratic utility (QU) theory proposed by Chew et al. (1991), disappointment aversion (DA) theory proposed by Gul (1991), prospective reference (PR) theory proposed by Viscusi (1989). He found that EUT is one of the studies that provide the best goodness of fit.

Multi-attribute Utility Measurement: A utility function might represent a single attribute or multiple attributes. When issues under negotiation are numerous or when negotiating a multi-attribute issue, a utility function becomes more complicated and hard (Wilkes, 2008). The following is a description of multi-attribute utility measurement with its formulation.

Multi-attribute Utility Measurement in Words: Representing a multi-attribute issue in a utility function is a complicated task (Wilkes, 2008). Requesting complete multi-dimensional utility functions from people is not easy, so simpler methods are often utilized (Wilkes, 2008). For example, multi-attribute utility theory (MAUT) assumes that outcome attributes are independent and each has a utility function. The group of utility functions are weighted and then added together. A common form of MAUT in human-to-human communication is to use for each individual a table of utility functions that describe each attribute with weights for summing them and then normalizing the results (e.g., into a [0,100] range). The functions and weights can be given to a trusted third-party mediator, who can utilize this data to come up with an "optimal" operating point that increases the total of the overall utility functions for both parties (Wilkes, 2008). The different attributes that contribute to the utilities, might interrelate linearly or non-linearly. When utility functions are *non-linear*, the equilibrium strategies may be hard to compute (Shaheen, Wooldridge, & Jennings, 2009). Shaheen et al. (2009) explored two different solutions. The first is using a *package deal procedure* (PDP) with linear approximations of the given nonlinear utilities. The second solution is using a *simultaneous procedure* (SP) where the problems are examined at the time but each alone. Although the two solutions computed equilibrium in a certain time, but Shaheen et al. argued that SP may be better for one of the two agents and also increase the social welfare.

Multi-attribute Utility Measurement in Formula: Among the most popular approaches for multi-attribute decision making are the *multi-attribute utility theory* and *multi-attribute value theory* where they consider a set of alternatives that have to be ranked according to a number of criteria that have to be optimized (Dyer, 2005). A decision problem is represented in a matrix format to reflect the multiple attributes contributing to the decision, $A \coloneqq \{a_1. \dots . a_T\}$: Set of discrete alternatives or techniques

$F \coloneqq \{f_1. \dots . f_K\}$: Set of criteria relevant for the decision

The decision matrix $D \coloneqq (x_{tk})$ with $\mathrm{t} = 1. \dots . \mathrm{T}$ and $\mathrm{k} = 1. \dots . \mathrm{K}$ is a $s(T * K)$ matrix whose elements $x_{tk} = f_k(a_t)$ indicate the evaluation or value of alternative a_t, with respect to criterion f_k:

$$D = \begin{bmatrix} x_{11} & \dots & x_{1K} \\ \dots & x_{tk} & \dots \\ x_{T1} & \dots & x_{TK} \end{bmatrix} \coloneqq \begin{bmatrix} f_1(a_1) & \dots & f_K(a_1) \\ \dots & f_k(a_t) & \dots \\ f_1(a_T) & \dots & f_K(a_T) \end{bmatrix}$$

Different methods within the different approaches exist. Simple additive rating (SAR), simple additive weighting (SAW), the analytic hierarchy process (AHP), the analytic network processes (ANP), the outranking approach preference ranking organization method for enrichment evaluations PROMETHEE, and many more. SAR and SAW are among the most frequently used methods (Geldermann & Schobel, 2011). The difference

[4] Robert Sugden, FBA is an English author in the area of cognitive and behavioural economics. His research combines game theory with moral and political philosophy.

between SAR, SAW, AHP, and ANP, which all utilize a kind of a value function and the outranking approaches like PROMETHEE, is that within the former group of methods the decision-makers know the utility of the various criteria values and are able to determine their corresponding significance. The outranking approaches were developed as a try to surpass some shortcomings of MAUT/MAVT under the assumption that the decision-makers do not know their preferences (Roy & Bouyssou, 1993). This paper follows an assumption that the negotiators are fully aware of their preferences and are able to express the weightings of the different criteria. The problem that it tries to solve is the exploration of the optimal solution that satisfies both parties. Thus, assuming the awareness of the negotiators, SAW will be used as the multi-attribute decision-making method.

Simple Additive Weighting: SAW is founded on building a value function that resembles goal realization according to each criterion, multiplied by the criterion's specific weight. The decision-maker has to set a one-dimensional value-function $v_k(f_k(a_t))$, that is normalized to the interval [0,1], where each criterion's best score is assigned the utility value $v_k = 1$, and the worst is assigned $v_k = 0$,

$$x_{max,k} := \max \{f_k(a_t)\}$$
$$x_{min,k} := \min \{f_k(a_t)\}$$

The functions v_k are given according to,

Equation 2. The Value Functions in SAW

$$v_k(f_k(a_t)) = \begin{cases} \dfrac{f_k(a_t) - x_{min,k}}{x_{max,k} - x_{min,k}} & \text{if } f_k(a_t) \to \max \\ \dfrac{x_{max,k} - f_k(a_t)}{x_{max,k} - x_{min,k}} & \text{if } f_k(a_t) \to \min \end{cases}$$

Summing up the functions across all criteria $k = 1. \dots . K$, we obtain

Equation 3. Multi-attribute Utility Function

$$v(a_t) = \sum_{k=1}^{K} w_k . v_k(f_k(a_t)) \quad with\ w_k \geq 0\ and \sum_{k=1}^{K} w_k = 1$$

Where w_k are again the weighting factors of the criteria k. The higher the weighted sum of the utility values, the better the alternative. Equations 2 and 3 are adapted from "On the Similarities of Some Multi-Criteria Decision Analysis Methods" by Geldermann and Schobel (2011: 221).

4. Relationships and Utility Function Measurement

Utility which is a measure of satisfaction is not only concerned with financial satisfaction. Post negotiation relationships are also an important part of a negotiator's outcome (Brown & Curhan, 2012) that contributes to satisfaction and success. Relationships are associated with expectations and assumptions that influence the negotiation process, including informational exchange, competitive versus cooperative tactics, concession making, etc. Thus, this association between relationships and the negotiation process obviously affects negotiation outcomes and therefore contributes to higher joint gains. According to Brown & Curhan (2012) relationships between negotiation, parties may sum into a negotiator's combined utility function in three various ways. Relationships affect negotiators' choices with regard to how much pleasant or rough a relationship is, how much it values in the future and whether a negotiator cares to leave a good impact or not. Brown & Curhan (2012) classified relationships' impact on negotiators' utility into: (i) decision utility, (ii) experienced utility, and (iii) diagnostic utility.

The Decision Utility Concept: A relationship might affect a negotiator's decision by influencing his preferences for different kinds of outcomes. For example, a negotiator might sacrifice with a short-term gain to preserve a relationship that might be financially rewarding in the long term. This is referred to as *decision utility*. It can be determined through people's choices.

The Experienced Utility Concept: Second, and contrarily with decision theory that discusses the "wantability" of an outcome, relationships may have intrinsic value, in that they might impact how enjoyable the negotiation experience is other than any financial influence. This refers to as "likeability" and known as

experienced utility. It can be grounded on either moment utility or remembered utility. Moment utility can be measured through the immediate subjective experience or physiological indices, and remembered utility is measured through past experience (Kahneman, Wakker, & Sarin, 1997).

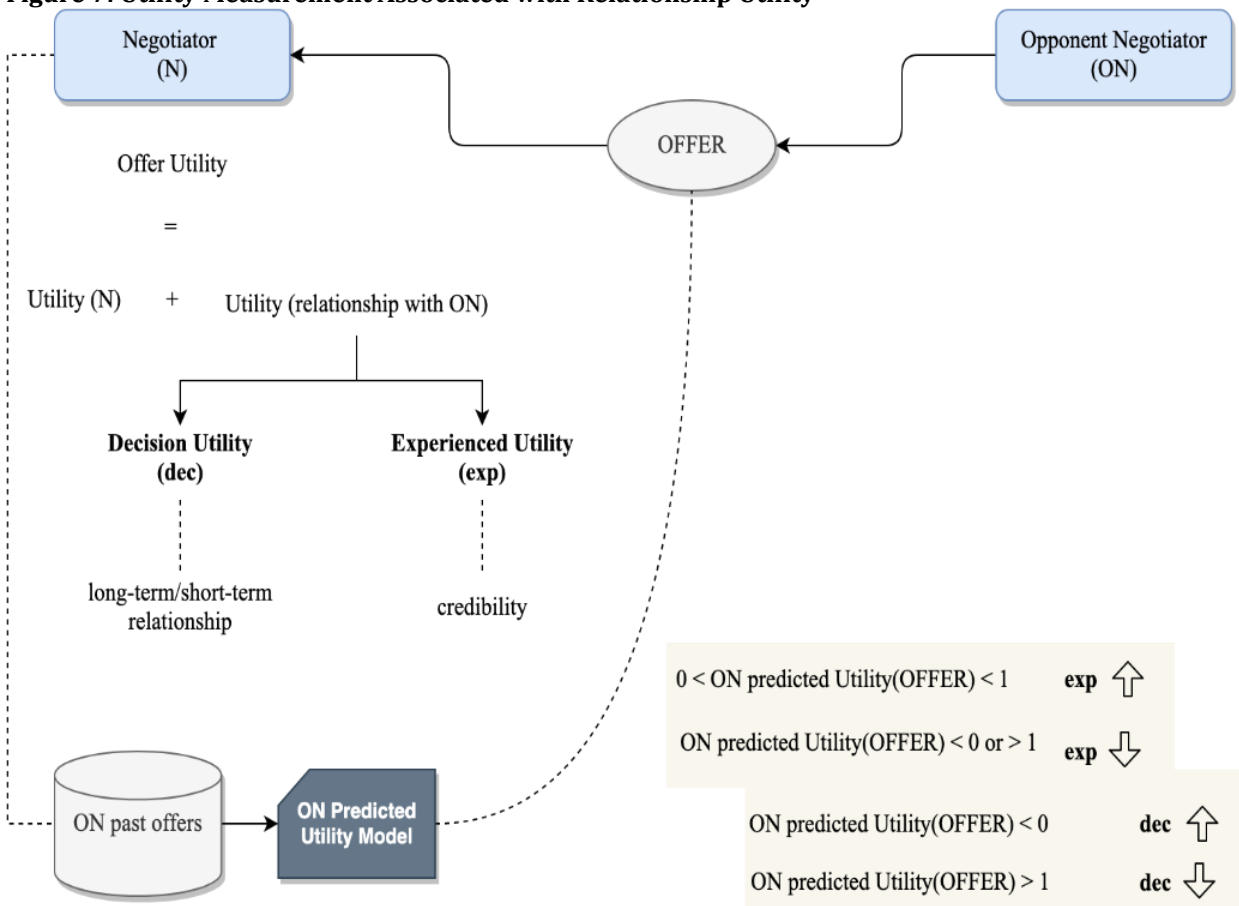
The Diagnostic Utility Concept: Finally, the *diagnostic utility* where negotiators actions and choices become a reason of satisfaction or dissatisfaction relying on whether they affected a person negatively or positively with their choices. According to Brown & Curhan (2012), negotiators might select actions or prefer relationships that improve their personal recognition. Thus, they might steer their choices in a way that affects their utility.

An Adjustment to Utility Measurement in Integrative Negotiation: Relationships seem to be an important driver of negotiators' behavior; either by influencing preferences for different objective outcomes, or by influencing affective reactions experienced during the negotiation, or by providing the chance for negotiators to improve their sense of self. For instance, a negotiator, might not value long-term relationships as he values a mutually profitable agreement. Or a negotiator might not value credibility if he got a profitable offer, although credibility is an important factor to consider. This paper applies two concepts of relationships' utility. It uses decision utility and experienced utility.

Building the Measurement: To assess utilities in integrative negotiations reflecting win-win outcomes, this paper proposes including relationships' measurement to utility measurement. And this is applied by incorporating two relationship measures, decision utility and experienced utility. Decision utility is used to measure how much the negotiator values the relationship with his opponent. It reflects two types of relationships: *short-term* and *long-term*. A negotiator, who aims for a short-term relationship, always chooses an offer in line with his advantage i.e. a profitable one for him. However, a negotiator who aims for a long-term relationship might sacrifice with a short-term gain to preserve a relationship (Brown & Curhan, 2012). On the other hand, experienced utility is used to measure the negotiator's credibility. It is assessed according to the percentage of deviation between the negotiator's past and present offers. If a negotiator deviates strongly from his past offers, whether increasingly or decreasingly, he loses credibility. Each of the negotiator's offers affects decision utility and experienced utility.

If the negotiator's offer does not strongly deviate from his past offers, then he is considered credible, and his (1) experienced utility increases. However, if his offer strongly deviates increasingly or decreasingly, then he is considered non-credible, and his (2) experienced utility decreases. But despite the considerable deviation, a negotiator might suggest a losing offer or prefer to get little gain in order to preserve a long-term relationship (Brown & Curhan, 2012). Thus, if the negotiator's offer strongly deviates decreasingly from his past offers, then his (3) decision utility increases, although he loses credibility and his experienced utility decreased. This condition has multiple interpretations. A negotiator might values a long-term relationship more than an instant gain or contrarily he might think of reaching an agreement but thereafter deviating from its conditions to recoup his losses. Moreover, if a negotiator's offer strongly deviates increasingly, then he is not only considered non-credible where his experienced utility decreases, but also selfish aiming for his own gain without considering the other party, then his (4) decision utility decreases.

Figure 7: Utility Measurement Associated with Relationship Utility



Source: Prepared by the author

Relationship Measurement Formulation: The importance of each of the two utilities that express the relationship's utility, is determined differently according to each negotiator and how much he values his opponent's credibility or short-term and long-term relationships. Thus, each of the two utilities will be associated with a weighting factor that reflects the importance of the specified utility to the negotiator (i.e. *r1* and *r2*). Moreover, another weighting factor is added (i.e. *r3*) which reflects the importance level of the relationship to the negotiator. This factor, on one hand, represents how much a negotiator values his opponent's cooperative strategy and on the other hand the importance of coming up with a mutually profitable outcome from both sides and not just for his own advantage. Then, the utility of an offer provided, which is expressed as a one-dimensional value-function $v_k(f_k(a_t))$, when combined with decision utility and experienced utility with their corresponding importance levels, becomes; *Equation 4.The Utility Function with Relationship Measurement*

$$v(a_t) = \sum_{k=1}^{K} w_k . v_k(f_k(a_t)) + \boldsymbol{r3}\,(\boldsymbol{r1}.\boldsymbol{dec} + \boldsymbol{r2}.\boldsymbol{exp})$$

$$with\ w_k \geq 0\ and \sum_{k=1}^{K} w_k = 1$$

Source: Developed by the author

Where; dec and $r1$ are decision utility and its importance level respectively, exp and $r2$ are experienced utility and its importance level respectively, and $r3$ is the importance level of the relationship with the opponent. This paper aims to design a utility measurement function that helps reach win-win negotiation outcomes. The adjustment lies in reflecting the relationship utility in utility measurement. The two

relationship utilities: decision utility and experienced utility, are variables to be calculated and added to the utility function. Experience utility is considered an important factor to check the cooperativeness of the other party, where this cooperativeness does not contradict his own advantage. However, decision utility is of lesser importance level since the model developed values designing a mutually beneficial agreement over short-term or long-term relations. Nevertheless, decision utility is important to consider since a negotiator who acts selfishly in a win-win model loses some of his utility and a negotiator who acts altruistically without creating a profitable outcome gains some decision utility but on the other hand, loses more experienced utility.

5. Conclusion

Integrative negotiation approaches exceed the restricted strategic options of the distributive approaches (Zartman, 1988), in which in the former, negotiators create value from negotiation to expand their pie of gains. This paper develops an adjustment to utility measurement in integrative negotiations where the negotiation information context is incomplete. The developed function reveals not only win-win outcomes but also deceptive practices where negotiators accept a win-lose deal and then compensate their loss in a deceptive way and greedy practices where negotiators realize their strong competitive position and try to extremely maximize their gains. Therefore, the adjustment of the utility function lies in adding the relationship measure to the utility measurement. It is formed from two utilities: *Decision Utility* and *Experienced Utility*. Each of the utilities has a specific weight to adjust the total utility in a way where optimal win-win outcomes are the aim.

Furthermore, the adjustment of the utility measurement contributes to revealing real win-win negotiation outcomes where no deception or greediness exists, gains are distributed and negotiators are mutually satisfied. Negotiating and designing successful deals and contracts that are mutually advantageous requires cooperation, group problem solving and exchanging information as the integrative negotiation approaches entail. Nevertheless, most negotiators don't reveal the necessary information needed to reach such outcomes as in most real-life situations. The adjustment to utility measurement proposed aids to assess negotiation offers in a mutually profitable manner although negotiators conceal information that integrative negotiation approaches seek to disclose. The relationship measure added to the function omits the necessity of revealing information which most negotiators would never do, and aids towards reaching an optimal win-win outcome by considering it as a factor besides profitability in the utility measurement.

References

Becker, G. M., Degroot, M. H. & Marscha, J. (1964). Measuring Utility by a Single-response Sequential Method. *Journal of the Society for General Systems Research*, 9(3), 7.

Bell, D. (1982). Regret in Decision Making under Uncertainty. Operations Res., 20, 961–981.

Bernoulli, D. (1954 [1738]). Exposition of a New Theory on the Measurement of Risk (Translation of Bernoulli D 1738 Specimen theoriae novae de mensura sortis; Papers Imp. Acad. Sci. St. Petersburg 5 175–192). *Econometrica*, 22(1), 23-36.

Blavatskyy, P. (2010). Modifying the Mean-Variance Approach to Avoid Violations of Stochastic Dominance. Management Science, 56(11), 2050-2057.

Blavatskyy, P. R. (2013). Which Decision Theory? Economics Letters, 120(1), 40-44.

Brown, A. D. & Curhan, J. R. (2012). The Utility of Relationships in Negotiation. Oxford Handbooks Online, 139-151.

Chew, S. H. (1983). A Generalization of the Quasilinear Mean with Applications to the Measurement of Income Inequality and Decision Theory Resolving the Allais Paradox. Econometrica, 51, 1065-1092.

Chew, S. H., Larry, E. G. & Segal, U. (1991). Mixture Symmetry and Quadratic Utility. Econometrica, 59, 139–63.

Chew, S. & MacCrimmon, K. (1979). Alpha-nu Choice Theory: a Generalisation of Expected Utility Theory. working paper 669, U. British Columbia.

Chew, S., Larry, E. G. & Uzi, S. (1991). Mixture Symmetry and Quadratic Utility. Econometrica, 59, 139-163.

Davidson, D. & Suppes, P. (1957). Decision Making: An Experimental Approach. Stanford University Press, 121.

Dyer, J. (2005). MAUT - Multi-Attribute Utility Theory. In Multiple Criteria Decision Analysis: State of the Art Surveys. Springer: New York, 265–295.

Fisher, R. & Ury, W. (1981). Getting to Yes. United Kingdom: Penguin Group.

Geldermann, J. & Schobel, A. (2011). On the Similarities of Some Multi-Criteria Decision Analysis Methods. Journal of Multi-Criteria Decision Analysis, 18, 219-230.

Goyal, V. & Saxena, A. S. (2002). Von Neumann And Morgenstern Utility Function. Delhi: Department of Computer Science and Engineering - Indian Institute of Technology Delhi.

Gul, F. (1991). A Theory of Disappointment Aversion. Econometrica, 59, 667-686.

Hershey, J. C., Kunreuther, H. C. & Schoemaker, P. (1982). Sources of Bias in Assessment Procedures for Utility Functions. Management Science, 28(8), 936-954.

Hicks, J. R. & Allen, R. (1934). A Reconsideration of the Theory of Value, Parts I and II. Economica, 1 (February, May): 52-76 and 196-219.

Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. Econometrica, 47(2), 263-291.

Kahneman, D., Wakker, P. P. & Sarin, R. (1997). Back to Bentham? Explorations of Experienced Utility. Quarterly Journal of Economics, 112(2), 375-405.

Karmarkar, U. S. (1974). The Effect of Probabilities on the Subjective Evaluation of Lotteries. Cambridge, Massachusetts: Massachusetts Institute of Technology.

Kontek, K. (2010). Decision Utility Theory: Back to von Neumann, Morgenstern, and Markowitz. MPRA: Munich Personal RePEc Archive, 26.

Loomes, G. & Sugden, R. (1987). Some Implications of a More General Form of Regret Theory. J. Econ. Theory, 41(2), 270–87.

Market Business News. (2019). What Is Utility? Definition And Meaning. Retrieved from Market Business News: https://marketbusinessnews.com/financial-glossary/utility-definition-meaning/

Markowitz, H. (1952). The Utility of Wealth. Journal of Political Economy, 60, 151-158.

McCord, M. & de Neufville, R. (1983). Empirical Demonstration that Expected Utility Decision Analysis is Not Operational. Cambridge, USA: Massachusetts Institute of Technology.

McDermott, R. (1998). Risk-Taking in International Politics. USA: The University of Michigan Press.

Moscati, I. (2018). Measuring Utility: From the Marginal Revolution to Behavioral Economics. Oxford, UK: Oxford Scholarship Online.

Mosteller, F. & Nogee, P. (1951). An Experimental Measurement of Utility. The Journal of Political Economy, 59(5), 371-404.

Pareto, V. (1892-1893). Considerazioni sui principii fondamentali dell'economia politica pura (Considerations on the Fundamental Principles of Pure Political Economy), Parts I-V. Giornale degli Economisti, (March, 1892): 389-420; (June, 1892): 485-512; (August, 1892): 119-157; (January, 1893): 1-37; (October, 1893): 279-321.

Quiggin, J. (1981). Risk perception and risk aversion among Australian farmers. Australian Journal of Agricultural Resource Economics, vol. 25, 160-169.

Quiggin, J. (1982). A Theory of Anticipated Utility. Journal of Economic Behavior and Organization, 3, 323-343.

Roy, B. & Bouyssou, D. (1993). Aide Multicritère á la Décision. Economica: Paris.

Schmeidler, D. (1989). Subjective Probability and Expected Utility without Additivity. Econometrica, 57, 571-587.

Shaheen, F., Wooldridge, M. & Jennings, N. R. (2009). An Analysis of Feasible Solutions for Multi-Issue Negotiation Involving Nonlinear Utility Functions. 8th International Conference on Autonomous Agents and Multiagent Systems (pp. pp. 1041-1048). Budapest, Hungary: AAMAS.

Simon, H. A. (1982). Models of Bounded Rationality. Volume 1: Economic Analysis and Public Policy. Volume 2: Behavioural Economics and Business Organization. MIT Press, 478-505.

Starmer, C. (2000). Developments in Non-Expected Utility Theory: The Hunt for a Descriptive Theory of Choice under Risk. Journal of Economic Literature, 38, 332–382.

Suppes, P. & Walsh, K. (1957). A Non-linear Model for the Experimental Measurement of Utility. Stanford, California: Applied Mathematics and Statistics Laboratory.

Surbhi, S. (2016, 5 30). Difference Between Cardinal and Ordinal Utility. Retrieved from Key Differences: https://keydifferences.com/difference-between-cardinal-and-ordinal-utility.html

Tversky, A. & Kahneman, D. (1992). Advances in Prospect Theory: Cumulative Representation of Uncertainty. Journal of Risk and Uncertainty, 5, 297-323.

Viscusi, K. (1989). Prospective Reference Theory: Toward an Explanation of the Paradoxes. Journal of Risk and Uncertainty, 2, 235-264.

Voigt, A. (1893). Zahl und Mass in der Ökonomik. Eine kritische Untersuchung der mathematischen Methode und der mathematischen Preistheorie - Number and Measure in Economics. A Critical Study of Mathematical Method and Mathematical Price Theory. Zeitschrift für die gesamte Staatswissenschaft - Journal for the Entire Political Science, 49(4), 577-609.

von Neumann, J. & Morgenstern, O. (1953). Theory of Games and Economic Behavior (Third ed.). Princeton, NJ: Princeton University Press.

von Neumann, J. & Morgenstern, O. (1944). Theory of Games and Economic Behavior. US: Princeton University Press.

von Restorff, H. (1933). Uber die Wirkung von Bereichsbildungen im Spurenfeld [The effects of field formation in the trace field]. Psychologische Forschung, 18, 299–342.

Wall Street Mojo. (2019). Economic Utility. Retrieved from Wall Street Mojo: https://www.wallstreetmojo.com/economic-utility/

Wilkes, J. (2008). Utility Functions, Prices, and Negotiation. California, USA: John Wiley & Sons Inc, HP Development Company.

Yaari, M. (1987). The Dual Theory of Choice under Risk. Econometrica, 55, 95-115.

Zartman, I. W. (1988). Common Elements in the Analysis of the Negotiation Process. *Negotiation Journal*, 4:31-43.

Information Management and Business Review (IMBR)
Vol. 13, No. 1, March 2021 (ISSN 2220-3796)

Strategic Agility and the Global Pandemic: The Agile Organisational Structure. A Theoretical Review

Michael A. Arokodare[1] & Blessing R. Falana[2]
[1]Department of Business Administration & Marketing, Babcock University, Illishan, Ogun State, Nigeria
[2]Department of Business Administration, Dominican University, Samonda, Ibadan, Nigeria
biodunarokodare@yahoo.com, falana.r@dui.edu.ng

Abstract: Literature has shown that university institutions cannot survive global pandemic shock-like COVID-19 as well as achieve sound outcomes without putting in place an agile or flexible organizational structure. However, most university institutions in Nigeria especially public university institutions recorded poor outcomes in terms of marketing, customer/student satisfaction and operations management. The purpose of this paper was to establish how agile or flexible organizational structure enhances the link between strategic agility and university institutional outcomes. Considering past empirical studies reviewed, the study proposed that strategic agility has a positive influence on organizational outcomes in institutions of higher education; and that flexible or agile organizational structure has a positive mediating influence on the relationship between strategic agility and organizational outcomes. A conceptual model to guide further investigation in future studies was developed depicting the interaction, between strategic agility and organizational outcomes with flexible organizational structure as a mediator. The paper concluded that agile or flexible organizational structure enhances strategic agility and sound outcomes of university institutions. The study recommended that these institutions must be able to think strategically with an agile mindset, understand mistakes, learn lessons quickly, and continuously adjust and readjust their strategic direction to develop innovative ways to create value. They must also empower their academic and non-academic staff teams on dynamic and modern marketing approaches to manage unexpected events to enhance marketing performance, student satisfaction and sound operations management.

Keywords: *Agile organizational structure, COVID-19 pandemic, Dynamic, capabilities, Organisational outcomes, Strategic agility.*

1. Introduction

The prevailing turbulent business environment characterized by globalization, digitization, global trade liberalization, interconnectivity and global pandemic, has thrown many organizations into situations with pervasive volatility, uncertainty, complexity and ambiguity. It is only those organizations (including higher educational institutions) with the capability of flexibility in structure and operations, in the face of rapidly emerging waves of change, fast modification of their strategic course and can develop inventive ways to create value, that are likely to build and maintain competitive advantages and deliver on organizational outcomes. Organizational structure is a way by which the activities carried out by the organization are organized, divided and coordinated by taking the various elements and the relations between the elements as a unit (Monavarian, Asgari, & Ashna, 2007). It is the expression of systematic thinking and it comprises the fundamental structure of organizational units of hierarchy (Ahmady, Mehrpour, & Nikooravesh, 2016). Organizational structure is described as a way of apportioning responsibilities to determined duties and coordinating them.

The global COVID-19 pandemic has caused a lot of changes to most organizational structures. Hence, most organizations lengthened their operational functions and established alerts as well as fast response to threats and unexpected events in their business environment. In this regard, multinational organizations tend to be accurate and got it right in responding to changes than small organizations, and this enabled them to have a higher survival rate than the small organizations (Rugraff & Hansen, 2011). Small and medium organizations tend to survive in the economy because they contribute to the Gross Domestic Product (GDP) of the countries especially in the area of the creation of employment opportunities (Gerald, Obianuju, & Chukwunonso, 2020). Giving credence to this assertion, Aga, Francis, and Meza (2015) and Govuzela and Mafini (2019) opined that organizations play a strategic role in the economic development of many countries. The size and scope of organizational performance is highly contingent on the external environment: its complexity, its dynamism and its munificence (Chen et al., 2014). In effect, the turbulence of the business environment has a significant effect.

On the performance of organizations (Arokodare & Asikhia, 2020; Nnamani & Ajagu, 2014) which means that organizations that survived during turbulent periods are those that can easily respond to changes. Aghina, De Smet, and Weerda (2015) asserted that it is those organizations that are strategically agile that are resilient, reliable, and efficient (that is stable) and at the same time are fast, nimble, and adaptive (that is dynamic). These features are attributed to organizations that are agile and have very good structures capable of weathering the storms of the environment.

The COVID-19 Global Pandemic: In Africa and indeed Nigeria, organizations are facing different levels of difficulties such as policy inconsistency, poor infrastructure (light, water, roads and other public utilities). The government's lack of incentives, a pitiful regulatory system, and an institutional vacuum are also some of the difficulties facing business organizations in this region (Doh et al., 2017). These issues have been exacerbated by the government's current strategy of shutting down organizations in reaction to the COVID-19 pandemic that has ravaged many economies around the world, including Nigeria. COVID-19 became a global pandemic in March 2020, destroying economic activities and school functions (Ciotti et al., 2020). According to Liu, Lee, and Lee (2020), the pandemic has caused serious problems for all economies worldwide: loss of hundreds of thousands of human lives, and exposure of the inadequacies and institutional weaknesses of all national health systems. Without exception, the COVID-19 pandemic has caused serious disruptions to national economies and wreaked untold havoc on certain critical sectors of the global economy. COVID-19 as a global pandemic created an unexpected shock syndrome to school marketing functions, student satisfaction, organizational structure and operational management of many schools across all countries.

The global pandemic crippled economic and various school (organizations) activities across developed, emerging and developing countries resulting from a spike in death and lack of immediate provision of vaccine to cure the global disease. Universities (organizations) across countries are continuously conscious of whether or not they will survive or overcome the shock engendered by the global pandemic and ever-competitive business environment. It is in this regard that Arokodare and Asikhia (2020) posited that 21st-century organizations are always looking for means to continuously maintain business survival amidst global shock. Gerald et al. (2020) clarified that most organizations experienced difficulties surviving the periods of global shock, which resulted in the closure of markets for consumers and suppliers of products and/or services, and businesses have had to operate at a lower (or even zero) capacity. This might spell death for organizations that are not agile, as they will not be able to successfully recover from this unfortunate circumstance. This could lead to the demise of many SMEs, be disastrous for Nigeria's economy, and result in the loss of sources of income and livelihood for many people. However, universities (organizations) cannot survive without strategic agility measures like strategic sensitivity, strategic response and collective capabilities as well as an agile organizational structure to manage and overcome.

The effects of the global pandemic and the attendant economic uncertainty. In this regard, Patton (2020) asserted that universities without agile structures failed to maintain performance sustainability in terms of market performance, student satisfaction, and sound operational management. An agile enterprise possesses the ability to sense, perceive and anticipate changes in the external environment and convert these changes into opportunities that are in favor of the organization (Zhang & Shariff, 2000). There is therefore a need for a paradigm shift; a new way of doing things at times of crisis. This new paradigm usually comes with opportunities but that is opened to only those organizations that are prepared to adapt their strategies very swiftly, disrupt their existing business model and execute with speed (Couturier & Sola, 2020). This is strategic agility (SA). This study is relatively novel in that to the best of the researcher's knowledge; few studies have examined SA and the pandemic in organizations in times of crisis and precarious situations such as the COVID-19 era (Amuda, 2020; Couturier & Sola, 2020; Dai et al., 2020; Gerard et al., 2020; Liu et al., 2020). It is against this backdrop that this study was necessitated to look at how organizations, specifically higher educational institutions, could come out victorious from this situation through the application of SA initiatives.

2. Review of Literature

Marketing: Marketing, which includes market research and advertisement, is the action or business of promoting and selling goods or services. Marketing is described by Lamb, Hair, McDaniel, Boshoff, and Terblanche (2007) as the process of anticipating and fulfilling customer needs through mutually beneficial exchange systems while doing so more profitably and efficiently than rivals using more robust managerial processes. Cronje, Du Toit, Motlatla, and Marais (2017) opined that marketing is the idea of a business correctly determining the needs and desires of particular target audiences, and then exceeding the competition in achieving the desired satisfactions.

Customer Satisfaction: Customer satisfaction is a psychological concept that encompasses the feeling of fulfilment and happiness that comes from receiving what one desires and expects (Rahim, 2017). "Satisfaction is the feeling of gratification or dissatisfaction that arises from contrasting the output (or outcome) of a product or service's perceived quality in relation to the buyer's expectation," (Kotler, 2001: 58). Customer satisfaction is described as an overall assessment of a product or service based on the cumulative purchase and usage experience with it over time (Rosenberg & Czepiel, 1984). Customer satisfaction goes hand in hand with marketing, which means it establishes the expectation. As a result, actionable insight on how to improve customer satisfaction is a critical outcome (Hill, Roche, & Allen, 2007). Customer satisfaction is a measurement that measures how satisfied consumers are with a company's goods, services, and capabilities. It is one of the most significant indicators of consumer purchasing. Consumer satisfaction has many important roles in the business world: it is a leading metric for determining customer loyalty, identifying dissatisfied customers, reducing rejection and withdrawal, and boosting sales (Chattopadhyay, 2019). In a dynamic market environment, it is also a crucial point of distinction that aids organizations in attracting new customers.

Operations Management: The structures or processes that produce products and provide services are referred to as operations management. It is the management of an organization's productive capital or output system, according to Krajewski, Ritzman, and Malhotra (2013). It is an area of management, according to Bellgran and Säfsten (2009) that is concerned with designing and managing the production process as well as redesigning business operations in the production of goods and services. According to Galvin (2009), operation management entails preparing, arranging, scheduling, and regulating all of the resources required to produce a company's products and services, as well as managing personnel, facilities, technology, records, and all other resources. However, based on the above concepts, operations management is the process of combining and transforming resources flowing within a given framework in a managed manner to add value in accordance with management policies.

Organizational Structure: It is the expression of systemic thought and is made up of fundamentals, relationships between fundamentals, and the structure of relationships as a whole (Ahmady et al., 2016). It is a tool for dividing, organizing and coordinating organizational activities, and its presence can make decision-making, appropriate environmental response and dispute resolution between constituent units easier; thereby helping the information flow (Monavarian et al., 2007). Dove (2001) refers to organizational structure as "a collection of distinct resources or elements that are related as a group interacting together for some common purpose" (p. 11). Elements of organizational structure are outlined by Raziq, Ahmad, Iqbal, Ikramullah, and David (2020) to include: departmentalization, chain of command or complexity (the number of management levels in the organization), the span of control, centralization or decentralization. From literature, Ahmady et al. (2016) identified the factors determining structure to include goals and strategy (the process of determining long-term goals), size of the organization (physical capacity, number of employees, organization input and output, financial resources), technology (the information, equipment, techniques and process to turn the inputs to outputs), environment (general and specific) and control power (strategic selection of power owners of the organization).

Agile Organisational Structure: An agile organizational structure is a flat, non-hierarchical system of operating procedures that allows for more flexibility in business operations and responds quickly to shifts and changes in the market environment (Daft, 2020). Such organizational structure is characterized by fast activity cycles in learning and decision-making, customer-centricity, open communication, and a network of

autonomous teams. In addition, an agile organization must have a flexible organizational structure, strong organizational culture, leadership unity, and entrepreneurial management skills. According to Doz and Kosonen (2008), strategically agile organizations learn to make fast turns, transform themselves without losing momentum take advantage of change and disruption play the fast strategy game by thriving on continuous waves of change.

These organizations implement the three dimensions of SA and their management and teams "perceive early, decide quickly, and strike with strength and speed" (Doz & Kosonen, 2008: xi). Dove (2001) conceptualized agility from the perspective of the physical ability to act (response-ability) and the intellectual ability to find appropriate things to act on (knowledge management). He, therefore, posited that agility is "the ability to manage and apply knowledge effectively. So that an organization has the potential to thrive in a continuously changing and unpredictable business environment" (p. 9). Agile organizations are both stable and dynamic at the same time (Couturier & Sola, 2020). They mobilize quickly, they are nimble, and they are empowered to act and make it easy to act. They are masters of change who are able to seize opportunities as well as initiate innovations, usually with fast speed.

Strategic Agility: Strategic agility (SA) was defined by Tallon and Pinsonneault (2011) as the ability of a company to respond fast to the changes in the business environment, adapt to the changes and take actions that are aimed at controlling uncertainty. Nazir and Pinsonneault (2012) described SA as the ability of sensing and responding to internal and external changes; Shin, Lee, Kim, and Rhim (2015) defined SA as an organization's strategic intent to maintain agile operations driven by an emphasis on improving responsiveness and adaptability to customers' needs and requirements; while Sampath and Krishnamothy (2017) saw SA as a multidimensional concept, which includes both the ability to detect, anticipate, sense market opportunities, evolving conditions, and other environmental changes and the ability to seize the opportunity with speed and implement new solutions. Queiroz, Tallon, Sharma, and Coltman (2018) defined it as the ability to detect and react in an agile manner, to threats and opportunities emerging from the environment. The common themes in these selected definitions of SA are business environment, changes (opportunities and threats) from the environment, and the capability and speed of the organization to detect and react to these changes.

In line with these themes and the three-dimensional conceptualization of SA by Mavengere (2013) which was echoed by Anggraini and Sudhartio (2019), SA was defined by Arokodare (2020) as "the ability of the organization to sense changes in dynamic, fast-paced environments, and to quickly respond to these changes by seizing market opportunities and maintaining competitiveness through building, combining, enhancing, mobilizing and reconfiguring its capabilities and in the process attaining and sustaining superior performance beyond its competition" (p. 45). This definition recognized the SA determinants and dimensions of strategic sensitivity, strategic response and collective capabilities and in addition, included the prime aim of the whole SA program, which is the ultimate objective of the organization being the attainment and sustenance of superior firm performance. The definition also recognized SA as a management tool for creating a competitive advantage for the organization as it becomes expedient for the organization not only to recognize its industry dynamics (internal and external) but also to respond to it through fast strategy to ensure survival by way of superior performance. It is the organization's penchant for adjusting its business model to the unpredictable changes of the business environment in order to achieve an increased level of value to the stakeholders (Arokodare, 2021b).

Empirical Review: Several empirical studies have established a positive and significant relationship between SA and organizational performance, with different indicators used for the latter: overall firm performance (Arokodare, 2021b); emotional and entrepreneurial ability (Khorshid, 2019); competitive advantage (Al-Romeedy, 2019; Tse et al., 2016); external and internal learning (Khan & Wisner, 2019); responsiveness to uncertainties (Tse et al., 2016); firm success and capturing of new opportunities (Kwon et al., 2018). Specifically, for organizations to cope with dynamic competition and survive today's market globalization trend especially in a COVID-19 pandemic-ridden environment as we have now, SA is a useful tool employed in the management style, process and decision making of these organizations (Arokodare, 2021b). The ultimate objective is the attainment of superior overall performance over market rivals. For example, Gerald et al. (2020) examined the impact of strategic foresight; a key dimension of SA, on the competitive advantage (as an

indicator of firm performance) of SME's in the phase of the COVID-19 pandemic and found that strategic foresight had a statistically significant relationship with a competitive advantage.

Ekweli and Hamilton (2020) found a significant relationship between product innovation and organizational agility in the Nigerian banking sector; Kwon, Ryu and Park (2018) revealed that the entrepreneurs' clear vision and solid SA are prerequisites for effective opportunity realization. Lungu (2020) in a study of the IT sector in Romania found that organizations that used SA have an improved performance level than their competitors. Specifically, on the higher education front, Menon and Suresh (2020a) in their study of organizational agility assessment for higher education institutions found that higher education institutions have been facing changes in the environment and that to stay competitive, colleges and universities need to leverage their resources and act proactively to capitalize on these changes. They confirmed that organizational agility assessment would help the institutions to recognize their current position, identify gaps and prepare for improvement in areas like sensing and responding to environmental changes, organizational structure.

Organizational culture, organizational learning and knowledge management, agile workforce and change management. Mukerjee (2014) recognized that SA was a necessary capability for universities in times of turbulence and recommended that they should develop and nurture agile capability to address their future challenges. On the strength of positive empirical findings between SA and organizational outcomes, this study proposes that:

Proposition 1: Strategic agility has a positive influence on organizational outcomes in institutions of higher education. In an extensive review of literature, Arokodare (2020) identified some antecedents which are key ingredients necessary to achieving SA, both in conceptualization, implementation and in execution. Specifically, Teece, Peteraf, and Leih (2016) recognized entrepreneurial management and flexible organizational structure as two interdependent elements of the dynamically capable firm, as underpinnings of SA. This means that a strategically agile organization must have entrepreneurs who are capable of combining and recombining resources and technologies, who can sense the future, and who can seize on and act upon the future opportunities by developing critical insights and acting upon them ahead of competitors. These entrepreneurs must also have the platform of a well-structured and flexible firm that can be rapidly modified and adapted. While the flexible organizational structure is recognized as an antecedent of SA, it is also a requirement for the proper performance of an organization during a global shock, like the COVID-19 pandemic.

According to Ahmadi et al. (2012), to achieve agility, a company must constantly assess its personnel's efficiency and the importance of its goods and services, respond to frequent changes in its customers' needs, learn new things, provide a high information content, be ready to respond to unexpected changes and incidents, use emerging technology, and discover and leverage new opportunities. As a consequence, achieving agility necessitates organizational versatility and sensitivity in terms of tactics, technology, processes, and individuals. Fatani (2020) stated that attracting students to a university is always a competitive business. However, when you throw a global pandemic into the mix, the challenges around marketing higher education become even greater. He further stated that agile universities can react and adjust quickly using progressive marketing techniques such as content personalization and content targeting. Therefore, the agile university structure is succeeding and is pulling away from the others in terms of success. UNESCO (2020) argued that the global pandemic has changed medical education the world over.

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) publicized that 1.5 billion students across the planet have been affected by school and university closures due to the pandemic. Consequently, faculty members in the universities shifted from in-person to distance education in order to facilitate students' education. This means that the majority of faculty members and students find it difficult to interact physically which directly reduced students' satisfaction (Fatani, 2020). Arokodare and Asikhia (2020) emphasized that most firms in Nigeria have recorded a decline in customer satisfaction due to slow strategic sensitivity and response to global shock. However, Richardson and Swan (2019) claimed that without sound agility measures and agile organizational structure, student satisfaction during a global pandemic will decline. Many empirical studies have been carried out on the impact of organizational

structure on various items of organizational outcomes. In a study of the relationship between organizational structure and organizational agility in an insurance company, Ahmadi et al. (2012) found that there was significant relationship between organizational agility and formalization and centralisation dimensions of organizational structure; but no relationship was established with the complexity dimension.

Sampath and Krishnamoorthy (2017) investigated the impact of SA on competitive advantage in Indian retail banks and found that organizational factors (organizational structure, organizational goals, policies, etc) influenced the firms' profitability more than that of economic factors. Tahernezhad et al. (2013) in a case study of a revenue agency located in the province of Alborz in Iran, found meaningful relationships between organizational components of formality, complexity and authority and learning capability and none between the components of concentration and flexibility and learning capability. Ogbo et al. (2015) investigated the impact of structure on organizational performance in technical and service firms in Nigeria and found that decentralization enhanced better and more informed decision making in technical and service firms in Nigeria; that task routine affected staff productivity both positively and negatively; and that a significant positive relationship existed between narrow span of control and efficiency in organizations. Universities experience a fast-changing and increasingly global business competitive environment which determines operational management and efficiency (Arokodare, Asikhia, & Makinde, 2019; Sadjak, 2015).

Vidmar, Rosiello, and Golra (2020) examined the case for SA in the resilience of the new space firms in the UK in the early stages of the COVID-19 pandemic and found a significant level of SA among the studied sample as organizational restructuring and new organizational culture were quickly mobilized based on transparent leadership from management teams. Tende and Ekanem (2018) stated that organizations (and universities) with SA features such as strategic sensitivity, strategic response and collective capabilities were able to predict, anticipate, and forecast trends and events in the business environment and fashion appropriate response with proactive moves to manage global shocks. Akhigbe and Onuoha (2019) posited that it is no longer the fittest organizations (universities) that last longer, but organizations (universities) with high resilience, sensitivity and capacity to adjust towards local and global shocks. This indicates that the operational survival of Universities or organizations is no longer determined by financial muscle or capital alone, but more importantly by the ability to adjust to changes in the uncertain business environment with speed in strategic decisions and commitments. Based on the above review, this paper proposes that:

Proposition 2: Flexible organizational structure has a positive mediating influence on the relationship between strategic agility and organizational outcomes.

3. Theoretical Foundations and Conceptual Model Development

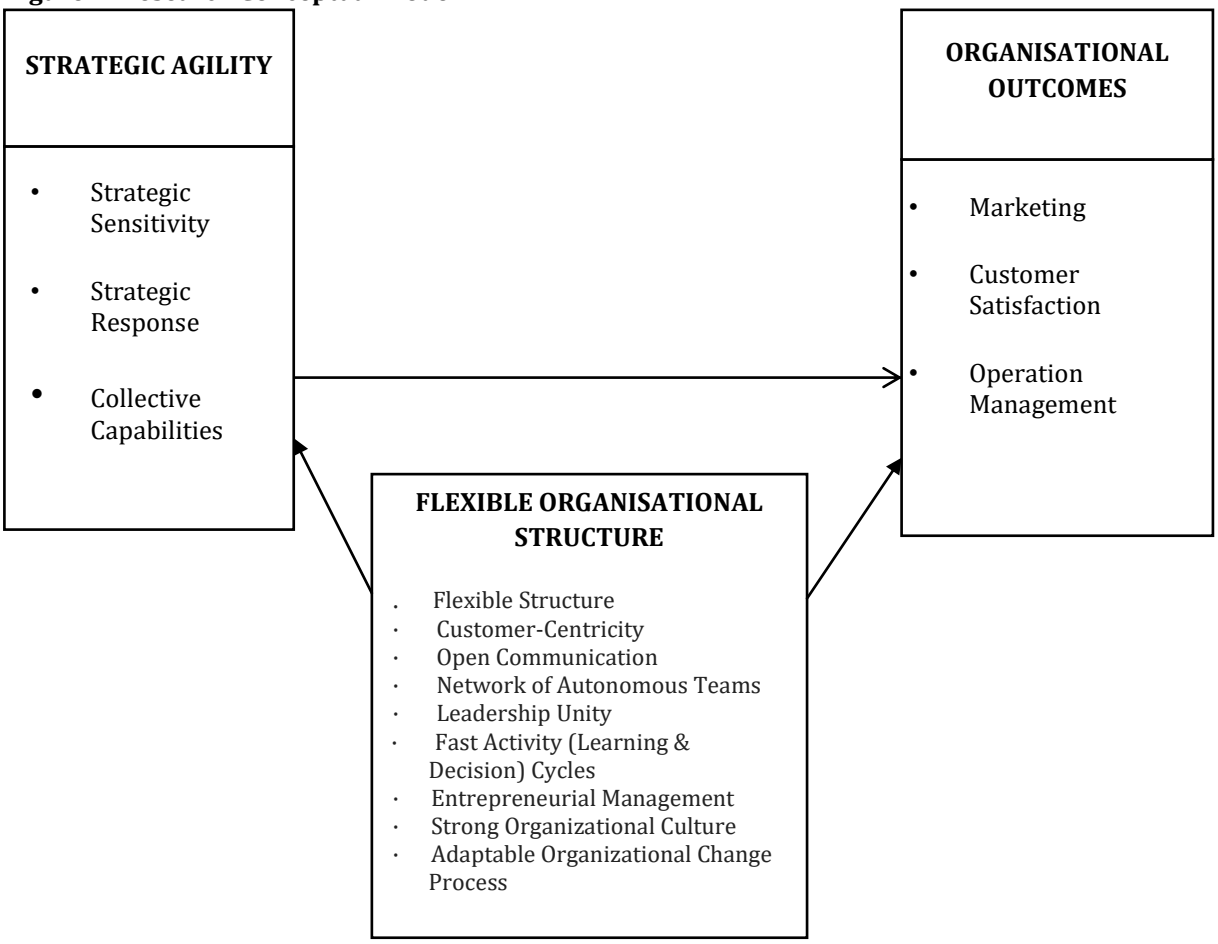
This sub-section focused on the theoretical foundation and how the anchored or foundation theory relates to the conceptual model of this study. This study was theoretically anchored on Dynamic Capabilities Theory (DCT) as baseline theory since the DCT dynamically explains how firms could react and respond to uncertain features of the business environment so as to survive economic risk hurdle and gain overall performance. This theory was selected to guide the study because its perspectives are tied to the focus of the study and the variables under investigation and its theoretical explanation of the study objectives in relation to the conceptual model of the study. The DCT is the capability of an organization to purposefully adapt an organization's resource base. Dynamic capabilities theory (DCT), which was developed by Teece, Pisano and Shuen (1997) was defined as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (p. 516) and it examines how firms address or bring about changes in their turbulent business environment through reconfiguration of their firm-specific competencies into new competencies (Teece, 2007).

Since the DCT viewpoints and philosophy were tied to the assumption that companies dynamically manipulate. The DCT system is based on three fundamental assumptions: the ability to detect and form opportunities, the ability to seize certain opportunities, and the ability to sustain competitiveness by asset reconfiguration (Teece, 2007). Dynamic capabilities, according to Easterby-Smith, Lyles, and Peteraf (2009), are higher-level capabilities that allow information gathering, quick response, sharing, and continuous updating of operational processes, interaction with the environment, and decision-making assessments in

order to achieve firm competitive advantages and efficiency. Dynamic skills, according to Esbach (2009), are an organization's ability to purposefully build an agile firm and change its resource base to achieve a competitive edge and improve other performance metrics such as marketing, customer loyalty, and operations management. Dynamic capabilities, therefore, involve the sensing, seizing, and transforming abilities required to upgrade an enterprise's ordinary capabilities and guide them through the development and coordination of the firm's resources to resolve and shape changes in the marketplace or the business climate (Teece, 2018).

Their capital and business environment to achieve competitive advantage and obtain overall organizational results in marketing customer loyalty, and operations management over their industry rivals, the DCT theory was used as the underlying, theory for this analysis. From the perspectives of the anchor theory, this study, therefore, established an interaction conceptual model between SA and organizational outcomes dimensions with the mediating role of agile or flexible organizational structure. In this study, the conceptual model shows the link between the dependent variable (Y) and the independent variable (X) with the mediating variable (Z). The dependent variable is Organisational Outcomes which was conceptualized as: marketing, customer satisfaction and operations management; the independent variable (X) is Strategic Agility with the dimensions of strategic sensitivity, strategic response and collective capabilities; while Flexible Organisational Structure mediates the relationship between Strategic Agility and Organisational Outcomes. This is based on the variables' conceptual measurement gap identified in the literature relating to the link between strategic agility and organizational outcomes. This conceptual model is depicted below in figure 1.

Figure 1: Research Conceptual Model



Source: Research Conceptual Model (2021)

Most organizations across the globe have the intention to be strategically agile by adopting one or all the dimensions of strategic sensitivity, strategic response and collective capabilities towards developing the requisite, capabilities to match unforeseen shock as well as achieve targeted organizational outcomes in terms of marketing strength, customer satisfaction and sound operations management. However, possession of the flexible organizational structure that is necessary to pilot these intentions (strategic agility and organizational outcome measures) become a great challenge to most of these organizations, especially the public university institutions in Nigeria. Therefore, organizations or university/higher education institutions with full capability of flexible organizational structure will be able to pilot and mediate the SA dimensions towards achieving the desired organizational outcomes (Foss & Klein, 2005).

4. Conclusion and Recommendations

This study provides relevant conceptual definitions and interaction links between SA, organizational structure, and organizational outcomes. It also highlights the conceptual model that can be used by researchers to measure the mediating effect of flexible organizational structure on the relationship between SA and organizational outcomes. Given the number and degree of uncertainty and shocks in the global business environment, the enormity and pervasiveness of the disruptions caused by the COVID-19 pandemic in a contemporary business environment, the need for robust development of SA capabilities cannot be overemphasized. Such capabilities will enhance the ability of leaders to respond in real-time to change and uncertainty. Specifically, SA is a practical, project-based learning experience that supports administrators to engage in strategic thinking and strategic learning in ways that impact both organizational development and personal leadership development simultaneously. It builds leaders' capacity for strategic thinking, skill development, and a greater openness to leading school improvement and change initiatives.

Based on the foregoing, the study, therefore, made the following recommendations to the management of institutions of higher education:

- The institutions must be able to think strategically with an agile mindset: the ability to anticipate the new future of opportunities and discoveries, willingness to embrace the turmoil and embed a love of experimentation and problem solving into the institution's processes.
- Following from (1) above, the institutions must show readiness to understand mistakes, learn lessons quickly, and change the underlying assumptions (the dominant logic) quickly and repeatedly until successful.
- A strategically agile institution must continuously adjust and readjust its strategic direction in order to develop innovative ways to create value (Weber & Tarba, 2014). This will be done by bringing together dynamic capabilities like strategic sensitivity, strategic response, collective capabilities (Mavengere, 2013) in a way that creates and sustains flexibility without losing efficiency.
- Academic and non-academic staff teams should be empowered on dynamic and modern marketing approaches to manage unexpected events to improve marketing performance.
- Universities should find a commercial and emotional reason to change and be agile to enhance an agile organizational structure and ability to respond fast to an unexpected event.
- Universities should identify and support real change agents in the schooling business as this will enhance university students' satisfaction.
- The flexibility of the organizational structure should be improved through decentralization and the adoption of flexible structures.
- Ensure greater delegation of authority and use of training and education as critical learning tools to enhance the human resource capability of a strategically agile organization.
- Investment in contemporary and appropriate technology that can respond to changes in students' requirements and offer appropriate services to them.
- Flexible systems of service offerings should be adopted in various areas of students' needs: from admission processing to student registration, course registration, and delivery of lectures and seminars.

Limitations and Suggestions for Further Studies

This conceptual and theoretical review paper is a study of SA and a flexible and agile organizational structure in an era of a global pandemic from various perspectives and viewpoints of several scholars. It is a reference to what has been done so far as regards the conceptual link between the study variables in the process of understanding both the concept of agile organizational structure and the study of SA as a useful management tool in times of extreme environmental turbulence. Therefore, future studies should empirically investigate the mediating effect of flexible organizational structure on the relationship between strategic agility and organizational outcomes in different industries of the economy. Moreover, the impact of the various dimensions of SA (strategic sensitivity, strategic response, collective capabilities) on the SA-organisational outcome relationship should be investigated as the individual dimensions can have a differential impact on the relationship, depending on many contextual factors. Finally, it will be very useful for the enablers of agility in higher education as enunciated in Menon and Suresh (2020b) to be empirically investigated both for their completeness and also their relevance in a different geographical jurisdiction like Nigeria.

References

Aga, G., Francis, D. C. & Meza, J. R. (2015). SMEs, age, and jobs: A review of the literature, metrics, and evidence. Policy Research Working Paper 7493. World Bank Group.

Aghina, W., De Smet, A. & Weerda, K. (2015). Agility: It rhymes with stability. *McKinsey Quarterly,* 51(4), 2-9.

Ahmadi, S. A. A., Fathizadeh, A., Sadeghi, J., Daryabeigi, M. & Taherkhani, L. (2012). A study on the relationship between organizational structure and organizational agility: A case study of insurance firm. *Management Science Letters,* 2(8), 2777-2788.

Ahmady, G. A., Mehrpour, M. & Nikooravesh, A. (2016). Organizational structure. *Procedia-Social and Behavioral Sciences*, 230, 455-462.

Akhigbe, E. A. & Onuoha, B. C. (2019). Strategic agility and organizational resilience of food and beverage firms in Rivers State, Nigeria. *International Journal of Business Systems and Economics,* 12(2), 80-93.

Al-Romeedy, B. S. (2019). Strategic agility as a competitive advantage in airlines-Case study: Egypt Air. *Journal of the Faculty of Tourism and Hotels-University of Sadat City*, *3*(1), 1-15.

Amuda, Y. J. (2020). Impact of corona virus on small and medium enterprises (SMEs): Towards post-COVID-19 economic recovery in Nigeria. *Academy of Strategic Management Journal,* 19(6), 1-11.

Anggraini, W. & Sudhartio, L. (2019). Strategic agility in environmental turbulence. A case of the banking sector in Indonesia. Conference Proceedings of the 1st Sampoerna University-AFBE International Conference, SU-AFBE 2018, 6-7 December 2018, Jakarta Indonesia.

Arokodare, M. A. (2020). Strategic agility and firm performance of selected oil and gas marketing companies in Lagos State, Nigeria. (Ph.D. Thesis). Babcock University, Nigeria.

Arokodare, M. A. (2021b). Do strategic agility measures affect the overall firm performance of oil and gas industry? An empirical investigation. *European Journal of Business and Management,* 13(3), 31-42.

Arokodare, M. A. & Asikhia, O. U. (2020). Strategic agility: Achieving superior organizational performance through strategic foresight. *Global Journal of Management and Business Research: Administration and Management,* 20(3), 7-16.

Arokodare, M. A., Asikhia, O. U. & Makinde, G. O. (2019). Strategic agility and firm performance: The moderating role of organizational culture. *Business Management Dynamics*, 9(3), 01-12.

Bellgran, M. & Säfsten, K. (2009). Production Development: Design and operation of production systems. Springer. London.

Chattopadhyay, P. (2019). A study on the impact of service quality on customer satisfaction and customer loyalty with reference to service marketing context: Theoretical approach. *Iconic Research and Engineering Journals,* 3(1), 89-96.

Chen, Y., Wang, Y., Nevo, S., Jin, J., Wang, L. & Chow, W. S. (2014). IT capability and organizational performance: the roles of business process agility and environmental factors. *European Journal of Information Systems*, 23(3), 326-342.

Ciotti, M., Ciccozzi, M., Terrinoni, A., Jiang, W. C., Wang, C. B. & Bernardini, S. (2020). The COVID-19 pandemic. *Critical Reviews in Clinical Laboratory Sciences*, 57(6), 365-388.

Couturier, J. & Sola, D. (2020). Strategic agility in time of crisis. Ecole Superieure de Commerce de Paris (ESCP) Working Paper No. 2020-32-EN.

Cronje, G. J., Du Toit, G. S., Motlatla, M. D. C., Marais, A. & de K. (2007). Introduction to Business Management (6th Ed.). Cape Town: Oxford University Press.

Daft, R. L. (2020). Organization theory & design. Cengage Learning.

Dai, R., Feng, H., Hu, J., Jin, Q., Li, H., Wang, r., Wang, R., Xu, L. & Zhang, H. (2020). The impact of COVID-19 on small and medium-sized enterprises (SMEs): Evidence from two-wave phone surveys in China. Centre for Global Development Working Paper 549.

Doh, J., Rodrigues, S., Saka-Helmhout, A. & Makhija, M. (2017). International responses to institutional void. *Journal of International Business Studies,* 48, 293-307.

Dove, R. (2001). Response-ability: The language, structure, and culture of the agile enterprise. New York, NY: John Wiley & Sons.

Doz, Y. L. & Kosonen, M. (2008). Fast Strategy: How strategic agility will help you stay ahead of the game. Wharton School Publishing. Pearson Education.

Esbach, J. (2009). Relevance of engineering entrepreneurship: A study at the Cape Peninsula University of Technology. *Journal of Asia Entrepreneurship and Sustainability*, 5(3), 108.

Easterby-Smith, M., Lyles, M. A. & Peteraf, M. A. (2009). Dynamic capabilities: Current debates and future directions. *British Journal of Management*, 20, S1-S8.

Ekweli, F. & Hamilton, D. I. (2020). Product innovation and organizational agility in the banking sector of Nigerian economy. *Global Science Journal,* 8(1), 171-188.

Fatani, T. H. (2020). Student satisfaction with videoconferencing teaching quality during the COVID-19 pandemic. *BMC Medical Education,* 20(396), 2-8.

Foss, N. J. & Klein, P. G. (2005). Entrepreneurship and the economic theory of the firm: Any gains from trade? In *Handbook of Entrepreneurship Research* (pp. 55-80). Boston, MA: Springer.

Galvin, P. (2009). Product modularity and the contextual factors that determine its use as a strategic tool. Curtin University of Technology, Perth.

Gerald, E., Obianuju, A. & Chukwunonso, N. (2020). Strategic agility and performance of small and medium enterprises in the phase of Covid-19 pandemic. *International Journal of Financial, Accounting, and Management,* 2(1), 41-50.

Gholam A., Maryam M. & Aghdas, N. (2016). Organizational structure. *Procedia-Social and Behavioral Sciences,* 230, 455-462.

Govuzela, S. & Mafini, C. (2019). Organizational agility, business best practices and the performance of small to medium enterprises in South Africa. *South African Journal of Business Management,* 50(1), 1417.

Hill, N., Roche, G. & Allen, R. (2007). Customer Satisfaction: The customer experience through the customer's eyes. London: Cogent Publishing Ltd.

Khan, H. & Wisner, J. D. (2019). Supply chain integration, learning, and agility: Effects on performance. *Journal of Operations and Supply Chain Management*, 12(1), 14-23.

Khorshid, S. (2019). The impact of organiZation's strategic agility and emotional capability on entrepreneurship-orientation (Case study: The University of Khashan and Qom cities). *Management in the Islamic University,* 14(6), 238-262.

Kotler, P. (2001). A framework for marketing management. Englewood Cliffs, N.J.: Prentice-Hall.

Krajewski, L. J., Ritzman, L. P. & Malhotra, M. K. (2013). Operations Management. Pearson.

Kwon, S. J., Ryu, D. & Park, E. (2018). The influence of entrepreneur's strategic agility and dynamic capability on the opportunity pursuit process of new ventures: Evidence from South Korea. *Academy of Strategic Management Journal,* 17(1), 1-17.

Lamb, C. W. Jr., Hair, J. F., McDaniel, C., Boshoff, C. & Terblanche, N. S. (2007). Marketing. 2nd South African edition. Cape Town: Oxford University Press.

Liu, Y., Lee, J. M. & Lee, C. (2020). The challenges and opportunities of a global health crisis: The management and business implications of COVID-19 from an Asian perspective. *Asian Business & Management,* 19, 277-297.

Lungu, M. F. (2020). The influence of strategic agility on firm performance. Proceedings of the 14th International Conference on Business Excellence, 102-110.

Mavengere, N. B. (2013). Information technology role in supply chain's strategic agility. *International Journal of Agile Systems and Management*, 6(1), 7-24.

Menon, S. & Suresh, M. (2020a). Organizational agility assessment for higher education institution. *The Journal of Research on the Lepidoptera,* 51(1), 561-573.

Menon, S. & Suresh, M. (2020b). Factors influencing organizational agility in higher education. Benchmarking: An International Journal (Ahead of Print).

Monavarian, A., Asgari, N. & Ashena, M. (2007). Structural and content dimensions of knowledge-based organizations. The first national conference of knowledge management. Bahman 2007.

Mukerjee, S. (2014). Organizational agility in universities: Tensions and challenges. In Fitzgerald, T. (ed.) Advancing Knowledge in Higher Education: Universities in Turbulent Times (pp. 15-25). Hershey, PA: IGI Global.

Nazir, S. & Pinsonneault, A. (2012). IT and firm agility: An electronic integration perspective. *Journal of the Association for Information Systems*, 13(3), 150-171.

Nnamani, E. & Ajagu, H. E. (2014). Environmental factors and organizational performance in Nigeria: A study of Juhel Company. *World Engineering & Applied Sciences Journal*, 5(3), 75-84.

Ogbo, A. I., Chibueze, N. F., Christopher, O. C. & Anthony, I. A. (2015). The impact of structure on organizational performance of selected technical and service firms in Nigeria. *Corporate Ownership & Control,* 13(1), 1278-1284.

Patton, D. (2020). Food exporters to China asked to declare produce is corona virus-free [Online].

Queiroz, M., Tallon, P. P., Sharma, R. & Coltman, T. (2018). The role of IT application orchestration capability in improving agility and performance. *The Journal of Strategic Information Systems,* 27(1), 4-21.

Rahim, A. G. (2017). Customer satisfaction and loyalty: A study of interrelationships and effects in Nigerian domestic airline industry. *Oradea Journal of Business and Economics*, 2(1), 7-20.

Raziq, M. M., Ahmad, M., Iqbal, M. Z., Ikramullah, M. & David, M. (2020). Organizational structure and project success: The mediating role of knowledge sharing. *Journal of Information & Knowledge Management*, 19(2), 2050007.

Richardson, J. C. & Swan, K. (2019). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Online Learn,* 7(1), 68-88.

Rodgers, P. (2020). Strategic agility in uncertain times. The Open University Business School.

Rosenberg, L. J. & Czepiel, J. A. (1984). A marketing approach for customer retention. *Journal of Consumer Marketing,* 1(2), 45-51.

Rugraff, E. & Hansen, M. W. (2011). Multinational corporations and local firms in emerging economies: An introduction. In E. Rugraff & M. W. Hansen (Eds.), Multinational corporations and local firms in emerging economies (pp. 1-47). Amsterdam, Netherlands: Amsterdam University Press.

Sajdak, M. (2015). Compilation of operational and strategic agility for ensuring the highest efficiency of company operations. *Economics and Management,* 7(2), 20-25.

Sampath, G. & Krishnamoorthy, B. (2017). Is strategic agility the new Holy Grail? Exploring the strategic agility construct. *International Journal of Business Excellence*, 13(2), 160-180.

Shin, H., Lee, J. N., Kim, D. & Rhim, H. (2015). Strategic agility of Korean small and medium enterprises and its influence on operational and firm performance. *International Journal of Production Economics,* 168, 181-196.

Tahernezhad, K., Sadaghiani, J. S. & Ghaiyoomi, A. (2013). A study on the relationship between organizational structure and learning characteristics: A case study of revenue agency. *Management Science Letters,* 3(3), 991-994.

Tallon, P. P. & Pinsonneault, A. (2011). Competing perspectives on the link between strategic information technology alignment and organizational agility: Insights from a mediation model. *MIS Quarterly,* 35, 63-486.

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and micro-foundations of (sustainable) enterprise performance. *Strategic Management Journal,* 28(13), 1319-1350.

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning,* 51(1), 40-49. https://doi.org/10.1016/j.lrp.2017.06.007

Teece, D., Peteraf, M. & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, 58(4), 13-35.

Teece, D. J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal,* 18(7), 509-533. https://www.jstor.org/stable/3088148

Tende, F. B. & Ekanem, I. S. (2018). Strategic agility: An intervention prescription to competitive advantage of small businesses in Nigeria. *International Journal of Business Systems and Economics,* 6(4), 1401-1423.

Tse, Y. K., Zhang, M., Akhtar, P., & MacBryde, J. (2016). Embracing supply chain agility: An investigation in the electronics industry. *Supply Chain Management: An International Journal*, 21(1), 140-156.

United Nations Educational, Scientific and Cultural Organisation (UNESCO). (2020). The futures of education after COVID-19. Regional Dialogue Synthesis Report.

Vidmar, M., Rosiello, A. & Golra, O. (2020). Resilience of new space firms in the United Kingdom during the early stages of COVID-19 crisis: The case for strategic agility. *New Space*, 8(4), 172-178.

Weber, Y. & Tarba, S. Y. (2014). Strategic agility: A state of the art introduction to the special section on strategic agility. *California Management Review*, 56(3), 5-12.

Zhang, Z. & Sharifi, H. (2000). A methodology for achieving agility in manufacturing organizations. *International Journal of Operations & Production Management,* 20(4), 496-513.

Information Management and Business Review (IMBR)
Vol. 13, No. 1, March 2021 (ISSN 2220-3796)

A Conceptual Framework on the Corporate Social Responsibility Disclosure: Profitability, Leverage and Company Size

Noegrahini Lastiningsih, Ermawati
Universitas Pembangunan Nasional Veteran Jakarta, Indonesia
Noegrahini@gmail.com, ermawati@upnvj.ac.id

Abstract: This research begins with environmental damage is mostly carried out by companies with the background of company activities related to nature, and companies in Indonesia have not been able to carry out their social responsibilities to the society and the culture in which they operate to their full potential. This phenomenon also proves that the legal basis is not sufficient to motivate companies to carry out CSR as well as possible, but it also making social concerns a priority and part of the company's corporate plan needs engagement and support from management and shareholders. The aim of this research was to find out what factors influence corporate social responsibility disclosure on the Indonesian stock exchange. This study has three objectives namely to find out profitability, leverage and company size for corporate social responsibility disclosure. Therefore, this study relates to the measurement of corporate social responsibility disclosures by companies listed on the Indonesian stock exchange.

Keywords: CSR *Disclosure*, *Profitability, Leverage, Company size.*

1. Introduction

Today, the typical company report aims to not only clarify financial details but also to display and relay information about social and environmental issues (Rahman et al., 2011). It is referred to as a triple bottom line study because of the combination of these three reports. According to Gray (1987), this increase is estimated based on the assumption that companies are required to have broader responsibilities and not only generate material benefits for shareholders. The company had difficulty compiling this social responsibility report which made this a failure. The failure that companies experience in reporting problems is their inability to find a "reporting license" (Thomson and Zakaria, 2004). In Indonesia, there are many companies in the mining industry that cause environmental and social damage to society, both negative and positive. Examples such as the PT Batu Bara Bukit Asam (Persero) Tbk and PT Timah (Persero) Tbk has proven each performance assessment indicator and the average disclosures already exceed 75%. However, the disclosure of indicators and their respective aspects is still not detailed. PT. Freeport, PT. Antam (Miscellaneous Mines) and PT. Valley. PT Vale is a nickel mining company located in Sorowako, South Sulawesi. The operation of the company resulted in negative impacts such as air pollution and water becoming cloudy. As a result, a few residents have complained about the water pollution. So that PT Vale must be responsible for the effect of the business operations. The corporate social responsibility report is intended as a corporate communication tool.

Marketing media is used by companies that allow stakeholders to assess legal aspects (Podnar and Golob, 2007; Nielsen and Thomsen, 2007). Therefore, the degree of corporate social responsibility. It is assumed that the company will disclose information to convey its meaning in calculating the corporate social responsibility program for society (Lone, Ali and Khan, 2016). Over the years, the number of companies reporting their social responsibility plans has increased (Salehi, Tarighi and Rezanezhad, 2019). Furthermore, at this time, the company was forced to remain competitive in the global market. Some methods to do the company can compete is by doing activities that are not only focused on providing benefits for the company, but also to provide benefits to the community and the surrounding environment. The components of society and the environment is linked closely interconnected with the company in carrying out its activities with members and need each other. The company must be able to understand that its responsibility is not only to shareholders, but more broadly, the company must be able to have a positive impact on the community and the surrounding environment so that one day the company will indirectly benefit from its concern for the environment. The positive influence that can be done by companies is by holding Corporate Social Responsibility (CSR) activities (Respati and Hadiprajitno, 2015). Friedman (1962) stated that the sustainability of a company is not only based on the profit aspect of the company but also must see the human element inside and outside the company (People) and the environment (Planet).

A company or organization that can maintain its consistency is an organization that can manage these three elements to put into practice the company's operating activities. Problems in the social environment of the company can have an impact on difficulties for companies that are congested when operating, and can even lead to new complications, namely legal problems. So that, apart from entangling legal issues, the organization is required to engage in CSR for corporate responsibility and to ensure the company's long-term viability. CSR is described as a form of representation of company initiatives that have discretionary characteristics with various considerations of criticism from the government and other relevant stakeholders (Matten, 2008). When viewed from another point of view, disclosure of CSR is interpreted as sharing and disseminating information by the company as part of its annual report on matters relating to operations, activities and implementation of certain programs that are considered to affect the public and different stakeholders (Chan, Watson and Woodliff, 2014). According to Nisak and Jaeni (2019), in preparing the company's sustainability report, it refers more to the guidelines from the Global Reporting Initiative (GRI).

The Global Reporting Initiative (GRI) can push entities to be more responsible for a sustainable global economy. GRI also aims to understand and inform business impacts, be it economic, environmental, and social impacts caused by daily activities in the company. Then, to implement sustainable reporting and become standard practice that presents corporate values and governance, shows the relationship between strategies which can then be used to set company goals, and manage change more effectively and efficiently. Regulations regarding awareness of the need to protect the environment and social responsibility in Indonesia have been regulated (Undang-Undang Nomor 40 Tahun 2007 Tentang Perseroan Terbatas) subsection 74. It is clarified in it that when conducting business practices involving natural resources, social and environmental obligations must be met. In the inside subsection 66 verse 2c UU No. 40 in 2007 it has been explained that all companies are obliged to report the implementation of social and environmental responsibility in the company's annual report. Corporate social responsibility reports are used as a means of corporate communication as well as marketing and promotion media platforms used by companies to make judgments or appropriate stakeholder considerations (Nielsen, 2007).

Corporate social responsibility assumes that the company will convey information for the benefit of the state to be included in its social responsibility plans for society and the environment (Lone, Ali and Khan, 2016). From year to year, the number of companies reporting their social responsibility plans has experienced a large increase (Sekhon and Kathuria, 2019). CSR disclosure practices in Indonesia have received considerable attention. This is motivated by the development of democracy, and society is increasingly critical, and companies have started to demand to provide transparent information on their social activities (Nisak and Jaeni, 2019). Meanwhile, some violations of CSR practices by public companies in Indonesia, for example, PT Adaro Indonesia demanded by the farmers Kabupaten Balangan, Kalimantan Selatan because it is suspected that the water in the Balangan River has been contaminated by waste from coal mining activities. Farmers of keramba owners suffered losses of tens of millions of rupiah because all the dead fish were ready to be harvested. However, according to a spokesman PT Adaro Indonesia Djoko Soesilo stated that his party had received information about this. But PT Adaro Indonesia denied mining waste (Mediaindonesia, 2018).

2. Literature Review and Hypothesis Development

Corporate Social Responsibility: CSR is often interpreted as Social and Environmental Responsibility in Indonesia, based on its etymology. However, as of August 16, 2007, CSR in Indonesia is governed by Law Number 40 of 2007 concerning Limited Liability Companies, which replaces Law Number 1 of 1995 concerning Limited Liability Companies, hereinafter abbreviated as UUPT, and CSR is referred to as stipulated in this Law. Article 1 Paragraph 3 reads, "Social and Environmental Responsibility is the Company's commitment to participate in sustainable economic development to improve the quality of life and a beneficial environment, both for the Company itself, the surrounding community, and society in general". According to Lang and Lundholm (1993) described by explaining various kinds of voluntary disclosures in annual reports, the nature of the company is a prediction of the quality of disclosure. Each company is unique, which is different from other companies. Company characteristics that have been studied by previous researchers have a significant impact on the disclosure of CSR reports in annual reports (Amran, Susela, 2008). The diversity of companies that affect CSR reporting in the annual report is government share ownership, foreign ownership, company size, type of industry, profitability.

Profitability: Profitability is a variable to measure the ability of a company to obtain profits that are pursued, to increase shareholder value. This profitability factor makes management free and flexible in disclosing CSR to shareholders. The greater the disclosure of CSR details, the higher the degree of company profitability (Sembiring, 2005). According to Hackston and Milne (1996), in their study, he shows that there is no substantial connection between profitability and the disclosure of social information. According to Belkaoui and Karpik (1989), the relationship between a company's financial results, in this case, profitability, and the belief that management's social responsibility is the same as the capacity needed to build a productive business are better reflected in the view that management's social responsibility is the same as the capacity required to create a productive company.

Leverage: The level of debt a corporation has is an indication of how reliant it is on creditors to fund its assets. Meanwhile, companies that have a lower level of leverage fund their assets with their capital. The level of company debt can describe the company's financial risk. Since the expenses incurred by companies with such capital structures are higher, companies with a higher leverage ratio will reveal more details (Jensen and Meckling, 1976).

Company Size: Company size is often used to explain various disclosures in a company's annual report. There are several descriptions of the effect firm size has on the quality of expression. This is illustrated by the various empirical studies that have been conducted which result in the effect of total assets almost always being persistent and statistically significant. Hackston and Milne (1996) state that the extractive industry is a high-profile industry. In addition, various disclosures in a company's annual report are explained using company size and leverage. The mining, chemical, and forestry industries should be classified as high-profile industries. Research that fails to show a relationship between the two variables is research conducted by Sembiring (2005) while research that shows a relationship between the two variables (Hackston and Milne, 1996).

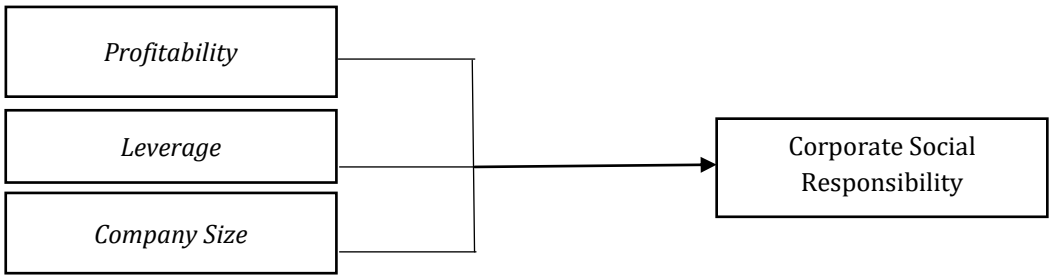
Profitability and CSR Disclosure: A company's profitability shows the relationship between profit and the assets or resources used to produce the profit; in other words, profitability is a company's ability to make money over time. The greater the level of social knowledge disclosure, the higher the level of business profitability. In a company, profitability is a factor that enables management to be more innovative and flexible in communicating social responsibility to shareholders, the higher the level of profitability, the more social information is revealed. The hypothesis can be formulated as follows based on the above explanation:
H1: Profitability has an effect on CSR disclosure.

Leverage and CSR Disclosure: Companies that have a high leverage ratio value can disclose broader social responsibility. For this reason, companies with high debt levels may disclose more information to meet their creditors' information needs. This argument can be related to stakeholder theory, which states that a company's survival is heavily influenced by the help provided by its stakeholders, companies with a high degree of control will disclose more details to their stakeholders in order to eliminate doubts and increase confidence in the company's ability.
H2: Leverage has an effect on CSR disclosure.

Company Size and CSR Disclosure: The legitimacy theory states that large-scale firms can carry out more operations, resulting in a greater impact on society and the environment. The effect of business size on CSR disclosure carried out by the company can also be attributed to the legitimacy theory, which states that large-scale companies can carry out more activities, resulting in a greater impact on society and the environment. The support provided to a business by stakeholders has a significant impact on its life. This is because the operation of this sector from the beginning to the completion of the use of natural resources can have a significant impact on environmental damage. It has been proven from the phenomena that occur in companies in the mining sector. Furthermore, this analysis used a sample of 160 companies that are listed on the Indonesia Stock Exchange. Furthermore, data analysis in this study was proposed using multiple regression analysis. However, large corporations now have more stakeholders that are interested in the company's social services. Related to stakeholder theory, companies with a larger size will disclose more CSR information to stakeholders as a means of communication to maintain good relations and meet stakeholder expectations (Wardhani and Muid, 2017). This study supports that of Widiastuti et al. (2018), who found

empirical evidence that company size has a positive impact. The hypothesis, based on the above explanation, can be summarized as follows:
H3: Company size has an effect on CSR disclosure.

Figure 1: Research Framework



3. Proposed Method

The population is the object of research to be studied and is also a collection or aggregation of all elements or individuals who become the source of research information. According to the population, a general area consists of items or topics with specific qualities and characteristics that the researcher has defined and concluded for analysis. From 2017 to2019, the population for this study was mining sector companies listed on the Indonesia Stock Exchange. Mining companies were chosen because they had long been the center and main pillar of Indonesia's economic expansion, which contributed significantly to the country's GDP through profitable exports. However, on the other hand, the mining sector is getting enough attention from stakeholders.

4. Conclusion and recommendations

This study's conceptual paper aims to look into the factors that influence corporate social responsibility on the Indonesia Stock Exchange. This is significant because management who is conscious of and concerned about social issues would increase the skills required to improve a company's financial results. The risk is that those who receive a social reaction to social responsibility disclosure are forced to fire someone who does not adjust to the influence between business profitability and accounting variables such as investment returns and market variables such as stock price differential returns. Large corporations are business entities that become important, greater disclosure represents the cost of politics as a social responsibility. This result is expected the three hypotheses are significantly and positively influences the corporate social responsibility disclosure. The findings of this study are expected to contribute significantly to investors it is expected to help investors to identify the state of the company based on corporate social responsibility by looking at factors such as profitability, leverage and company size performed by the company in terms of knowing how the influence of these factors can improve the company in implementing CSR. In addition, the company's ability to improve its social obligation to the environment and other stakeholders is recommended.

References

Amran, A. & Susela, D. S. (2008). The Impact of Government and Foreign Affiliate Influence on Corporation Social Reporting (The Case of Malaysia). *Accounting, Auditing, and Accounting Journal,* 23(4), 386-404.

Belkaoui, A. & Karpik, P. G. (1989). Determinants of the Corporate Decision to Disclose Social. *Auditing and Accountability Journal*, 2(1), 36-51.

Chan, M. C., Watson, J. & Woodliff, D. (2014). Corporate governance quality and CSR disclosures. *Journal of Business Ethics,* 125, 59-73.

Friedman, M. (1962). Capitalism and Freedom. Chicago: United States: University of Chicago Press.

Gray, R., Owen, D. & Maunders, K. (1987). Corporate Social Reporting: Accounting and Accountability. London: Prentice-Hall.

Hackston, D. & Milne, M. J. (1996). Some Determinants of Social and Environment Disclosures in New Zealand Companies. *Accounting, Audit & Accountability Journal*, 9(1), 77-108.

Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency cost, and ownership structure. *Journal of Finance Economics,* 3(4), 305-360.

Lang, M. & Lundholm, R. (1993). Cross-Sectional Determinants of. Analyst Ratings of Corporate Disclosures. *Journal of Accounting Research*, 31(2), 246-271.

Lone, E. J., Ali, A. & Khan, I. (2016). Corporate governance and corporate social responsibility disclosure: evidence from Pakistan. *Corporate Governance*, 16(5), 785-797.

Matten, A. C. (2008). Editor's introduction. Corporate social responsibility as a field of scholarship. London: Sage Publication.

Mediaindonesia. (2018, May 21). Limbah Adaro Diduga Cemari Sungai. Retrieved from https://mediaindonesia.com/nusantara/162086/limbah-adaro-diduga-cemari-sungai

Nielsen, A. E. & Thomsen, C. (2007). Reporting CSR-what and how to say it? Corporate Communication: *An International Journal*, 12(1), 25-40.

Nielsen, A. C. (2007). Survey of Consumer Behavior and Perception toward Modern Retail and Traditional Trade Channels. Jakarta: Departemen Perdagangan Indonesia.

Nisak, K. & Jaeni, J. (2019). Faktor Penentu Pengungkapan Corporate Social Responsibility. *Dinamika Akuntani, Keuangan, dan Perbankan*, 8(1), 37-51.

Nurkhin, A. (2010). Corporate Governance dan Profitabilitas, Pengaruhnya Terhadap Pengungkapan CSR Sosial Perusahan. *Journal Dinamika Akuntansi*, 2(1), 46-55.

Podnar, K. & Golob, U. (2007). Corporate Social Responsibility expectations: The Focus of Corporate Marketing. *An International Journal*, 12(4), 57-72.

Rahman, H. W. A., Zain, M. M. & Al-Haj, N. M. (2011). CSR disclosures and its determinants: evidence from Malaysian government link companies. *Social Responsibility Journal*, 7(2), 181-201.

Respati, R. D. & Hadiprajitno, P. B. (2015). Analisis Pengaruh Profitabilitas, Leverage, Ukuranperusahaan, Tipe Industri, Dan Pengungkapan Media Terhadap Pengungkapan Corporate Social Responsibility. *Diponegoro Journal of Accounting*, 4(4), 1-11.

Salehi, M., Tarighi, H. & Rezanezhad, M. (2019). Empirical study on the effective factors of social responsibility disclosure of Iranian companies. *Journal of Asian Business and Economic Studies,* 26(1), 34-55.

Sekhon, A. K. & Kathuria, L. M. (2019). Analyzing the corporate social responsibility disclosures of selected companies in India. Corporate Communication: *An International Journal*, 24(4), 696-701.

Sembiring, E. R. (2005). Karakteristik Perusahaan dan Pengungkapan Tanggung Jawab Sosial: Studi Empiris Pada Perusahan yang Tercatat di Bursa Efek Jakarta*. Simposium Nasional Akuntansi,* 7, 69-85.

Thomson, P. & Zakaria, Z. (2004). Corporate social responsibility reporting in Malaysia progress and prospects. *Journal of Corporate Citizenship,* 13, 125-136.

Undang-Undang Nomor 40 Tahun 2007 Tentang Perseroan Terbatas. (n.d.). http://bapepam.go.id/r eksadana/files/r egulasi/UU402007PerseroanTerbatas.pdf.

Wardhani, R. A. & Muid, D. (2017). Pengaruh Agresivitas Pajak, Ukuran Perusahaan, dan Profitabilitas Terhadap Corporate Social Responsibility: Studi Empiris Pada Perusahaan Manufaktur yang terdaftar di BEI Tahun 2014-2015. *Diponegoro Journal of Accounting,* 6(3), 752-761.

Widiastuti, H., Utami, E. R. & Handoko, R. (2018). Pengaruh Ukuran Perusahaan, Tipe Industri, Growth, dan Media Exposure Terhadap Pengungkapan Tanggung Jawab Sosial Perusahaan: Studi Empiris Pada Perusahaan yang Terdaftar di BEI Tahun 2015*. Riset Akuntansi dan Keuangan Indonesia*, 3(2), 107-117.

Information Management and Business Review (IMBR)
Vol. 13, No. 1, March 2021 (ISSN 2220-3796)

Building an Automated Win-Win Negotiation Process Model

Latifa Ghalayini[1] & Dana Deeb[2]
[1]Lebanese University, Faculty of Economic Sciences and Business Administration, Lebanon
[2]Lebanese University, Doctoral School of Law, Political, Admin and Economic Sciences, Lebanon
lghalayini@hotmail.com, danahdeeb@gmail.com

Abstract: This paper builds an automated negotiation process model for integrative negotiations. The process model defines and automates the necessary phases and activities along with the integrative negotiation approach principles to create win-win outcomes that mutually satisfy negotiating parties. However, to realize this objective, the negotiation literature and theories are reviewed to determine the relevant theories for integrative negotiations that help to develop and form the basis of the process model. After investigation, it became evident that three main theories, which are Decision Theory, Rational Choice Theory and Mutual Gains Theory, contribute to building the integrative process model by setting its phases and components. The model is composed of five main phases with several sub-phases. Decision theory with mutual gains theory provides the robust process model through several phases, and rational choice theory with mutual gains theory ensures they are implemented in a fair, objective manner to come up with a satisfying win-win solution. Hence, automated negotiation processes when designed in a robust manner that is based on the theory that serves integrative approaches could lead to win-win negotiation outcomes. The foundation of the win-win negotiation process model contributes to designing win-win negotiation outcomes through structuring automated negotiation and setting its phases along with the integrative negotiation principles. It develops the negotiation field by integrating automation and the integrative approach principles in a process model.

Keywords: *Negotiation, Automated Negotiation, Integrative Negotiation, win-win Outcome, Negotiation Process Model.*

1. Introduction

Negotiation exists in many forms all along with human life. Every human being negotiates at some point in his life, whether, at home, at work, at the market, etc. People use negotiation as an interaction tool to realize their needs. Negotiation is used by people, organizations, countries and even nations. It is "a basic means of getting what you want from others, a back-and-forth communication designed to reach an agreement when you and the other side have some interests that are shared and others that are opposed" (Fisher & Ury, 1981). It is the process to optimize the individual gain. Negotiation research developed principles and protocols that govern negotiation procedures and help to organize and structure the field. Regardless of the negotiation process followed or the research methodology adopted to design such processes, the aim of any exchange is always to attain gain, and this is achieved through negotiation. Each negotiating party pursues to maximize his gain. Gain distribution and negotiation outcomes are highly affected by the approach of negotiation followed. The traditional negotiation approach of using distributive strategies to reach agreements is strongly debated. Such strategies result in win-lose outcomes where one side gets the biggest benefit possible at the expense of the other. This could be profitable on short-term communication or one-time deals.

However, on a long-term basis where relationships and reputation contribute, other approaches are required. Integrative approaches use objective criteria, seek designing solutions of mutual gain, give importance to exchanging information and group problem solving (Lewicki, Barry, Saunders, & John, 2003) to reach win-win outcomes and ending both sides satisfied. Such approaches involve negotiators working jointly to create win-win solutions. Negotiation is usually done face-to-face, but with the advancement of telecommunication, electronic negotiation (E-negotiation), which is another form of negotiation, emerged. In electronic negotiations, the interaction between the negotiating parties is computer-mediated. Each of the negotiation forms has its uses, merits and hurdles. In face-to-face negotiation, direct interactions are usually affected by the verbal and non-verbal cues of the negotiators involved. Such cues could serve to reflect the "true meaning" behind messages, thus result in better understanding and judgment. Face-to-face negotiation serves as a good means for the flow of information (Arunachalam & Dilla, 1995). On the other hand, automation

cannot be disregarded as it exists and is part of our world today. Consequently, and with the advancement of technology, electronic negotiation gained clear advantages.

It differs in that it is a direct process; the negotiators' personalities are separated from the issues to negotiate (Carmel, Herniter, & Nunamaker, 1993). Moreover, it disregards differences between negotiators and offers a common base to negotiate where they interact on an equal status. The degree of automation in negotiation can range from a simple information search support to a fully automated negotiation process. On one hand, integrative negotiation approaches involve creating profitable options to come up with win-win solutions. To create and design such options, negotiators need good cognitive skills especially when the complexity of the situation increases and when time restricts it. The fact that the most intelligent, competent and unbiased people face challenges in creating or assessing such options, imposes looking for a substitute good crafter or a supporter, either to create such options or to ensure their goodness. Therefore, automating negotiation processes, whether partially or fully, seems an opportunity to design and craft negotiation solutions that are win-win and satisfy the needs of the negotiating parties, especially when relations are long-term and negotiation contexts are complex.

To automate negotiation and implement it using software, implementation requires explicitly defining and structuring the process. In negotiation research, there is no consensus regarding the number of negotiation stages (Lande, 2017). Some scholars argue that negotiation does not follow a specific sequence of stages (Gifford, 2007), another group defined negotiation stages, while others focused on "tasks" including assessing the situation, taking positions, making concessions, and closing the deal (Lewicki, Saunders, & Barry, Negotiation, 2015). Electronic negotiation requires a "process model" and a "protocol" (Kersten & Lo, 2003). A process model gives a structure to the negotiation through phases and activities assigned to them (Jennings, et al., 2001). There are no specific process models for e-negotiation (Braun, et al., 2006). Braun et al. (2006) adapted a model formed from Gulliver's eight-phase model (1979), and consists of five phases: the planning phase, agenda-setting and exploring the field, exchanging offers and arguments, reaching an agreement, and concluding the negotiation. Braun et al. (2006) specify and structures the negotiation process, regardless of the negotiation approach followed, and whether win-win outcomes are the aim or not.

However, integrative negotiations, which aim to create win-win outcomes, require specific activities and tasks to design or search for such outcomes. Integrative negotiation approaches use objective criteria, seek designing solutions of mutual gain, and give importance to exchanging information and group problem solving, and thus components and activities are different. Then, does automate negotiation processes through an integrative approach structured phases lead to win-win outcomes? And how negotiation theories help to set and automate such an integrative negotiation process model? This paper aims to build a negotiation process model for automated integrative negotiations. The second section of the paper describes the methodology followed to build the process model. The third section illustrates Braun et al. (2006) negotiation process model that is considered as a general model and not specifically built for integrative negotiations. Then, negotiation theories are overviewed in the third part to select the theories that serve integrative negotiations to form the base of the process model. The selected negotiation theories are thereafter detailed in sub-sections. Section four encompasses the development of the process model, with each of its phases detailed in a subsection and finally synthesizing the phases.

2. Methodology

Different theoretical perspectives contribute to the development of the negotiation field and several theories contribute to defining and setting the process. Regarding, the negotiation process model, there are no specific process models for e-negotiation (Braun, et al., 2006). Additionally, Braun's (2006) model is not specifically set for integrative negotiation approaches. To build the negotiation process model for automated integrative negotiations, the paper considers the qualitative method, starting with a literature review of negotiation theories to select the theories, which serve the integrative negotiation approach and adhere to its principles. However, the epistemological approach of this paper considers the positivism strategy. The model treats an automated negotiation process, which takes place over the web and through digital forms. Therefore, the ground of the problem is formed upon automating the process and thus following a scientific approach. Moreover, it proposes a solution for creating optimal win-win negotiation outcomes that are value-free and

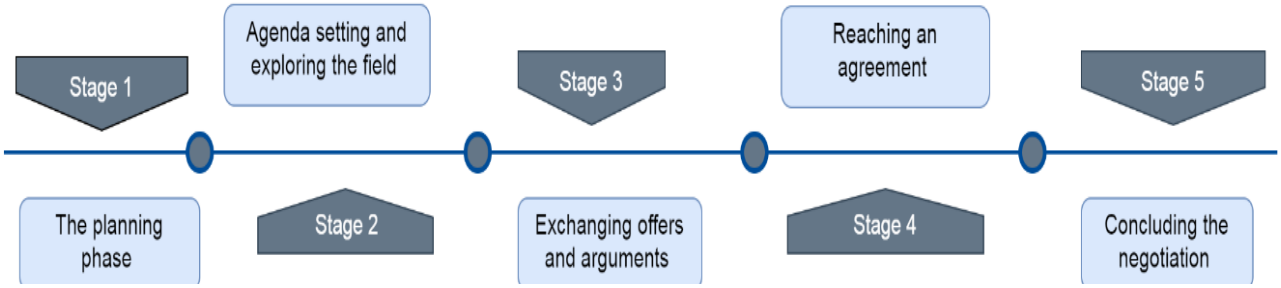
assessed through an objective proposition. The objectivity of the solution comes from automating the offers' assessment process that should be predefined and transparent without interfering with the subjectivity of the negotiators in the assessment.

3. Braun's Model

Braun et al. (2006) built a negotiation process model based on Gulliver's eight-phase model (1979). It consists of five phases:

- The planning phase includes the formulation of the negotiation problem. Several attributes are specified in this phase including issues and options as well as negotiators' objectives, preferences and reservation levels.
- Agenda setting and exploring the field encompass discussions among the negotiators regarding the problems involved. This might result in adding new issues and options or deleting previously set ones. Objectives, preferences and constraints might also be discussed, thus resulting in revising and reformulating the problem. Furthermore, negotiators' specific objectives and preferences might also change.
- Exchanging offers and arguments allows negotiators to explore their counter parties' limitations so identifying areas of disagreement. Compromises are realized in this stage and solutions are restricted to efficient ones that are acceptable for both negotiators.
- Reaching an agreement reflects that the negotiators succeeded in the negotiation process.
- Concluding the negotiation occurs after reaching an agreement, where the negotiators elevate their agreement and consider any enhancements. They might also talk about several matters that do not affect their agreement like its implementation.

Figure 1: Braun, et al. Negotiation Process Model



Source: Prepared by the author according to "e-Negotiation Systems and Software Agents: Methods, Models, and Applications", by Braun P. et al. process model, 2006, Intelligent Decision-making Support Systems.

Braun et al. (2006) negotiation process model is not specifically built for integrative negotiations. It is a general model, which considers the negotiation process from its planning step to finally reaching an agreement and concluding the negotiation, without aiming to reach win-win outcomes. However, integrative negotiations, which aim to create win-win outcomes, require specific activities and tasks to design or search for such outcomes. The following is an overview of negotiation theories with a detailed dive into theories that serve integrative negotiations, to build the specific negotiation process model related to integrative negotiations.

Overview of Negotiation Theories: Several decades ago, Zartman (1975) argued that there is no satisfactory theory to negotiation. Although the notion that negotiation is an art above conceptualization and skill beyond effective communication was contested effectively (de Callieres, 1983), (de Felice, 1975) and despite the fact that the work of Nash (1950), Rapoport (1966), Festinger (1957), and others has not been invalidated by unsuccessful application, Zartman (1975) demonstrates that negotiations are far resistant to theory because their dynamic pattern has not been fully apprehended. However, negotiation; with its interdisciplinary nature, comprises several theories. Different theoretical perspectives contribute to the development of the negotiation field and several theories contribute to defining and setting the process. Within the diversity of these theories, part of them serves to contribute to integrative negotiations. In

addition, electronic media helps eliminate negotiation tricks that may take place in face-to-face negotiations (Croson, 1999). The following overview of negotiation theories breaks the theories to reach the ones that serve integrative negotiations and contribute to building the integrative negotiation process model.

From General Negotiation Theories to Integrative Negotiation Theories: Lande (2017) illustrates that negotiation theory includes several theoretical perspectives. The work of researchers and practitioners from various disciplines, who developed the field and its associated aspects, reflects the existence of the multiple theories that explain it (Alfredson & Cungu, 2008). Negotiation theories could be prescriptive, descriptive, or normative in nature (Alfredson & Cungu, 2008). In line with Alfredson & Cungu (2008), Carnevale & Pruitt (1992) explain three perspectives that the interest in negotiation has emerged from. The first, which provides advice to negotiators, like international negotiators in forming good agreements; is the prescriptive one. The second, which explores how negotiators should behave where mathematical theorists and economists used game theory; is the normative approach. Moreover, the third in which theorists consider how negotiators actually behave is the behavioral perspective. Moreover, and in addition to the different theories that explain the negotiation, theorists differ on how to categorize these theories. Druckman (1997) divided these theories into four negotiation approaches: "negotiation as puzzle-solving, negotiations as a bargaining game, negotiation as organizational management and negotiation as diplomatic politics". While Raiffa (1982) categorized them around the dimensions of "symmetry-asymmetry and prescription-description". Another form of dividing negotiation theories is offered by Zartman (1988), which comprises five different approaches: "the structural, the strategic, the processual, the behavioral and the integrative approaches".

These approaches either have roots in different theories or form the foundation of different theories (Alfredson & Cungu, 2008). The structural approach is the theory where power is assumed as a central structural feature and the main determining mean in negotiations. It has its root in political theory. The strategic approach focuses on the ends rather than the means and negotiators are considered as rational decision-makers looking for a set of alternatives to maximize their own gains. It has its origins in mathematics, decision theory and rational choice theory. Strategic models are considered normative since they represent rational decision makers and search for the best solution in a negotiation. The strategic approach constitutes from negotiation theories such as game theory and critical risk theory. The integrative approach which frames negotiations as a win-win potential and parties give importance to information sharing and problem-solving has roots in international relations, political theory and social decision-making. Additional theoretical perspectives related to negotiation theory were presented by Lande (2017), including: identity theory, social interaction theory, field theory, human needs theory, rational choice theory, transformation theory and mutual gains theory. *Identity theory* "is a social psychological theory that attempts to understand identities, their sources in interaction and society.

Their processes of operation, and their consequences for interaction and society from a sociological perspective" (Burke & Stets, 2009). It thus shapes negotiators' behavior according to society. *Social interaction theory* assumes that "peoples' social behaviors are determined by the social pressures they encounter. Behavior is partly created in response to our surroundings, specifically our social groups" (Muscato, 2019). *Field theory* is "an approach to understanding group behavior by trying to map out the totality and complexity of the field in which the behavior takes place" (Sundberg, Winebarger, & Taplin, 2019). It focuses on pressure-producing psychological climates that affect negotiators' cognition and behavior. *Human needs theory* is a motivational theory in psychology developed by Maslow. It "illustrates the hierarchy of needs as a five-tier model often depicted as hierarchical levels within a pyramid. Needs lower down in the hierarchy must be satisfied before individuals can attend to needs higher up. From the bottom of the hierarchy upwards, the needs are: physiological, safety, love and belonging, esteem and self-actualization" (McLeod, 2018). Human needs theory asserts that every negotiator has biological and social needs driven by their emotions and values. *The rational choice theory* states "individuals rely on rational calculations and choose actions.

To achieve outcomes that are in line with their objectives and preferences. These decisions provide people with the greatest benefit or satisfaction given the choices available. It is used to model human decision making, especially in the context of microeconomics, where it helps economists better understand the behavior of a society in terms of individual actions as explained through rationality" (Amadae, 2016). Then,

the rational choice theory assumes that negotiators' behaviors reflect choices driven by desires to maximize gains and minimize losses. *Transformation theory* analyzes how problems and disputes are actually transforming in the process of conflict. *Mutual gains theory* "focuses on the creation of value for all parties by creating options that meet all parties' interests and by using objective criteria to fairly divide gains". Negotiation can be seen as a challenging task where information disclosure about negotiators and their preferences helps to create more alternatives, thus increases the benefits to all parties and creates better results and good relationships (Knudsen , 2007). Mutual gains theory develops from rational choice and human needs theories and assumes that negotiators will reach an agreement because of the belief that reaching an agreement is better than not reaching an agreement (Spangle & Isenhart, 2003).

Additional theoretical perspectives related to negotiation theory were presented by Lande (2017), including: "identity theory, social interaction theory, field theory, human needs theory, rational choice theory, transformation theory and mutual gains theory". Identity theory "is a social psychological theory that attempts to understand identities, their sources in interaction and society, their processes of operation, and their consequences for interaction and society from a sociological perspective" (Burke & Stets, 2009). It thus shapes negotiators' behavior according to society. Social interaction theory assumes that "peoples' social behaviors are determined by the social pressures they encounter. Behavior is partly created in response to our surroundings, specifically our social groups" (Muscato, 2019). Field theory is "an approach to understanding group behavior by trying to map out the totality and complexity of the field in which the behavior takes place" (Sundberg, Winebarger, & Taplin, 2019). It focuses on pressure-producing psychological climates that affect negotiators' cognition and behavior. Human needs theory is a motivational theory in psychology developed by Maslow. It "illustrates the hierarchy of needs as a five-tier model often depicted as hierarchical levels within a pyramid.

Needs lower down in the hierarchy must be satisfied before individuals can attend to needs higher up. From the bottom of the hierarchy upwards, the needs are: physiological, safety, love and belonging, esteem and self-actualization" (McLeod, 2018). Human needs theory asserts that every negotiator has biological and social needs driven by their emotions and values. Rational choice theory states "individuals rely on rational calculations and choose actions to achieve outcomes that are in line with their personal objectives and preferences. These decisions provide people with the greatest benefit or satisfaction given the choices available. It is used to model human decision making, especially in the context of microeconomics, where it helps economists better understand the behavior of a society in terms of individual actions as explained through rationality" (Amadae, 2016). Then, the rational choice theory assumes that negotiators' actions reflect decisions determined by wants to increase gains and decrease losses. Transformation theory analyzes how problems and disputes are actually transforming in the process of conflict. Mutual gains theory "focuses on the creation of value for all parties by creating options that meet all parties' interests and by using objective criteria to fairly divide gains".

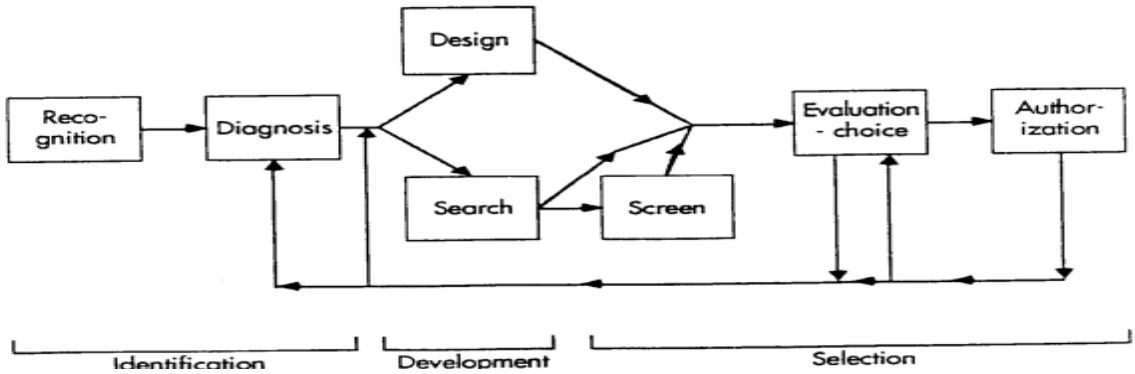
Negotiation can be seen as a challenging task where information disclosure about negotiators and their preferences helps to create more alternatives, thus increases the advantages to all individuals and creates improved consequences and good relationships (Knudsen , 2007). Mutual gains theory develops from rational choice and human needs theories and assumes that negotiators will reach an agreement because of the belief that reaching an agreement is better than not reaching an agreement (Spangle & Isenhart, 2003). Three main theories serve to build the automated integrative negotiation process model: Mutual gains theory, rational choice theory and decision theory. It is based on the idea of mutual gain and rational choice, in which negotiators cooperate to reach a win-win outcome. *Mutual gains theory* to create value and fairly divide gains so that both negotiating parties get satisfied with outcomes. And *rational choice theory* to rationally calculate and choose actions to achieve outcomes that are in line with the negotiators' objectives and preferences taking into consideration constraints present. Furthermore, *decision theory* helps to present a decision through a set of elements. The combined effect of these elements forms the outcome of a decision. Moreover, decision theory with mutual gains theory forms the negotiation process model that reflects the stages of the decision process. This process model ensures the development of a solution that is rational, fair and mutually satisfying.

Decision Theory: Decision Theory is a theory about decisions. It has developed through contributions from several academic disciplines (Hansson, 1994). There is a clear division between researches from the various disciplines in the study of decision theory. For example, a political scientist studies the voting rules in elections whereas a psychologist studies the behavior of individuals. Most decisions are not momentary. They take time, and therefore several models are developed to reflect the different stages of a decision process. Several authors suggested that the stages of the decision process are sequential, while others indicate that they are performed in parallel and a more realistic decision model should allow these stages to come in a different order (Mintzberg, Raisinghani, & Théorêt, 1976).

Stages of a Decision Process: The first general theory of the stages of a decision process was raised by the philosopher Condorcet (1743-1794). He split the decision process into three stages: (1) principles discussion as the first discussion, (2) detailed discussions and clarifications as to the second discussion, and (3) actual choice (resolution). Moreover, several sequential models contributed to modern decision theory. Dewey (1910) discussed that problem solving comprise five sequential stages: "(1) a felt difficulty, (2) the definition of the character of that difficulty, (3) suggestion of possible solutions, (4) evaluation of the suggestion, and (5) further observation and experiment leading to acceptance or rejection of the suggestion". Moreover, Herbert Simon (1960) adjusted Dewey's model to fit the circumstances of decisions in institutions. It consists of three principal stages: (1) intelligence, (2) design, and (3) choice. Another sequential model suggested by Brim et al. (1962) in which they split the decision process into five stages: "(1) identification of the problem, (2) obtaining necessary information, (3) production of possible solutions, (4) evaluation of such solutions, and (5) selection of a strategy for performance".

One of the most influential non-sequential models was suggested by Mintzberg, Raisinghani, and Théorêt (1976). They indicated that the decision process has separate stages but is not consecutive. They used the same stages of Herbert Simon but with different names: "(1) identification, (2) development, and (3) selection". The different phases comprise different routines. The identification phase has two routines, decision recognition in which the problem and alternatives are identified and the diagnosis in which present information channels and new ones are exploited to explain and state the issues. The development stage also comprises two routines. Search, which pursues to find ready-made solutions and design which develops new solutions modifies ready-made ones. Moreover, the selection phase consists of three routines. The screen routine in which suboptimal options are removed. The evaluation choice routine, which is the real choice between the alternatives. In addition, the last routine, authorization, where the solution selected is approved. The link between the phases and routines is circular rather than linear.

Figure 2: The Relationships between the Phases and Routines of a Decision Process, According to Mintzberg et al.



Source: Adapted from "The Structure of 'Unstructured' Decision Processes" by Mintzberg, 1976, Administrative Sciences Quarterly.

The three non-sequential phases suggested by Mintzberg, Raisinghani, & Théorêt (1976) are key phases in the model, developed in this thesis. However, the routines are not reflected and the tasks of the phases are updated in line with other negotiation theories adopted.

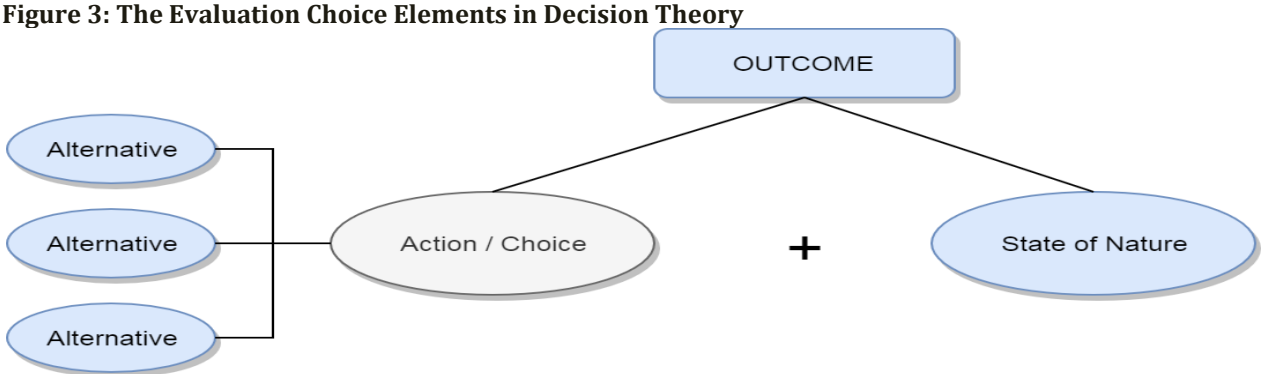
Representing the Decision Problem: A decision problem is expressed in a matrix format to reflect the multiple attributes contributing to the decision. The decision matrix consists of the valuations of the different alternatives according to the different criteria. Similarly, in decision theory, the evaluation-choice routine is represented in a matrix format. Decision theory uses the concepts *alternative*, *outcome*, and *state of nature*. Alternatives are options that are available to the decision-maker at the moment of the decision and from which he chooses. An outcome is the effect of the decision. The outcome relies on the decision maker's choice of an alternative and conditions outside of his power. Some of these conditions are recognized by the decision-maker, they are the background information he has. And others are unrecognized; they rely on how others behave and on characteristics of nature. Unknown factors are called "states of nature". Then, the potential outcomes of a decision are defined as "the combined effect of a chosen alternative and the state of nature that obtains". In a decision matrix, the alternatives available to the decision-maker are put in a table format with respect to the possible states of nature. The alternatives are resembled by the rows of the matrix, and the states of nature by the columns.

Table 1: Decision Matrix in Decision Theory

	State of Nature 1	**State of Nature 2**
Alternative 1	Outcome 1	Outcome 2
Alternative 2	Outcome 3	Outcome 4

Source: Done by the Author. For each alternative and each state of nature, the decision matrix assigns an outcome.

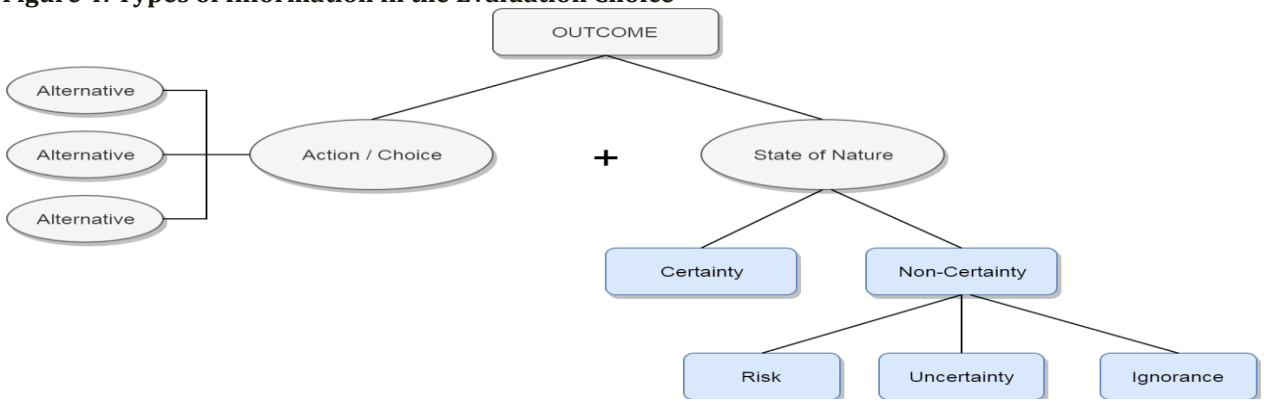
Figure 3: The Evaluation Choice Elements in Decision Theory



Source: Prepared by the Author according to Decision Theory

The notions of decision theory (i.e. alternative, outcome, and state of nature) that represent a decision are used in the thesis to symbolize the negotiation outcome as a result of the negotiators' choice from the different alternatives combined with the state of nature. In decision theory, there are different kinds of information about states of nature. When considering only one state of nature, the case will be decision making under "*certainty*". That is for each alternative, you know what will be the outcome. If not, then the case will be decision-making under *non-certainty.* Non-certainty is split into categories too: *risk*, *uncertainty*, and *ignorance*. Risk assumes that each action causes one set of potential outcomes, each outcome occurring with a specific probability. The probabilities are available to the decision-maker. While uncertainty assumes that the probabilities of outcomes are partially known. However, ignorance assumes that they are totally unknown.

Figure 4: Types of Information in the Evaluation Choice



Source: Prepared by the Author according to Decision Theory

Rational Choice Theory: Rational choice theory holds a variety of models that explain the outcomes of rational individual actions. Rational behavior is "the behavior that is suitable for the realization of specific goals, given the limitations imposed by the situation" (Wittek, 2013). An individual's rational choice is explained through *preferences*, *beliefs* and *constraints*. Preferences resemble "individuals' positive or negative evaluations of outcomes" (Wittek, 2013). Preferences might stem from several origins. They might range from flavors of foods and customs that are transferred through cultures to individual-specific practices. Beliefs are the "perceived cause-effect relations, including the perceived likelihood with which an individual's actions will result in different possible outcomes" (Wittek, 2013). For example, a union head believes that a strike would help employees reach their demands. While constraints are "the limits to the set of feasible actions" (Wittek, 2013). For example, a salesperson sells items at the price range set by the company to maintain the competitiveness of the product. The basis of the rational choice theory refers to key assumptions now known as neoclassical economics.

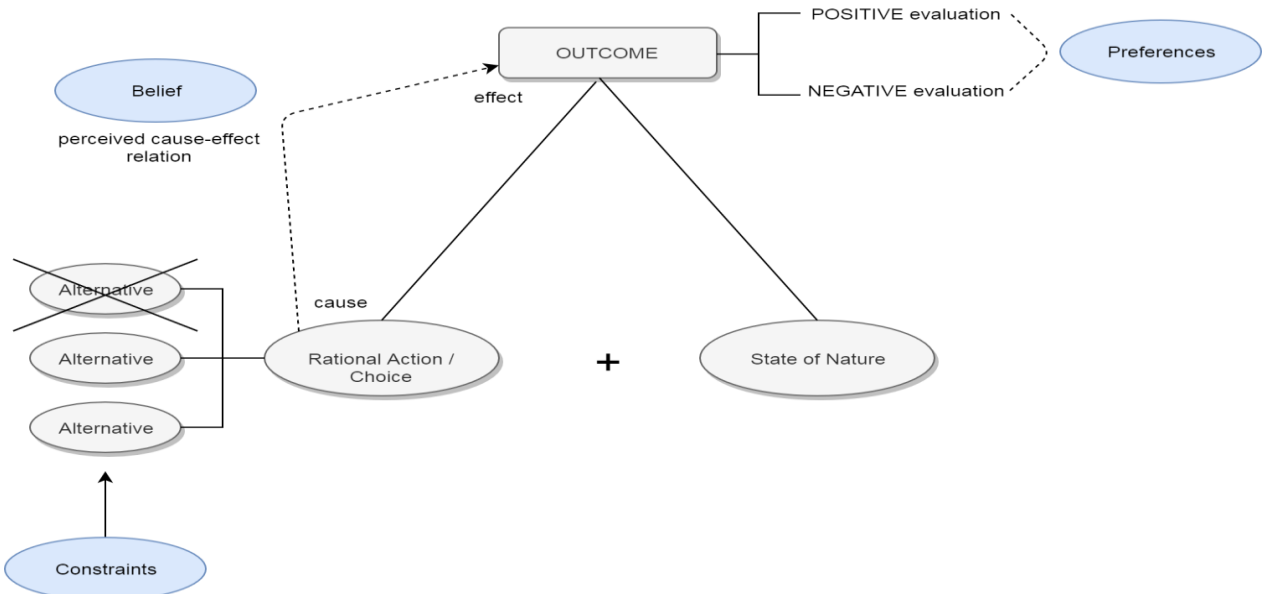
The first considers individuals as selfish having selfish preferences, the second assumes each individual maximizes his utility, and the third assumes them acting independently. These were criticized which then led to the birth of "behavioral economics", which attempted to develop a more realistic behavioral foundation of the theory. Therefore, the editions of rational choice theory depend on the degree of adherence to the strict principles of the neoclassical model. Rational choice interpretations come in "thin" strictly neoclassical, versus "thick" sociological versions, in which these specific beliefs are lenient. They vary on three dimensions: "(i) *the type of rationality*, (ii) *preference*, and (iii) *individualism"* assumptions (Wittek, 2013).

(i) Rationality ranges from *full rationality* to *bounded rationality* and *social rationality*. Full rationality, the "thin" version of rational choice theory related to neoclassical economics, specifies that people are totally aware of the available options, the likelihood of each of their outcomes, and their related effects. Moreover, it argues that individuals are able to perceive and manage this information with no cognitive restrictions. Individuals evaluate alternatives based on cost-benefit equations and select the "alternative" with the greatest expected utility. However, bounded rationality assumes that the amount and kind of information are limited. Individuals get satisfied with "good enough" solutions rather than maximizing utilities. Moreover, social rationality, the "thick" model of rational choice theory, specifies how behavior is guided, either by gain-maximization as in the full or bounded rationality models or by other processes such as education or automatic answers.

(ii) Preferences vary between the different models of the theory. "Thin" models assume that preferences are known and stable where individuals tend to maximize their material gain. However, "thick" models assume that individuals may be motivated by social preferences and care for the well-being of others. They seek psychological or social gains and not only material ones.

(iii) Individualism in all rational choice theory versions assumes that explanations of societal-level outcomes should be grounded in a micro-level behavioral theory of individual action. In the "thin" version, social structures are not relevant as restrictions on the action, however, in the "thick" versions, social and institutional embeddedness are considered as crucial conditions that influence individual decisions and behavior.

Figure 5: The Rational Evaluation Choice Elements integrated from Decision Theory and Rational Choice Theory



Source: Prepared by the Author according to Decision Theory and Rational Choice Theory

The factors that influence a rational choice set by rational choice theory (i.e. preferences, beliefs and constraints) contribute to identifying several variables in the model developed. Preferences serve to identify owns interests and the interests of others. While constraints serve to eliminate non-relevant or sub-optimal alternatives. Moreover, beliefs serve to form a probabilistic knowledge about the cause-effect relation between choice and outcome.

Mutual Gains Theory: The mutual gains approach (MGA) is a negotiation theory that is founded on the concept of value creation and then the fair distribution of this value based on objective criteria. This approach was well emphasized in the study of Howard Raiffa (1982), Roger Fisher and William Ury (1981). It suggests that negotiators should not be deceptive or aggressive to achieve their goals. Otherwise, they need to cooperate and contribute to the challenging process of value creation. MGA is a prescriptive process model that lays out four steps for negotiating better outcomes (Knudsen , 2007): "(i) *preparation*, (ii) *creating value*, (iii) *distributing value*, and (iv) *follow-through*".

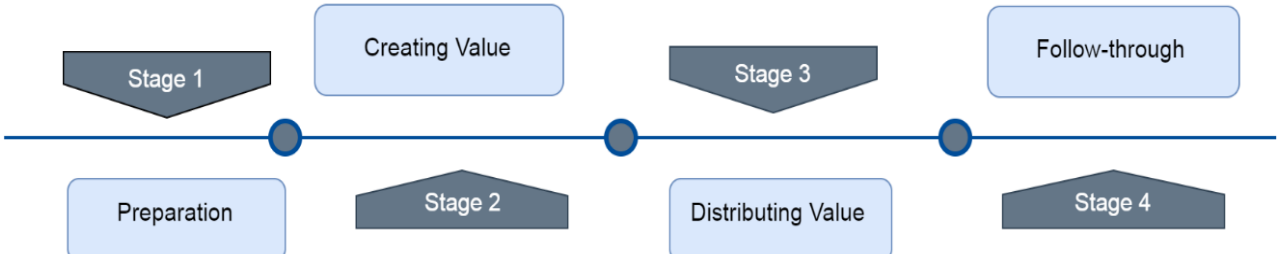
(i) Preparation is about realizing owns interests and collecting information about counterpart's interests. These serve as the base for exploring and creating options and thus being able to find a mutually beneficial solution that satisfies both parties.

(ii) Creating value entails looking for mutually beneficial options, either by exploring these options or by developing them. For the process of creating value to be efficient, assessing and judging the options is deferred and negotiators never commit to any. It is a stage of the invention and never a commitment, where the parties attempt to enlarge the pie.

(iii) Distributing value relies on finding objective criteria that satisfy both parties and justify the fair share of the value created. The more options are created at the previous stage the easier distributing value becomes. Finding objective criteria, believing in them and using them, improves agreements' stability and increases individuals' satisfaction. Moreover, it increases the chances of effective implementation and protects relationships.

(iv) Follow-through is about monitoring arrangements, which serve to reinforce the commitment to agreements. It is important to think of future challenges and solutions to them, but this might be difficult. Thus, monitoring commitments to agreements and regular communication preclude possible impediments and makes agreements robust.

Figure 6: The Negotiation Process Model in Mutual Gains Theory



Source: Prepared by the Author according to Mutual Gains Theory

The value creation and distribution phases in mutual gains theory are fundamental steps in the development of a win-win outcome. The two phases are combined with the phases of decision theory to formulate a process model that maintains both theories' merits. Decision theory provides a robust process model and mutual gains theory ensures they are implemented in a fair, objective manner to come up with a satisfying win-win solution.

4. Process Model Building

Although there is no agreement in negotiation research regarding the negotiation process and whether it follows a specific sequence of stages (Lande, 2017), negotiation and specifically electronic negotiation requires a "process model" and a "protocol" (Kersten & Lo, 2003). This process model should provide a structure to the negotiation through phases and activities assigned to them (Jennings, et al., 2001). Moreover, integrative negotiations entail specific tasks to create the desired win-win outcomes, which satisfy both negotiating parties. This negotiation process model is concluded and assembled from various models and theories that serve integrative negotiation approaches. The different theories share several similar phases, while they differ in others or the details of their activities. This model consists of five main phases.

Phase One "*Identification*": The negotiation process explained in decision theory and mutual gain theory initiates the negotiation by a planning phase. In decision theory termed as the "identification" phase, and in mutual gains theory as the "preparation phase". The model of this thesis uses the title "*Identification*" as in decision theory for the first phase of negotiation, but substitutes the two routines (recognition and diagnosis) of decision theory, with two activities from mutual gains theory: (i) *realizing own interests* and (ii) *collecting primary information about others interests*. However, instead of the regular collection of information about the opponent in the second activity, his utility model is attempted to be predicted. Therefore, the second activity of this phase would be (ii) *predicting the opponent's utility model*.

Phase Two "*Exchanging Offers*": The second phase of the model is "Exchanging Offers", which is selected from the Braun et al. model (2006). In Braun's model, exchanging offers allows negotiators to explore their counter parties' limitations so identifying areas of disagreement, compromises are realized, and solutions are restricted to efficient ones that are acceptable for both parties. These activities are shifted to different stages and are split between the subsequent phases. The main idea behind shifting these activities is the automation of the negotiation process. In a DSS like the one developed in this thesis, there exist, two main players, the negotiator and the negotiation agent, which is software that works behind the scenes and aids the negotiator in the negotiation procedure. Exploring counter parties' interests, identifying disagreement and restricting solutions to efficient ones are all tasks of the negotiation agent that are to be automated and optimized. Exchanging offers in this model is just about offering and counter offering, trying to reach an optimal solution.

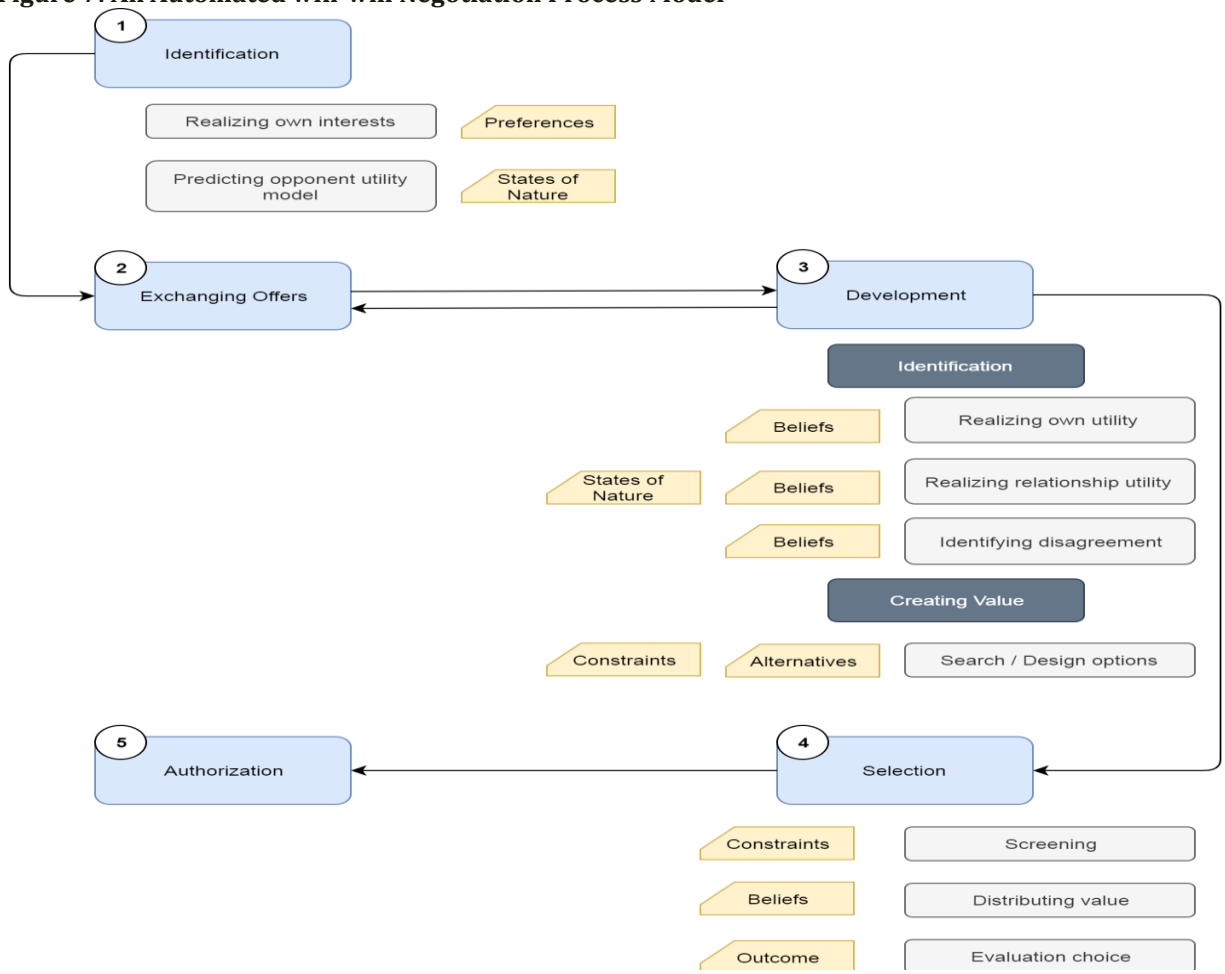
Phase Three "*Development*": The third phase of the model is one of the key phases. It is the "Development" phase. It consists of two main activities and several sub-activities within. The first activity is the "Identification" which is about (i) realizing own utility, (ii) realizing relationship utility and (iii) identifying disagreement. After receiving an offer, the negotiator assesses it, checks its profitability and values the relationship with the opponent. The second activity is "Creating Value" which is about (i) exploring or searching options and developing or designing new ones. The title of the development phase is from decision theory. The identification activity is the same essence as the first phase with some amendments where realizing relationship utility is developed under this thesis in an attempt of an adjustment to utility measurement. Moreover, the sub-activity identifying disagreement is adopted from Braun's et al. model and shifted from the exchanging offers phase to this phase. Moreover, creating value activity is adopted from mutual gains theory that contributes to the formation of a win-win solution. In this activity, an opponent negotiator receives an assessment of his previous offer, and accordingly creates a new offer attempting to reach the desired win-win outcome.

Phase four "*Selection*": The fourth phase of the model is the "*Selection*" phase. It is adopted from decision theory. The implementation of the phase is a combination of decision theory and mutual gains theory. It holds three activities, (i) *screening*, which is about eliminating suboptimal alternatives, (ii) *distributing value*, which is about finding objective criteria for option selection and gain splitting and (iii) *evaluation choice*, which is the real selection between the alternatives. Screening and evaluation choice are adopted from decision theory and distributing value is adopted from mutual gains theory.

Phase Five "*Authorization*": The last phase is about "Authorization". It is about approving the solution selected where both negotiating parties are satisfied and the solution is an optimal win-win solution that approves the hypothesis of the thesis. It is adopted from decision theory and shifted from the selection phase.

Synthesizing the Negotiation Process Model: Integrative negotiations, which aim to create win-win outcomes, use objective criteria, seek designing solutions of mutual gain, and give importance to exchanging information and group problem-solving. This model specifies the negotiation process in a set of phases and components that reflect the aim of integrative negotiations and building win-win outcomes. While the outcome, which is the effect of the decision is the result of the choice evaluation in the selection phase. In the development of the negotiation process model, decision theory with mutual gains theory provides a robust process model through several phases and rational choice theory with mutual gains theory ensures they are implemented in a fair, objective manner to come up with a satisfying win-win solution. Consequently, the relationship between the different variables is deduced from the negotiation theories, in a negotiation to come up with a win-win outcome, negotiators determine their *preferences* and counterparties collect information about *states of nature*. Then *alternatives* are designed along with the *constraints* formed from preferences and states of nature. The theories are used to complement each other to synthesize a negotiation process model that is used in integrative negotiations and leads to creating win-win outcomes. It consists of five phases with several activities and sub-activities that can be summarized as follows: Identification, Exchanging Offers, Development, Selection and Authorization.

Figure 7: An Automated win-win Negotiation Process Model



Source: Developed by the Author

The theories followed set several variables either to symbolize a negotiation outcome and reflect what composes it, or to determine a decision and how it is structured. Preferences, beliefs and constraints are variables from the rational choice theory that help to explain outcomes of rational individual actions (Wittek, 2013). Preferences that resemble "individuals' positive or negative evaluations of outcomes" (Wittek, 2013) are to be determined in the first negotiation phase of the model developed i.e. the identification phase. While beliefs which refer to "perceived cause-effect relations, including the perceived likelihood with which an individual's actions will result in different possible outcomes" (Wittek, 2013), are to be determined and used in the development phase in realizing own utility and relationship utility and in identifying disagreement as well as in the selection phase in distributing value. Furthermore, constraints which are "the limits to the set of feasible actions" (Wittek, 2013) are to be used in the development phase.

While searching and designing options and in the selection phase in screening. In addition, decision theory states some concepts to represent a decision. It uses alternatives, outcomes and state of nature. Alternatives, which are groups of options present to the decision-maker at the moment of the decision and from which he chooses, are to be specified in the development phase in creating value. The states of nature, which are the factors outside of the decision-maker's control and are unknown to him, are to be determined in the identification and development phases while predicting the counter parts' utility model and then assessing relationship utility. Finally, *beliefs* drive choice to a desirable *outcome*. The process model serves to create win-win negotiation outcomes through its defined phases and components that reflect integrative negotiation approaches, through identifying negotiators' needs, identifying disagreement, creating value through designing and searching for alternatives, and distributing value.

5. Results and Discussion

Negotiation research diverges regarding the negotiation processes whether they are defined and structured or not. However, electronic negotiation requires a "process model" and a "protocol" (Kersten & Lo, 2003) to be able to implement and run the process. Braun et al. (2006) process model defines and organizes a process model for negotiation phases. However, this model is generic and applies to all negotiation approaches. The fact that the integrative negotiation approach gains clear advantages over the other approaches in which the outcome reached is win-win and satisfying for both negotiating parties entails building a different negotiation process model. A process model that is more specific and adheres to the integrative approach principles so that outcomes reached are mutually profitable as the approach aims. The negotiation process model proposed in this paper implements the integrative negotiation approach principles through its phases and activities. It starts with the "Identification" phase in which negotiators exchange information, which is a principle in integrative negotiations that leads to transparency. Then in the "Development" phase, identifying disagreement and then creating value through searching and designing options is another aspect of integrative approaches. Furthermore, in the "Selection" phase, offers are assessed and value is distributed among the negotiators in an objective manner, which along with the "Development" phase leads to a win-win outcome. The phases and the principles integrated into them serve to create negotiation alternatives and enlarge the value that is evaluated and distributed in an objective manner. Therefore, the automated negotiation process model as a whole eliminates subjectivity, manages the negotiation process in a cooperative manner and designs the negotiation outcome objectively and mutually satisfying the parties engaged in which both gains are considered.

Conclusion

With the advancement of technology, automated negotiation gained clear advantages whether in trade, economic or political aspects. This paper develops an automated negotiation process model for integrative negotiations in which the negotiators aim to reach mutually satisfying win-win outcomes. It defines the phase and sub-phases that constitute the model. Furthermore, it determines the components of the phases, which help analyze the negotiation situation and create the solution. Among all negotiation theories, three main theories contribute to building the process model specific to integrative negotiations: Decision Theory, Rational Choice Theory and Mutual Gains Theory. The theories share several similar phases, while they differ in others or the details of their activities. In the developed model, decision theory with mutual gains theory provides the robust process model through several phases, and rational choice theory with mutual gains theory ensures they are implemented in a fair, objective manner to come up with a satisfying win-win solution. The foundation of the negotiation process model contributes to the development of the negotiation field in which no previous models are found for automated integrative negotiations. As electronic negotiation gained clear advantages and integrative negotiation approaches outperform the other approaches, then building a negotiation process model that is automated and adheres to the integrative approach principles is considered a step forward.

References

Alfredson, T. & Cungu, A. (2008). Negotiation Theory and Practice: A Review of the Literature. FAO.

Amadae, S. M. (2016). Rational Choice Theory. From Britannica: https://www.britannica.com/topic/rational-choice-theory

Arunachalam, V. & Dilla, W. N. (1995). Judgment Accuracy and Outcomes of Negotiation: A Causal Modeling Analysis of Decision-aiding Effects. *Organizational Behavior and Human Decision Processes*, 61, 289–304.

Braun, P., Brzostowski, J., Kersten, G., Kim, J. B., Kowalczyk, R., Strecker, S. & Vahidov, R. (2006). e-Negotiation Systems and Software Agents: Methods, Models, and Applications. Intelligent Decision-making Support Systems, 271-300.

Burke, P. J. & Stets, J. E. (2009). Identity Theory. New York: Oxford University Press. From Oxford Scholarship Online.

Carmel, E., Herniter, B. C. & Nunamaker, J. F. (1993). Labor-management Contract Negotiations in an Electronic Meeting Room: A Case Study. *Group Decision and Negotiation*, 2, 27–60.

Carnevale, P. J. & Pruitt, D. G. (1992). Negotiation and Mediation. *Annual Review of Psychology*, 43, 531-582.

Croson, R. T. (1999). Look at Me When You Say That: An Electronic Negotiation Simulation. *Simulation and Gaming*, 30, 23-37.

de Callieres, F. (1983). On the Manner of Negotiating with Princes. Paris, France: University of Notre Dame Press.

de Felice, F. B. (1975). Negotiations, or the Art of Negotiating. New York: Doubleday Anchor.

Drolet, A. L. & Morris, M. W. (2000). Rapport in Conflict Resolution: Accounting for How Face-to-Face Contact Fosters Mutual Cooperation in Mixed-Motive Conflicts. *Journal of Experimental Social Psychology*, 36, 26-50.

Druckman, D. (1997). Negotiating in the International Context, in Peacemaking in International Conflict: Methods and Techniques. Washington DC: United States Institute of Peace Press, 81-124.

Festinger, L. (1957). A Theory of Cognitive Dissonance. New York: Row Peterson.

Fisher, R. & Ury, W. (1981). Getting to Yes. United Kingdom: Penguin Group.

Fisher, R., Ury, W. & Patton, B. (1991). Getting to Yes: Negotiating Agreement Without Giving In. Revised 2nd edition. New York, USA: Penguin Books.

Gifford, D. G. (2007). Legal Negotiation: Theory and Practice. St. Paul, MN: Thomson/West.

Gulliver, P. H. (1979). Disputes and Negotiations: A Cross-cultural Perspective. New York: Academic Press.

Hansson, S. O. (1994). Decision Theory. Stockholm: Royal Institute of Technology.

Jennings, N. R., Faratin, P., Lomuscio, A. R., Parsons, S., Wooldridge, M. J. & Sierra, C. (2001). Automated Negotiations: Prospects, Methods and Challenges. *Group Decision and Negotiation*, 10(2), 199-215.

Kersten, G. E. & Lo, G. (2003). Aspire: Integration of Negotiation Support System and Software Agents for E-Business Negotiation. *International Journal of Internet and Enterprise Management*, 1(3), 293-315.

Knudsen, L. K. (2007). Trust and Mutual Gains Approach: Negotiations Between Westerners and Chinese. Bergen: Norwegian School of Economics and Business Administration.

Lande, J. (2017). Taming the Jungle of Negotiation Theories. The Negotiator's Desk Reference, Research Paper No. 2017-29.

Lewicki, R. J., Barry, B., Saunders, D. M. & John, M. W. (2003). Negotiation, 4th edition. Irwin: McGraw-Hill.

Lewicki, R. J., Saunders, D. M. & Barry, B. (2015). Negotiation. New York, NY: McGraw-Hill Education.

McLeod, S. (2018). Maslow's Hierarchy of Needs. From Simply Psychology: https://www.simplypsychology.org/maslow.html

Mintzberg, Raisinghani, D. & Théorêt, A. (1976). The Structure of 'Unstructured' Decision Processes. *Administrative Sciences Quarterly*, 21, 246-275.

Muscato, C. (2019). Social Interaction Theory, Social Roles & the Presentation of Self. From Study.com: https://study.com/academy/lesson/social-interaction-theory-social-roles-the-presentation-of-self.html

Nash, J. F. (1950). The Bargaining Problem. *Econometrica*, 18(2), 155-62.

Raiffa, H. (1982). The Art and Science of Negotiations. Belknap Press of Harvard University Press Cambridge.

Rapoport, A. (1966). Two-person Game Theory. Ann Arbor: University of Michigan Press.

Spangle, M. L. & Isenhart, M. W. (2003). Negotiation: Communication for Diverse Settings. CA: SAGE Publications, Inc.

Sundberg, N. D., Winebarger, A. A. & Taplin, J. R. (2019). Clinical Psychology: Evolving Theory, Practice, and Research (4th Edition). United States: Pearson. From KB Manage: https://www.kbmanage.com/concept/field-theory

Wittek, R. (2013). Rational Choice Theory. In R. L. Warms, & J. R. McGee, Theory in Social and Cultural Anthropology - An Encyclopedia (p. 1056). USA: SAGE Publications, Inc.

Zartman, I. (1988). Common Elements in the Analysis of the Negotiation Process. *Negotiation Journal*, 4, 31-43.

Zartman, W. (1975). Negotiations: Theory and Reality. *Journal of International Affairs*, 29, 69-77.

Information Management and Business Review (IMBR)
Vol. 13, No. 1, March 2021 (ISSN 2220-3796)

The Effect of Leadership Styles on Employee's Productivity in the Nigerian Oil and Gas Industry

Adegboyega Olayisade[1] & Olawumi D. Awolusi[2]
[1]University of Roehampton, London, UK
[2]Department of Accounting and Finance, College of Economics and Management, Kampala International University, Kampala, Uganda
adegboyega.olayisade@roehampton-online.ac.uk, awolusi.olawumi@kiu.ac.ug

Abstract: The purpose of this study is to examine the effect of leadership style on employee productivity in the Nigerian oil and gas industry using Chevron Nigeria Limited as a case study. The study used a five-point Likert scale questionnaire consisting of forty questions covering autocratic, democratic, bureaucratic, laissez-faire, transactional, charismatic leadership styles and employee productivity variables. The questionnaire was deployed to one hundred and twenty-five respondents (125) and received ninety-three (93) valid responses. Statistical Package for the Social Sciences (SPSS) was used to analyze respondent responses. Demographic analysis, normality test, homoscedasticity, multicollinearity, reliability test (Cronbach's Alpha) were presented; results affirm the validity and reliability of research findings. The results of the descriptive and regression analysis indicate that the autocratic leadership style is the most predominant leadership style in the Nigerian Oil and Gas followed by laissez-faire, bureaucratic, transactional, democratic and charismatic leadership styles. The study concludes that leadership styles significantly influence employee productivity albeit different leadership styles have varying effects on employee productivity and varying leadership styles can co-exist within the same organization. The study highlighted various policy implications and recommendations**.** This study adds to the existing literature on leadership practice and is intended to be a reference point to scholars and researchers for further studies on leadership practices in the oil and gas industry.

Keywords: *Leadership style, employee productivity, regression analysis, Oil and Gas industry, Nigerian.*

1. Introduction

Leaders and leadership practice have been in existence since the onset of mankind. Man is a complex social being that can be simplistically categorized into two groups namely leaders and followers. The successes recorded by most human endeavors can be attributed to leadership quality (Matira & Awolusi, 2020). Over the years, various scholars have studied the concept of leadership with the aim of understanding and improving the inherent benefits of effective leadership; these studies have given rise to several definitions of leadership (Blazi & Awolusi, 2020; Matira & Awolusi, 2020; Mukonga & Awolusi, 2019; Olatunji & Awolusi, 2019). One of the most popular definitions of leadership states that "leadership is the art of getting things done through people". While there are several and sometimes conflicting theories on leadership, what is immutable is that leaders inspire their followers and direct their actions towards the attainment of a set goal. The practice of leadership has evolved considerably over time and the need for leaders and leadership has witnessed a significant upswing over the years. Historically, leaders were simplistically selected based on lineage, wealth or by exhibiting distinguishing acts of velour. It was believed at that time that such individuals possessed innate talents and attributes that set them apart from others and conferred upon them the right to be leaders. This natural leadership selection process was the premise of the Great man theory (Matira & Awolusi, 2020).

The great man theory suggests that leaders and leadership potential are inborn and that leaders are born and not made. Possession of certain innate characteristics identifies an individual for leadership positions while the lack of such almost certainly guarantees the individual's exclusion from leadership roles. Great leaders like Martin Luther King, Julius Caesar, Malcolm X, Muhammadu Buhari and others further contributed to the belief that great leaders are born and not made. These leaders were perceived to differ from the populace in that they possessed personal attributes that made them effective leaders. In earlier times, leadership was the sole preserve of the male gender and this influenced the naming of this theory as the great man theory however with the resurgence of several great female leaders this theory was later recognized as the great person theory. The varying successes and failures of several leaders resulted in an increased interest in the study of leadership practice, the common attributes that differentiate a successful leader from an

unsuccessful leader and a deeper understanding of leadership and leadership practice. Further studies and research resulted in a shift in paradigm from the great man/great person leadership theory to the trait approach to leadership. Prompted by the great man theory of leadership, and the emerging interest in understanding what leadership is, researchers focused on the leader.

Who is a leader? What are the distinguishing characteristics of great and effective leaders? This gave rise to the early research efforts on the trait approach to leadership (Matira & Awolusi, 2020; Mukonga & Awolusi, 2019). The trait theory is premised on identifying and studying different personality traits and characteristics exhibited by successful leaders in diverse situations to develop similar traits and characteristics in others. By seeking to identify and understand traits and characteristics of successful leaders, the trait theory postulates that certain innate traits are common to leaders and that these traits are consistent across different situations; it assumes that people in leadership positions exhibit a higher degree of leadership traits than their followers. Over the years, there has been considerable academic study and research into leadership and leadership practice and behavior resulting in several other leadership theories and counter theories like the behavioral theory, participative theory, situational theory, functional theory, contingency theory, transactional leadership theory, authentic leadership theory and transformational leadership theory. Leadership and the choice of leadership style utilized have been thought to influence employee outcomes.

This is evident in the amount of resources organizations commit to developing leadership potential and employing personnel with requisite leadership potential in a bid to ensure competitive advantage is achieved in the area of employee productivity. Leadership practice and style impacts employee's performance by promoting "a climate that would influence employees' attitudes, motivation, and behavior" (Aldoory & Toth, 2004 cited in Aunga & Masare, 2017); this, in turn, impacts organizational success. Chevron Nigeria Limited is a company that attributes its success to its workforce and its commitment to get results the right way (Chevron, 2018). According to the company's 2017 corporate responsibility highlights, the company recognizes "the value of leadership as a critical success factor in achieving operational excellence results" (Chevron, 2018). A key facet of the company's enterprise strategies is investing in its workforce to develop and empower a highly competent workforce. The company's commitment to personnel development and leadership quality stems from its understanding of the importance of leadership. The company currently has several processes such as training, workshops and a performance management process in place to ensure persons in leadership positions exhibit leadership behaviors/styles that maximize employee productivity.

Activities in the Nigerian oil and gas industry are highly regulated due to the sector's significant contribution to the country. Employee and industrial issues are highly influenced by the actions of the two dominant trade unions namely NUPENG (Nigeria Union of Petroleum and Natural Gas Workers) and PENGASSAN (Petroleum and Natural Gas Senior Staff Association of Nigeria). These trade unions play a significant mediating role during salary negotiations and review, appraisals, promotions and disciplinary actions. This has resulted in the industry being one of the most attractive places to work due to its generous remuneration package which has made it one of the highest paying industries in the country (Onuoha, 2017). The attractive remuneration prevalent in the Nigerian oil and gas industry has enabled organizations within the sector to attract and retain the best the Nigerian labor market has to offer and in fact, the industry attracts highly qualified personnel from all over the world. While the presence of one of the most attractive salaries and remuneration packages enables organizations to attract and recruit an optimal workforce it is not an effective tool to sustain and motivate employee productivity outside the short term especially when career progression and salary increments are mainly in the domain of the trade unions.

This observation is supported by the study of Kohn (1993) whose review of several studies over the last three decades revealed that reward systems provide a temporary, short-lived incentive to motivate employee productivity. Understanding and identifying the predominant leadership styles and how it influences employee productivity is valuable to the development of existing and potential leaders charged with the responsibility of utilizing organizational resources (especially its human capital) to achieve organizational goals and objectives. There are several studies in existence that conclude that leadership and leadership styles greatly influence employee morale (Rego et al., 2012, Singh 2015) however there is a gap in the existing literature on how leadership styles affect employee productivity in the Nigerian oil and gas industry. In response to this gap, this study investigates the effect various leadership styles have on employee

productivity in the Nigerian oil and gas industry using Chevron Nigeria limited as a case study. The choice of this research topic is influenced by the researcher's personal experience working in the Nigerian upstream oil and gas industry and the industry's peculiar situation on wage, reward and employment termination being influenced and determined by external parties (i.e. the trade unions) which have eroded the value of reward and employment termination as (employee) incentive schemes.

Consequently, the primary objective of this study is to examine the effect of leadership styles on employee's productivity in the Nigerian oil and gas industry. However, the specific objectives are as follows:

- To examine the effect of autocratic leadership styles on employee's productivity in the Nigerian oil and gas industry.
- To examine the effect of Participative Leadership styles on employee's productivity in the Nigerian oil and gas industry.
- To examine the effect of Bureaucratic Leadership style on employee's productivity in the Nigerian oil and gas industry.
- To examine the effect of Laissez-Faire Leadership style on employee's productivity in the Nigerian oil and gas industry.
- To examine the effect of Transactional Leadership style on employee's productivity in the Nigerian oil and gas industry.
- To examine the effect of Charismatic Leadership style on employee's productivity in the Nigerian oil and gas industry.

The creation and/or selection of research questions is a crucial aspect of research work as it influences the researchers' choice of research methodology, data collection, analysis and presentation (Ajayi 2001:24). Research questions guide and focus the research by asking questions that result in the development of a credible research thesis. To achieve the objectives of this study, the following questions will guide this study:

- What is the relationship between autocratic leadership styles and employee's productivity in the Nigerian oil and gas industry?
- What is the relationship between participative Leadership styles and employee's productivity in the Nigerian oil and gas industry?
- What is the relationship between bureaucratic Leadership style and employee's productivity in the Nigerian oil and gas industry?
- What is the relationship between Laissez-Faire Leadership style and employee's productivity in the Nigerian oil and gas industry?
- What is the relationship between transactional Leadership style and employee's productivity in the Nigerian oil and gas industry?
- What is the relationship between the charismatic Leadership style and employee's productivity in the Nigerian oil and gas industry?

The present study aims to improve employee productivity through leadership practice. It also seeks to examine the relationship between various leadership styles and employee productivity. Lessons learned from this study can help organizations understand their leadership styles and make adjustments, where necessary to maximize employee productivity; this is especially important to the Nigerian oil and gas industry in improving employee productivity outside of the traditional use of wage increments. The researcher hopes that the findings of this study will assist Chevron Nigeria Limited as well as other organizations in the oil and gas industry to develop training programs that will improve the leadership qualities required to impact employee productivity, recruit individuals with requisite leadership potential to ensure organizational growth as we as to enable the organization's management to identify the most appropriate leadership to optimize employee productivity. This study also seeks to contribute to the existing literature on leadership practice and be a reference point to scholars and researchers for further studies on leadership practice and other related subject matters.

2. Review of Related Literature

Conceptual Reviews: In today's fast-paced, dynamic and complex business environment, leaders need to be able to adapt and adopt a gamut of leadership styles required to effectively manage their followers based on the prevailing situation and organizational needs and objectives. There are several types of leadership styles available within an organizational context. Each style has its pro and cons and no single leadership style is better than the other. Leaders should be prepared to use more than one leadership style in their quest to influence their followers to achieve an objective. This had been dubbed as the Hawthorne effect. The choice of leadership style is influenced by several factors such as the prevailing situation, organizational culture, the desired objective/goal, individual preference as well as team dynamics.

Autocratic Leadership: Autocratic leadership is one of the oldest leadership styles in existence. This style is task-centered and focuses on getting tasks done. Power is concentrated in the hands of the leader who makes all the decisions, provides direction and assigns the task to subordinates (Kagwiria, 2016). Autocratic leaders are charismatic and self-assured individuals who typically do not require validation from their followers. "Autocratic leaders use their position to pursue aggressive and visionary goals and their power through organization culture, press and media to praise their initial success" (Men & Stacks, 2013). The autocratic leadership style is best suited to situations where the leader possesses expert knowledge (e.g. an experienced surgeon leading medical interns) or where the leader is an authority figure whose authority is unalloyed (e.g. a superior officer in the army). The main advantage of the autocratic leadership style is that tasks get completed quickly and it ensures the supremacy of the leader. However, if improperly utilized followers may become disgruntled and this may impact organizational results.

Participative Leadership: This leadership style also known as the democratic leadership style is almost directly opposite of the autocratic leadership style. The participative leadership style focuses on collaboration between the leader and the followers; information is shared with the followers who participate in decision making, however, the lender retains the prerogative on the use and adoption of inputs from followers. Participative leadership encourages innovation and creativity by giving every member of the organization/team the ability to provide input into decision making which results in easy adoption and utilization of decisions taken (Dalluay & Jalagat, 2016; Ispas, 2012; Iqbal et al., 2015; Mulki et al., 2015). This leadership style is most suited to organizations that thrive on innovation and creativity; these organizations consist of teams comprising of members with unique perspectives and skillsets (e.g. construction project team). While this leadership style encourages creativity, improved decision making and team cohesion, it is not appropriate when working with large teams or where urgent decisions need to be made.

Bureaucratic Leadership: This leadership style is premised on organizational structure and hierarchy. The leader's authority and acceptability stem from the position held within the organization. This type of leadership is based on formalized hierarchical leadership structures; leadership authority, scope and practice are all founded within the organizational construct. This leadership style is best suited to organizations such as banks, hospitals, professional services firms, etc. where a certain level of control, checks and balances is required to moderate leadership actions and behavior to militate against tyrannical leadership and abuse of power. This style is also effective where employees carry out routine jobs. The restrictive, static nature of the bureaucratic leadership style is one of its major failures. Employees often get demotivated by the difficulty in communicating their thoughts and suggestions up the chain of command. The lack of innovation and leadership adaptation to situations oftentimes makes the leader redundant and leads to a demotivational workforce (Gastil, 2012).

Laissez-Faire Leadership: Laissez-faire is a French word that describes the policy of leaving things to take their course, without interfering. This leadership style (also known as delegative leadership) is predominant in organizations/teams consisting of highly experienced personnel and is characterized by minimal leadership involvement. Laissez-faire leaders exercise minimal control over their employees; once employees have been provided with the necessary tools and resources to complete assigned tasks they are left alone to resolve issues on their own (Chowdhury, 2014). This leadership style is beneficial in creative environments as it encourages employee innovation and creativity which leads to improved job satisfaction. Laissez-faire leadership is not ideal in situations where group members lack the knowledge or experience they need to

complete tasks and make decisions to the lack of supervision, mentorship, feedback and organizational structure often results in inefficient utilization of resources, failure to meet deadlines and failure to achieve desired objectives (Egri, 2011 cited in Kagwiria, 2016).

Transactional Leadership: Transactional leadership style focuses on establishing roles and responsibilities and using a system of reward and punishment to motivate followers. Transactional leaders are result-driven and achieve their objectives through close monitoring of subordinates, interventions, rewarding desired behaviors and outcomes while punishing undesirable behaviors (Chowdhury, 2014). Transactional leadership is based on two main concepts namely contingent reward and management by exception. Contingent reward occurs where the leader provides a reward to the follower for exhibiting (previously agreed) behaviors and/or achieving a pre-agreed objective. The reward comes in various forms and could be financial, psychological, or materialistic. Management by exception, on the other hand, refers to a leadership style that is exception-based. The leader only intervenes when followers deviate from acceptable performance/behaviors and introduce remedial action to ensure desired outcomes are achieved.

Charismatic Leadership: This leadership style focuses on influencing followers through the leader's personality traits and behavior. Charismatic leaders use their unique personality and communication style to inspire and win the admiration of their followers; this results in a high level of commitment to the leader's cause and improved follower productivity. Charismatic leaders possess a high level of emotional intelligence, are very self-assured and have a high level of commitment to organizational objectives. They possess and use their ability to project their enthusiasm and commitment to their followers to motivate them to achieve desired objectives. The downside to charismatic leadership is that the success of the organization is linked to the presence of the leader. If the leader decides to leave the organization, it may lead to demotivation among the employees and this may require substantial efforts by the organization to remediate. This study seeks to identify the various leadership styles prevalent in Chevron Nigeria Limited and determine the effect leadership styles have on employee productivity.

Theoretical Reviews: This study was guided by the following leadership theories; participative, path-goal, situational and transformational leadership theory:

Participative Theory: The participative leadership theory is premised on a leadership style that encourages input, contributions and participation from employees and team members. The theory's roots can be traced back to the early 1930s when the results of an experiment conducted at the Hawthorne Works in Illinois, US, were analyzed by Elton Mayo and others. The experiment was aimed at finding ways to improve factory productivity, although the findings related more to motivation. The findings relating to participatory leadership saw light in the 1950s when researcher Henry A. Landsberger examined the original experiments led by Mayo. Landsberger found that workers' productivity increased during participation in the experiment because they were being observed. This had been dubbed as the Hawthorne effect. According to Crane, the experiments show that when employees feel supported through observation and participation, they are more satisfied and therefore productivity increases. Participative leaders provide pertinent information to subordinates and encourage feedback and contributions to facilitate decision-making. Participative leadership results in increased stakeholder participation, collaboration and commitment; this oftentimes results in improved decision making, easy adoption and implementation of decisions taken (Dalluay & Jalagat, 2016; Ispas, 2012; Iqbal et al., 2015; Mulki et al., 2015). Antagonists of this theory are quick to point out that it utilizes more resources, requires more time to arrive at decisions and is susceptible to bias when the leader is presented with a wide range of alternatives. Participative leadership thrives in organizations with low power distance culture hence its popularity in the United States and other Western-influenced organizations.

Path-Goal Theory: The Path-Goal leadership theory is based on the Vroom expectancy theory in which an individual will act in a certain way based on the expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual. The path-goal theory was developed by Martin Evans in his 1970 paper, "The effects of Supervisory Behavior on the Path-Goal Relationship" and was refined by Robert House in his 1971 paper, "A Path-Goal Theory of Leader Effectiveness". According to House (1971) & Malik (2013), "the theory is based on specifying a leader's style or behavior that best fits the employee and work environment to achieve a goal". Simplistically, this theory can be explained as that leadership style

whereby a leader exhibits certain contextual behaviors that align the follower's goals with the organization's goals and direct the followers to choose the best paths to achieve these goals (Malik, 2013). The goal of this leadership style is the improvement of employee productivity by focusing on employee satisfaction and motivation. "The Path-Goal theory posits that leaders may not only use varying behaviors with different subordinates but might use different behaviors with same subordinates in different situations" (Richard et al., 2012 cited in Malik, 2013). The theory posits that leaders may use different behaviors with the subordinates in a similar situation and/or employ varying behaviors with the same subordinate in different situations. Path-goal theory suggests that depending upon subordinates, and situations, different leadership behaviors will increase acceptance of leader by subordinates; level of satisfaction; and motivation to improved performance.

Situational Theory: Situational leadership theory is a contingency theory whereby leadership is fluid and varied; the leader adopts a leadership style that best suits the existing situation or circumstance. Different situations and employees may require different leadership styles e.g. a democratic leadership style is best suited when employee input and participation is required (say for example a new leader might need the inputs of his more experienced team in resolving a situation) while an autocratic leadership style might be required in an organization or team with high power distance culture (e.g. a newly promoted general in the army). Leadership effectiveness under the situational leadership theory is dependent on leadership behavior, follower readiness and leader-follower match (Luo & Liu, 2014; Graham & Trendafilova, 2016).

Leadership Behavior: Supportive (relationship) behavior and directive (task) behavior are the two main leadership behaviors under situational leadership. Supportive behavior involves the leader taking more of a support role by seeking subordinates' ideas and contributions and ensuring subordinates feel included in the decision-making process while directive behavior is more task-oriented and involves supervision, providing direction, using one-way communication and walk-throughs to set and clarify how objectives should be achieved.

Follower Readiness: Follower readiness as the name implies is the measure of the responsiveness of a subordinate to his leader. The major influencing factors of follower readiness are ability and willingness. Ability is concerned with the competence of the subordinate to successfully execute assigned tasks while willingness is the degree of readiness to perform assigned tasks (Graham & Trendafilova, 2016).

Leader-Follower Match: Leader-follower match is the focal point of situational leadership theory and is concerned with the leader's adoption of a leadership style most appropriate for the prevailing situation after taking into consideration the follower's level of readiness (Luo & Liu, 2014). Situational leaders inspire trust and motivate their followers to improved productivity by proactively altering their behaviors to suit existing situations and help their followers maximize their potential.

Transformational Leadership Theory: The transformational theory also known as relationship theory focuses on the connections formed between leaders and followers. This theory is premised on a leadership style that inspires followers to improved performance by focusing on the wants and needs of the organization as well as the personal concerns of its members (Munir & Aboidullah, 2018). Leadership effectiveness under this theory is dependent on individualized consideration, intellectual stimulation, inspirational motivation and idealized influence (Bass, 2000 cited in Ewell, 2018 and Getachew & Erhua, 2018). According to several researchers (Ewell, 2018; Getachew & Erhua, 2018), "Idealized influence refers when transformational leaders act as a role model to their subordinates such that the followers identify themselves to a high level of morale and enthusiasm to fulfill the demands of leader whom they respect, admire and trust (Bass, 2000). Inspirational motivation highlights leaders' motivation and inspiration of followers by giving self-worth for their contribution and setting challenges to their followers (Bass & Avolio, 2000). Intellectual stimulation is encouraging followers to do tasks distinctly by being innovative and creative. Individualized consideration refers to giving special attention to the needs of every individual follower for their achievement and personal growth (Bass, 2000:34)". Leaders using this approach can motivate others, "to want to change, to improve, and to be led" (Hall, 2002 cited in Ewell, 2018) and possess high ethical and moral standards.

Empirical Reviews

Employee Productivity: Productivity can be defined as the effectiveness of factors of production (i.e. inputs) in generating desired outcomes efficiently. Successful organizations are characterized by a high level of productivity; they are companies that have achieved a competitive advantage in the utilization of available resources to obtain desired outputs. One of the areas organizations seek to have a competitive advantage in recent times is in their human resource. Human resource and human resource management are concerned with the practice of recruiting, motivating and managing employees to maximize employee productivity and achieve organizational objectives. Hassan (2016) & Singh (2015) affirm that employee productivity is directly correlated to organizational success. Employees are the tools management uses to achieve their objectives and their actions or inactions influence the profitability and viability of organizational success. Employee productivity is an assessment of the effectiveness and efficiency of an organization.

Successful organizations understand the importance of productivity in the workplace; increased employee productivity results in increased utilization of a firm's human capital. Traditionally, organizations used remuneration, bonuses, pay for performance and wage increments to motivate the employee and ensure improved productivity. Mangale (2017) concludes that remuneration is insufficient to retain and motivate employees; attractive remuneration might attract employees, but it is not guaranteed to ensure retention and improved productivity as repeated use of remuneration might be perceived by employees to be an entitlement and not a motivator. Furthermore, the studies confirmed that the relationship between top management/leadership influences employee productivity. This assertion has been countered by the works of researchers such as Ojeleye (2017), Mwangi (2014), Wilfred et al. (2014), who assert that remuneration attracts, retains and motivates employees and for the "compensation of an organization to succeed, the goals of the organization must be aligned with the goals of the employees whom the organization wishes to attract" (Wilfred et al., 2014).

Influence of Leadership Style on Employee Productivity: Successful organizations always seek to attract, retain and develop leaders who can motivate their subordinates to meet and/or exceed performance expectations and are flexible enough to respond to changes within and outside their environment. Rehman et al. (2018)'s study of leadership styles organizational culture and employees' productivity: Fresh Evidence from Private Banks of Khyber-Pakhtunkhwa, Pakistan was undertaken with a primary objective of investigating the impact of leadership styles and organizational culture on employees' productivity. Both qualitative and quantitative research method was used in arriving at the research finding that a significant positive relationship exists between employees' productivity and several leadership styles such as laissez-fair, transactional and transformational leadership styles. The study also posits that neither autocratic nor a democratic style of leadership has a significant positive association with employees' productivity. This study has some obvious limitations including the use of a small sample size, poor questionnaire responses and limitation of the research work to Pakistan and its inherent power distance culture. Ajibade et al. (2017) examine leadership style and employees' performance in Nigerian Federal Polytechnic: a study of Federal Polytechnic, Ilaro, Ogun State. The main objective of this study includes identifying the relationship between leadership style and employee's performance using primary and secondary research data.

The study concludes that there is a significant relationship between leadership styles and employee's performance in Nigerian Federal Polytechnics. The study further identifies that the success or failure of an organization depends on its leaders and the leadership style adopted within the organization. Marcus et al. (2017) studied the impact of leadership styles and employee performance in Nigerian higher institutions. The study utilized primary and secondary data through the use of questionnaires and literature review respectively. The study revealed that leadership style affects employee performance, needs and goals. Singh (2015) reviewed leadership style and employee productivity: a case study of Indian banking organizations. The study used a quantitative approach to achieve the research objective of understanding the relationship between leadership styles and employee productivity with an emphasis on private and foreign banks in India. Data were collected using self-administered questionnaires; a total of three hundred (300) questionnaires were distributed with a response rate of 69%. The findings of the research indicated that although leader leadership style improves employee productivity, the prevailing power distance culture in the organization needs to be considered when choosing an appropriate leadership style e.g. in India where there is a high-

power distant culture, transactional leadership style is appropriate for improving employee productivity while transformational leadership style is better suited for the (western-influenced) foreign banks.

Chodhury & Gopal (2014) explored how leadership styles influence employee motivation in India's leading oil company. Survey technique and review of existing literature were used to source primary and secondary research data respectively. The research concluded that transformational and transactional leadership styles were the most dominant leadership styles and that different leadership styles impact employee motivation in a variety of different ways. The findings of this research work are not holistic as it is limited to one company from the Indian oil sector; additional research work will have to be done before the research finding can be extended to a larger population. Obasan & Banjo (2014)'s study of the impact of leadership styles on employee performance used the (Nigerian) Department of Petroleum Resources as a case study. The paper focused on select leadership styles and how these styles impact employee performance and used primary data generated by deploying one hundred questionnaires through a stratified random selection of respondents. The study compared the effect of transactional, transformational, and laissez-faire leadership styles have on employee performance and concluded that transformational leadership style is the most effective leadership style and recommends that "managers should use more of transformational leadership to bring about higher levels of organizational commitment, OCB and job satisfaction" (Obasan & Banjo, 2014). Pradeep & Prabhu (2011) did research on the relationship between effective leadership and employee performance.

The researchers obtained research data by deploying two hundred and fifteen (215) surveys across seven companies in India's private and public sector; 199 surveys were returned representing a response rate of 92.56%. The result showed that while leadership is positively linked with employee performance, there is no universally acceptable conclusion as to what effective leadership is. Various factors such as cultural differences, employee attitude and expectations, organizational policies and power distance all influence the effectiveness of leadership practice. There exists a plethora of literature on leadership and employee productivity and their results, findings and recommendations of these studies are somewhat varied; while several researchers posit that several leadership styles e.g. transformational and transactional leadership styles are significantly correlated to employee productivity and there is inconclusive evidence on the effect other leadership styles e.g. laissez-faire (Marcus et al., 2017; Singh, 2015; Chodhury & Gopal, 2014; Obasan & Banjo, 2014), several other studies refute this assertion claiming a counter assertion (Rehman et al., 2018; Pradeep & Prabhu, 2011). This is indicative that there is no universally acceptable hypothesis on leadership style and employee productivity. The existing literature on leadership behavior and employee productivity while extensive is not exhaustive.

The existing literature reviewed in the previous section spans several countries and industries; ranging from India to Pakistan and Nigeria and covering the banking, education, oil & gas and the Indian public and private sectors. Of interest to this study is the paucity of information on (private) multi-national companies in the Nigerian oil and gas industry. The findings and recommendations of the reviewed literature revealed that the study of leadership behavior and its effect on employee productivity has immense potential for employees and organizational performance however there is a need for additional research on the private sector aspect of the Nigeria oil and gas industry. This study seeks to contribute to the existing body of knowledge from a Nigerian multi-national oil and gas company perspective. Consequently, the following hypotheses were construed:

H1. Autocratic leadership style positively affects employee productivity in Chevron Nigeria Limited.
H2. Democratic leadership style positively affects employee productivity in Chevron Nigeria Limited.
H3. Bureaucratic leadership style negatively affects employee productivity in Chevron Nigeria Limited.
H4. Laissez-faire leadership style negatively affects employee productivity in Chevron Nigeria Limited.
H5. Transactional leadership style positively affects employee productivity in Chevron Nigeria Limited.
H6. Charismatic leadership style positively affects employee productivity in Chevron Nigeria Limited.

3. Methodology

Research Design and Methodology: The primary goal of a research design is to ensure that the data obtained during the data collection phase is unambiguous and adequately sufficient to answer the research

question(s). The study adopted a case study design; Chevron Nigeria Limited was selected as a case study for this research. According to Gaines (2018), the case study provides the researcher with a comprehensive understanding of the phenomena being studied through the collation of participant responses and an in-depth understanding of real-life experiences relevant to the research study. The choice of Chevron Nigeria Limited as a case study is predicated on the fact that the company is one of the major oil and gas companies in Nigeria and a fair representation of the Nigerian oil and gas industry. The research population of this study is individuals working in the Nigerian upstream oil and gas industry. Due to the large size of the population and the impracticability of researching the entire population, the researcher has decided to restrict the research population to employees in Chevron Nigeria Limited, an international oil company and one of the major players in the Nigerian oil and gas industry. Chevron Nigeria Limited operates in five locations within Nigeria; these locations are Lekki-Lagos, Abuja, Warri, Escravos and Agbami FPSO.

The research population covers employees in these locations. Due to the geographical dispersion of employees, ease of deployment and storage, electronic questionnaires will be deployed to collect primary data from respondents. The essence of sampling is to enable the researcher to infer from an analysis of the sample a conclusion about the entire population. The research population of this study is individuals working in the Nigerian upstream oil and gas industry. Due to the large size of the population and the impracticability of researching the entire population, the researcher has decided to restrict the research sample to employees in Chevron Nigeria Limited. To mitigate researcher bias and ensure a representative sample is selected, respondents were selected via a simple random sampling selection method. According to Sharma (2017), the random sampling technique ensures each member of the population has an equal chance of being selected as a subject, is relatively easy to use, eliminates bias and when properly used ensures the sample selected is representative of the population (Odunlami & Awolusi, 2015). The researcher used a sample of one hundred and twenty-five (125) respondents drawn from the company's five locations in Nigeria.

Data Collection and Ethical Considerations: Primary data was collected by deploying online questionnaires to the research sample. The online survey research method is quite advantageous as it leverages the internet to provide access to respondents who would have been difficult, if not impossible to reach through other channels (Wright, 2017). The questionnaires are self-administered via the use of a web link sent to respondents via email. The questionnaire was in two parts. The first section of the questionnaire was designed to obtain data about the respondents such as the age of respondents, gender, education levels, and length of service in the organization. The data in this section helped the researcher to understand the respondent's background. The second of the questionnaire was concerned with collecting data about the key variables of this research. The key variables are divided into two namely independent variables which are the prevalent leadership styles namely autocratic, bureaucratic, charismatic, laissez-faire, participative (democratic) and transformational. The Multifactor Leadership Questionnaire developed by Avolio and Bass was modified to enable the research to collect requisite data about the leadership behaviors prevalent in Chevron Nigeria Limited while subsequent questions sought to determine the level of employee productivity. Secondary data was collected via an extensive literature review of the existing body of knowledge.

To understand current literature on the research topic and the identification of research gaps. Ethics are the moral principles that govern a person's behavior and/or the conducting of an activity. The researcher needs to ensure all ethical issues are examined and reviewed throughout the research work as they are the standards for conduct that distinguish between right and wrong, protect the interest of the research respondents, eliminate bias and ensure the accuracy of research results (Easterby-Smith et al., 2012). Ethical issues considered during the research work include informed consent, confidentiality and anonymity, respect for privacy, objectivity and integrity. The researcher obtained a letter of consent from Chevron Nigeria Limited permitting the research to be conducted on the organization and questionnaires distributed to its employees. Measures implemented to ensure adherence to ethical standards include the collection of primary data electronically via an online survey hosted on surveymonkey.com. Minimal personally identifiable will be collected and respondents are under no compulsion to provide responses and have the option of submitting their responses anonymously. The survey contains a consent acknowledgment section that articulates the research study, the purpose of the research data collected and assurances of anonymity. Responses will be stored electronically and password-protected to ensure privacy and respondents can choose to respond anonymously.

Research Procedures: The questionnaire was preceded by an introductory letter that articulates the research study, the purpose of the research data collected, assurances of anonymity and confidentiality of responses received. Respondents are under no compulsion to provide responses however the questionnaire was designed to encourage respondent participation. The questionnaire was initially deployed to three respondents as a trial run; responses from this trial run were not included in the research sample. Feedback and responses received from the trial run were used to modify and refine the questionnaires to ensure that the questions and responses received were apt for the research study. The questionnaires were deployed via the company's email distribution list this ensured that everyone had an equal chance of being selected and reduced sampling bias.

Validity and Reliability Analysis: The research questionnaire utilized a five-level Likert scale to capture respondent responses. The Likert scale was designed by Rensis Likert in 1932 and is greatly utilized in management research to measure and evaluate people's attitudes, opinions and perceptions to questions and/or statements. The questionnaire had five questions (i.e. subscale) each for the six independent variables and the dependent variable. Cronbach's alpha was produced using a scale test and the results are presented in Table 1. The results show Cronbach's alphas over the conventional cut-off point of 0.7, indicating that the subscales used were reliable and consistently capable of measuring the variables it is intended to measure.

Table 1: Reliability Statistics

Scale	Alpha
Autocratic leadership	0.833
Democratic/participative leadership	0.805
Bureaucratic leadership	0.756
Laissez-faire leadership	0.702
Transaction leadership	0.750
Charismatic leadership	0.941
Employee productivity	0.813

Data Analysis and Presentation: Data collated via the online questionnaire deployed on Survey Monkey were exported into the Statistical Package for Social Sciences (SPSS) for analysis. SPSS was used to analyze the data collected using Multiple, linear regression. Multiple linear regression is regressions that contain two or more independent variables and one dependent variable. Multiple regression will be used to determine and understand the relationship between the independent variable (leadership styles) and dependent variable (employee productivity) of this study. Research work would be incomplete without data presentation. Data presentation involves the pictorial/graphical representation of data collected with the primary objective of summarizing and communicating the research data. The results of the data analysis will be presented via tables and charts (where necessary).

4. Results and Discussion of Findings

The questionnaire was distributed to one hundred and twenty-five (125) respondents and ninety-three (93) responses were received, resulting in a response rate of 74.4%. According to Mugenda & Mugenda (2003) cited in Maisiba et al. (2017), "a 50% response rate is adequate, while response rate of above 60% and not exceeding 69 is good and a response rate above 69% is rated very high"; they further posit that a high response rate would produce credible results. This study's response rate of 74.4% indicates that the response rate is very high and the results credible.

Multiple Regression Analysis: Multiple regression analysis was conducted to determine the effect of leadership styles (independent variables) on employees' productivity (dependent variable). The study adopted the following regression equation to establish the relationship between variables:

$Y= \beta0+ \beta1x1 + \beta2x2+ \beta3x3+ \beta4x4+ \beta5x5+ \beta6x6 +\varepsilon$……..Equation 1

Where Y = Employee productivity, β0=the constant of regression, β1, β2, β3, β4, β5 and β6 = are the regression coefficients/weights of the following respective independent variables: x1= Autocratic leadership style, x2= Democratic leadership style, x3= Bureaucratic leadership style, x4= Laissez-faire leadership style,

x5= Transact leadership style, x6= Bureaucratic leadership style and ε = error term. The six independent variables were measured using the responses obtained from the respondents.

Demographic Analysis: The analysis of responses revealed that 46% of the respondents were male and 52% were female while 2% did not indicate their gender. The gender of respondents was relatively represented in this study. Table 1 shows the gender distribution. Respondents were requested to indicate their age. The analysis of responses revealed that 18.3% of the respondents were between the age of 20 to 30, 52.7% were between the age of 31 to 40, 25.8% were between the age of 41 to 50, 1.1% were between the age of 51 to 60 while 2.1% did not indicate their age. The company's mandatory retirement age is 60 hence there are no respondents above the age of 60. Table 2 shows the age distribution. Respondents were requested to indicate their level of education. The analysis of responses revealed that none of the respondents had an OND (Ordinary National Diploma).

51.6% were either HND/B.Sc. (i.e. first degree) holders, 41.9% had a Master's degree, 1.1% had a Ph.D. while 5.4% either did not fall into any of these categories or did not indicate their level of education. Table 4.3 shows the level of the education distribution. Respondents were requested to indicate their number of years of service in their current organization; 32.3% of the respondents were between 0 to 5 years, 44.1% were between 6 to 10 years, 18.3% were between 11 to 15 years, 1.1% were between 16 to 20 years, 2.1% were above 20 years while 2.1% did not indicate their age. Table 2 shows the years of service distribution. Respondents were requested to indicate their level of motivation at work; 3.2% of the respondents indicated low, 9.7% indicated moderately low, 33.3% indicated medium, 41.9% indicated moderately high, 10.8% indicated high while 1.1% did not indicate a response. Table 3 shows the level of motivation at work distribution.

Results: The effect of leadership styles on employee productivity.

Correlation Analysis

Table 2: Correlation Analysis of Dependent and Independent Variables

Correlations[c]

		Autocratic leadership style	Democratic leadership style	Bureaucratic leadership style	Laissez-faire leadership style	Transactional leadership style	Charismatic leadership style	Employee Productivity
Autocratic leadership style	Pearson Correlation	1	-.790**	.665**	-.337**	-.313**	-.631**	-.503**
	Sig. (2-tailed)		.000	.000	.002	.004	.000	.000
Democratic leadership style	Pearson Correlation	-.790**	1	-.698**	.335**	.451**	.756**	.612**
	Sig. (2-tailed)	.000		.000	.002	.000	.000	.000
Bureaucratic leadership style	Pearson Correlation	.665**	-.698**	1	-.382**	-.294**	-.555**	-.421**
	Sig. (2-tailed)	.000	.000		.000	.006	.000	.000
Laissez-faire leadership style	Pearson Correlation	-.337**	.335**	-.382**	1	.238*	.270*	.199
	Sig. (2-tailed)	.002	.002	.000		.028	.012	.068
Transactional leadership style	Pearson Correlation	-.313**	.451**	-.294**	.238*	1	.627**	.275*
	Sig. (2-tailed)	.004	.000	.006	.028		.000	.011
Charismatic leadership style	Pearson Correlation	-.631**	.756**	-.555**	.270*	.627**	1	.612**
	Sig. (2-tailed)	.000	.000	.000	.012	.000		.000
Employee Productivity	Pearson Correlation	-.503**	.612**	-.421**	.199	.275*	.612**	1
	Sig. (2-tailed)	.000	.000	.000	.068	.011	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Listwise N=85

The correlation analysis in table 1 revealed that democratic leadership style (M = 2.61, SD = 1.14) and charismatic leadership style (M = 3.72, SD = 1.00) positively correlated with employee productivity (M = 4.04, SD = 0.85) with correlation coefficients of 0.612 while transaction leadership style (M = 3.45, SD = 1.03) has a weak positive correlation of 0.275 with employee productivity (M = 4.04, SD = 0.85). Autocratic Leadership style (M = 2.61, SD = 1.14) and bureaucratic leadership style negatively correlated with employee productivity (M = 4.04, SD = 0.85) with correlation coefficients of -0.503 and -0.421 while the coefficient of correlation of 0.199 indicated there was no significant correlation between Laissez faire leadership style (M = 3.28, SD = 1.06) and employee productivity.

Normality, Homoscedasticity and Multicollinearity: The P-Plot of regression standardized residual in table 1 indicates that the dataset follows the normality line. The absence of drastic deviations from the normality line is indicative that normality can be assumed. Homoscedasticity is concerned with whether the variance of the errors from regression is dependent on the values of the independent variables**.** The scatter plot of the residuals in table 2 indicates the homoscedastic nature of the research data (residuals) viz-a-vis the regression analysis. Multicollinearity statistics in table 5 indicate tolerance numbers ranging from 0.240 to 0.826 while Variance Inflation factors (VIFs) ranged from 1.211 to 4.170. According to Vatcheva et al. (2016), VIF values greater than ten (10) are suggested for detecting multicollinearity; the VIF values of the independent variables indicate that that multicollinearity is not suspected.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.667[a]	.445	.402	.429

a. Predictors: (Constant), Charismatic leadership style, Laissez-faire leadership style, Bureaucratic leadership style, transactional leadership style, Autocratic leadership style, Democratic leadership style

Table 3 depicts a summary of the model which indicates that leadership styles are responsible for 44.5% of the variability in employee's productivity; this is evidenced by the R square statistics of 0.445.

Table 4: Analysis of Variance

Model		Sum of Squares	DF	Mean Square	F	Sig.
1	Regression	11.476	6	1.913	10.412	.000[b]
	Residual	14.329	78	.184		
	Total	25.805	84			

a. Dependent Variable: Employee Productivity
b. Predictors: (Constant), Charismatic leadership style, Laissez-faire leadership style, Bureaucratic leadership style, transactional leadership style, Autocratic leadership style, Democratic leadership style

Table 4 presents the analysis of variance (ANOVA). ANOVA was used to establish the significance of the regression model. The Sig. value of 0.000 (p=0.000 <0.05) indicates that the model has a confidence level greater than 95% and is statistically significant in predicting how autocratic leadership style, democratic leadership style, bureaucratic leadership style, laissez-faire leadership style, transactional leadership style and charismatic leadership style influences employee productivity.

Table 5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	2.356	0.678		3.474	0.001		
1 Autocratic leadership style	-0.001	0.082	-0.002	-0.013	0.990	0.340	2.942
Democratic leadership style	0.229	0.108	0.364	2.114	0.038	0.240	4.170

Bureaucratic leadership style	0.036	0.096	0.046	0.372	0.711	0.458	2.183
Laissez-faire leadership style	0.007	0.071	0.009	0.095	0.925	0.826	1.211
Transactional leadership style	-0.120	0.077	-0.171	-1.546	0.126	0.582	1.718
Charismatic leadership style	0.304	0.098	0.467	3.116	0.003	0.317	3.150

a. Dependent Variable: Employee Productivity

Based on the outcome of the analysis presented in table 4.19, the relationship between the dependent and independent variables can be represented using the following regression equation:
Y= 2.356+ -0.001(x1) + 0.229(x2) + 0.036(x3) + 0.007(x4) + -0.120(x5) + 0.304(x6)

The coefficients results show that charismatic and democratic leadership styles significantly positively predict employee productivity with standardized B's of 0.467 ($p < 0.01$) and 0.364 ($p < 0.01$); this implies that the productivity of employees whose immediate leaders exhibit charismatic leadership characteristics improved by 30.4% while the productivity of employees whose immediate leaders exhibit democratic leadership styles improved by 22.9%. The results also suggest that bureaucratic and laissez-faire leadership styles insignificantly positively predict employee productivity while autocratic and transactional leadership styles insignificantly negatively predict employee productivity.

Discussion of Findings

Leadership Styles Prevalent in Chevron Nigeria Limited: The findings of this study and the examination of the responses received from the questionnaire indicate there are varied leadership styles exhibited and prevalent in Chevron Nigeria Limited. The research findings as presented in the table indicate that while there are several leadership styles practiced in Chevron Nigeria Limited, autocratic leadership (SD = 1.14) is the most prevalent leadership style followed by laissez-faire (SD = 1.06), bureaucratic (SD = 1.04) and transactional leadership style (SD = 1.03). Democratic and charismatic leadership are the least prevalent leadership styles in Chevron Nigeria Limited.

Influence of Leadership Style on the Employee Job Performance: The findings of the study affirm that leadership style influences employee productivity; this is consistent with studies by Babatunde (2015), Basit et al. (2017), Lawal & Osifo (2018) and Ohemeng et al. (2018). The research findings indicate that charismatic and democratic leadership styles significantly positively influence employee productivity, bureaucratic and laissez-faire leadership styles have a minimal positive effect on employee productivity while autocratic and transactional leadership styles insignificantly negatively influence employee productivity. The predictions of the regression model establish that while a unit increase in charismatic, democratic, bureaucratic and laissez-faire leadership style leads to a 30.4%, 22.9%, 3.6%, and 0.7% increase in employee productivity respectively, a unit increase in autocratic and transactional leadership style results in a 0.1% and 12.0% decline in employee productivity. The research findings from previous studies are varied with some studies reaffirming this study's findings while others have a contrary view. Amiscua et al. (2018) posit that democratic leadership style has a positive impact on motivation and employee productivity; this is further corroborated by Sayedi (2016)'s findings that conclude that autocratic leadership style and democratic leadership style have a significant positive impact on employee's productivity while laissez-faire negatively impacts employee productivity.

Sayedi's finding while corroborating this study's findings on the impact of democratic leadership style on employee productivity disagrees with the impact of autocratic and laissez-faire leadership styles however this is supported by Rehman et al. (2018) who maintain that laissez-faire and transactional leadership styles are positively correlated to employee productivity. Other studies such as Erskine & Georgiou (2017) affirm that transactional and charismatic leadership styles positively affect employee productivity while laissez-faire and autocratic leadership styles negatively affect employee productivity while Obasan & Hassan (2014)

maintain that transactional and laissez-faire leadership styles have a negative impact on employee productivity. While there are varied opinions on the impact of leadership styles on employee productivity, a common premise among the reviewed existing body of knowledge is that leadership styles affect employee productivity and the application of a suitable leadership style will greatly improve employee productivity and organizational success. The observed differences in research studies on leadership styles and employee productivity could be attributable to other factors such as organizational culture, power-distance culture, staff composition & demographics, nature of operating industry, etc. It is recommended that these factors be considered in future research studies on the subject matter.

In summary, a review of the multiple regression analysis conducted revealed that autocratic leadership style is negatively correlated to, and insignificantly negatively predict employee productivity. This result does not support the first hypothesis of this study which states that "autocratic leadership style positively affects employee productivity in Chevron Nigeria Limited". The results of the multiple regression analysis also posit that leaders that exhibit charismatic and democratic leadership traits significantly positively affect employee productivity which supports the second and sixth hypotheses of this study; however, the research findings were antithetical to the third, fourth and fifth hypotheses of this study as bureaucratic and laissez-faire leadership styles insignificantly positively predict employee productivity while transactional leadership styles insignificantly negatively predict employee productivity. The results of this study are consistent with the results of most of the previous studies reviewed in Chapter two such as Pradeep & Prabhu (2011), Singh (2015), Marcus et al. (2017) and Ajibade et al. (2017). This study, therefore, contributes to the expansion of knowledge in the social science field on the effect the different leadership styles have on employee productivity. It also sought to close the existing gap in current literature by providing reference studies on the impact of leadership styles and employee productivity in multinational oil and gas companies in Nigeria; hitherto there was a paucity of research data in this regard.

5. Summary, Conclusion and Policy Recommendations

Summary: This study seeks to understand the effect leadership styles have on employee productivity in the Nigerian oil and gas industry using Chevron Nigeria limited as a case study. The choice of Chevron Nigeria Limited as the case study for this research is predicated on the fact that the company is one of the major oil and gas companies in Nigeria and a fair representation of the Nigerian oil and gas industry. The findings of this study are anticipated to improve employee productivity through effective leadership practice. Six different leadership styles were identified and their effect on employee productivity was reviewed. The review of existing literature conducted revealed that although the study of leadership behavior and its effect on employee productivity has immense potential for employees and organizational performance, there is no universally acceptable hypothesis on leadership style and employee productivity with several studies having conflicting findings. The research sample was selected using a random sampling method. The random sampling technique ensures each member of the population has an equal chance of being selected as a subject, is relatively easy to use, eliminates bias and when properly used ensures the sample selected is representative of the population (Sharma, 2017). Primary data was collected by deploying an online questionnaire to a sample size of one hundred and twenty-five respondents with ninety-three valid responses received. According to Mugenda & Mugenda (2003) cited in Maisiba et al. (2017), this study's response rate of 74.4% indicates that the response rate is very high and the results credible.

Research data were analyzed using SPSS. Correlation and regression analysis were utilized in analyzing the data and testing the research hypothesis. Normality, Homoscedasticity and Multicollinearity tests were conducted and the results reaffirm the suitability of research data in evaluating the study's hypothesis. The analysis of leadership styles prevalent in Chevron Nigeria Limited revealed that the autocratic leadership style is the most predominant leadership style followed by laissez-faire, bureaucratic, transactional, democratic and charismatic leadership styles. The research findings indicate that charismatic and democratic leadership styles improve employee productivity while the productivity of employees whose immediate leaders exhibit bureaucratic and laissez-faire leadership styles was insignificantly improved. Autocratic and transactional leadership styles were discovered to have a minimal negative impact on employee productivity. From the foregoing, the least prevalent leadership styles in Chevron Nigeria limited are best suited to improving employee productivity while the most prevalent leadership style (autocratic leadership style) has

been indicated as inimical to employee productivity. Employee productivity can be improved within the organization from a leadership perspective by either orientating existing leaders to exhibit more desirable leadership styles or promoting/recruiting new leaders that exhibit leadership styles that motivate improved productivity from their subordinates.

Conclusion: Employee productivity is fundamental to the growth, profitability and continued existence of any organization. In conclusion, the present study indicates that leadership style viz-a-vis the quality and practice of leadership impacts employee productivity. Specifically, charismatic leadership styles and democratic leadership styles are best suited to improving employee productivity, bureaucratic and laissez-faire leadership styles exert a minimal positive effect on employee productivity while transactional and autocratic leadership styles impede employee productivity. While the choice of leadership style impacts employee productivity, the results of this study also indicate that other factors exist that influence employee productivity and these factors should be identified and researched to enable researchers, leaders and academia to have a well-rounded understanding of determinants of employee productivity.

Recommendation and Implications: The primary goal of any organization is to maximize profits; one of the ways organizations can maximize profitability is through improved employee productivity. The findings of this study indicate that the prevalent leadership style in an organization is an important influencer of employee productivity and ultimately profitability. The findings of this study are consistent with the finding of other studies such as Obasan & Hassan (2014), Erskine & Georgiou (2017) and Rehman et al. (2018). It is therefore recommended that organizations in the Nigerian oil and gas industry should constantly influence leadership behavior to maximize employee productivity; this can be achieved through policy formulation, recruitment, training and promotion as well as by enforcing the appropriate organizational behaviors. This study's findings indicate that the existing mix of leadership styles prevalent in Chevron Nigeria Limited does not maximize the productivity of its employees as the primary leadership style of autocratic negatively impacts employee productivity. It is recommended that the organization review its leadership training and selection processes to maximize its leadership pool with the desirable goal of maximizing employee productivity. Regular pulse checks should be conducted to ascertain that the current leadership style in the organization and interventions implemented to ensure the desired leadership mix/style is maintained.

Future studies should examine the impact of other factors such as cultural differences, employee attitude and expectations, organizational policies and power distance and how they inter-relate with leadership styles and employee productivity. This study indicates that organizations should pay attention to the leadership styles needs of their employees if they desire improved employee productivity. While some leadership styles improve employee productivity, others impair productivity; the onus on the discerning organization is to determine the prevalent leadership styles and required leadership styles to maximize employee productivity and enact training and policies to bridge identified gaps. The study contributes to the existing literature on leadership behavior and its effect on employee productivity and also validates the findings and relevance of the body of knowledge reviewed in Chapter two. This study is also intended to be a reference point to scholars and researchers for further studies on leadership practice and other related subject matters. However, the first and possibly most important limitation of this study is that the research sought to determine the effect of leadership styles on employee productivity by examining only one organization; this is closely related to the next limitation which has to do with sampling. This research was conducted using primary data generated from ninety-three (93) respondents.

The inherent limitations of sampling technique such as sampling bias, the possibility of lack of representativeness of the population and respondent bias constitute the limitations of this study. This study examined the effect of leadership styles on workers' performance by studying only one organization. It is recommended that future studies increase the research scope to cover more than one organization and also consider investigating other factors that influence employee productivity such as organizational structure, gender, level of education, corporate culture, etc. with a view of determining if the interaction of leadership styles with these other factors further enhance or impede employee productivity. Future researchers can also use a larger sample size spanning several organizations in dissimilar industries to reduce the risks associated with sampling and drawing inferences from a sample.

References

Ajibade, E., Ajayi, O. & Shobowale, O. (2017). Leadership Styles and Employees' Performance in Nigerian Federal Polytechnics: A Study of Federal Polytechnic, Ilaro, Ogun State. *Journal of Public Administration, Finance and Law,* 11(1), 17-30.

Amiscua, M., Fernandez, M., Madanging, J. & Querido, J. (2018). The Impact of Leadership Styles on Employees' Productivity: A Qualitative Study of Employees' Experiences of Motivation in the Workplace. Available at: https://www.researchgate.net/requests/attachment/52212945 (Accessed 29/12/18)

Aunga, D. & Masare, O. (2017). Effect of Leadership Styles on Teacher's Performance in Primary Schools of Arusha District Tanzania. *International Journal of Educational Policy Research and Review,* 14(4), 42–52.

Babatunde, O. (2015). The impact of leadership style on employee's performance in an organization, *Public Policy and Administration Research*, 5(1), 195-206.

Basit, A., Sebastian, V. & Hassan, Z. (2017). Impact of Leadership Style on Employee Performance (A case study on a private organization in Malaysia). *International Journal of Accounting & Business Management*, 5(2), 112-130.

Bass, B. M. & Avolio, B. J. (2000). MLQ Multifactor Leadership Questionnaire. Redwood City: Mind Garden.

Blazi, C. & Awolusi, O. D. (2020). Employee Engagement in Multinational Diverse Organization in Difficult Terrain: A Study of Non-Family Station Organization, *Information Management and Business Review*, 12(1), 45-62.

Chevron. (2018). 2017 Corporate Responsibility Report Highlights. Available at: https://www.chevron.com/-/media/shared-media/documents/2017-corporate-responsibility-report.pdf (Accessed 11/09/18).

Chowdhury, R. G. (2014). A Study on the Impact of Leadership Styles on Employee Motivation and Commitment: An Empirical Study of Selected Organizations in the Corporate Sector. Available at: http://www.dypatil.edu/schools/management/wp-content/uploads/2015/11/A-study-of-the-Impact-of-Leadership-Styles-on-Employee-Motivation-and-Commitment-An-empirical-study-of-selected-organisations-in-Corporate-sector-Rima-Chowdhury.pdf (Accessed 22/09/18).

Chowdhury, R. & Gopal, R. (2014). Leadership Styles and Employee Motivation: An Empirical Investigation in a Leading Oil Company in India. *International Journal of Research in Business Management*, 2(5), 1–10.

Dalluay, V. S. & Jalagat, R. C. (2016). Impacts of Leadership Style Effectiveness of Managers and Department Heads to Employees' Job Satisfaction and Performance on Selected Small-Scale Businesses in Cavite, Philippines. *International Journal of Recent Advances in Organizational Behavior & Decision Sciences*, 2(2), 734-751.

Easterby-Smith, M., Thorpe, R. & Jackson, P. (2012). Management Research. 4th ed. London: Sage Publications.

Erskine, J. & Georgiou, G. (2017). Leadership Styles: Employee Stress, Well-being, Productivity, Turnover and Absenteeism. Available at: https://www.researchgate.net/requests/attachment/52212988 (Accessed 01/01/19).

Ewell, J. (2018). Revitalizing a Student Organization by Applying Transformational Leadership. *Journal of Leadership Education,* 17(3), 208–218.

Gaines, T. M. (2018). Strategies for virtual sales leaders to increase the productivity of remote employees. Available at: https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=6287&context=dissertations (Assessed 03/10/18).

Gastil, J. (2012). A meta-analytic review of the productivity and satisfaction of democratic and autocratic leadership. *Small-Group Research,* 25(3), 384-410.

Graham, J. & Trendafilova, S. (2016). Implementing Self-Managed Teams at Western University: A Human Resource and Leadership Case Study. *Case Studies in Sport Management,* 5(1), 64–72.

Getachew, D. S. & Erhua Z. (2018). The Influences of Transformational Leadership on Collective Efficacy: The Moderating Role of Perceived Organizational Support. *International Journal of Organizational Innovation,* 10(4), 7–15.

Hassan, S. (2016). Impact of HRM Practices on Employee's Performance. *International Journal of Academic Research in Accounting, Finance and Management Sciences,* 6(1), 15-22.

House, R. J. (1971). A Path-Goal Theory of Leader Effectiveness. *Journal of Administrative Science Quarterly,* 16(1), 321-338.

Iqbal, N., Anwar, S. & Haider, N. (2015). Effect of Leadership Style on Employee Performance. *Arabian Journal of Business and Management Review*, 5(5), 1-6.

Ispas, A. (2012). The Perceived Leadership Style and Employee Performance in the Hotel Industry – a Dual Approach. *Review of International Comparative Management / Revista De Management Comparat International*, 13(2), 294-304.

Kagwiria, L. (2016). Influence of Leadership on Employee Productivity at KCB Bank Kenya Ltd, Nairobi Region Branches. Available at: http://erepository.uonbi.ac.ke/bitstream/handle/11295/98559/LILIAN%20FINAL%20PROJECT.pdf?sequence=1&isAllowed=y (Accessed 22/09/18).

Kohn, A. (1993). Why Incentive Plans Cannot Work. *HBR.* Available at: https://hbr.org/1993/09/why-incentive-plans-cannot-work (Accessed 10/06/18).

Lawal, B. A. & Osifo S. J. (2018). Leadership Styles and Employee Performance: Empirical Evidence from Selected Banks in Edo State. Available at: https://www.researchgate.net/publication/329659647_Leadership_Styles_and_Employee_performance_Empirical_Evidence_from_Selected_Banks_in_Edo_State (Accessed 24/12/18).

Luo, H. & Liu, S. (2014). Effect of Situational Leadership and Employee Readiness Match on Organizational Citizenship Behavior in China. *Social Behavior & Personality: an international journal,* 42(10), 1725–1732.

Maisiba, N. L., Muturi, W. & Atambo, W. (2017). Effects of Working Capital Management on the profitability of Retail Firms in Kisii County, Kenya. *International Journal of Social Sciences and Information Technology,* 3(2), 23-36.

Malik, S. H. (2013). Relationship between Leader Behaviors and Employees' Job Satisfaction: A Path-Goal Approach. *Pakistan Journal of Commerce & Social Sciences,* 7(1), 209–222.

Mangale, M. N. (2017). The Effects of Compensation on Employee Productivity: A Case Study of Kenya Literature Bureau, South C Nairobi. Available at: http://repository.mua.ac.ke/1570/1/Proposal.pdf (Accessed 22/09/2018).

Marcus, G., Olowu, D., Solomon, A. & Akhimien, E. (2017). Leadership Styles and Employee Performance in Nigerian Higher Educational Institutions. *American Journal of Environmental and Resource Economics,* 12(1), 12-21.

Matira, K. M. & Awolusi, O. D. (2020). Leaders and Managers Styles towards Employee Centricity: A Study of Hospitality Industry in the United Arab Emirates, *Information Management and Business Review*, 12(1), 1-21.

Men, L. R. & Stacks, D. W. (2013). The impact of leadership style and employee empowerment on perceived organizational reputation. *Journal of Communication Management,* 17(2), 171-192.

Mukonga, L. M. & Awolusi, O. D. (2019). Strategic Leadership in the Post-Conflict States: A Study of the Democratic Republic of Congo (DRC), *Journal of Social and Development Sciences*, 10(4), 36-51.

Mulki, J. P., Caemmerer, B. & Heggde, G. S. (2015). Leadership style, salesperson's work effort and job performance: the influence of power distance. *Journal of Personal Selling & Sales Management,* 35(1), 3-22.

Munir, F. & Aboidullah M. (2018). Gender Differences in Transformational Leadership Behaviors of School Principals and Teachers' Academic Effectiveness. *Bulletin of Education & Research,* 40(1), 99–113.

Mwangi, P. K. (2014). The Effect of Compensation on Employee Motivation: A Case study of Chloride Exide. Available at: http://erepo.usiu.ac.ke/bitstream/handle/11732/161/Patrick%20Mwangi.pdf?sequence=1&isAllowed=y (Accessed 24/09/18).

Obasan, K. & Banjo, H. (2014). A Test of the Impact of Leadership Styles on Employee Performance: A Study of Department of Petroleum Resources. Available at: https://www.researchgate.net/publication/311231059_A_Test_of_the_Impact_of_Leadership_Styles_on_Employee_Performance_A_Study_of_Department_of_Petroleum_Resources (Accessed 24/09/15).

Odunlami, S. A. & Awolusi, O. D. (2015). Multinational Corporation and economic development in Nigeria, *American Journal of Environmental Policy and Management*, 1(2), 16-24.

Ohemeng, F., Amoaks-Asiedu, E. & Darko, T. (2018). The relationship between leadership style and employee performance: An exploratory study of the Ghanaian public service. *International Journal of Public Leadership*, 14(4), 274-296.

Ojeleye, Y. C. (2017). The Impact of Remuneration on Employees' Performance: A Study of Abdul Gusau Polytechnic, Talata-Mafara and State College of Education Maru, Zamfara State. *Arabian Journal of Business and Management Review (Nigerian Chapter),* 4(2), 34-43.

Olatunji, O. O. & Awolusi, O. D. (2019). Performance Evaluation and Improvement among Salesmen in the Nigerian Fast Moving Consumer Goods Sector, *Journal of Social and Development Sciences*, 10(4), 12-29.

Onuoha, A. (2017). Top 50 Best Paying Companies in Nigeria. iDONSABI. Available at: https://idonsabi.com/top-50-best-paying-companies-in-nigeria/ (Accessed 08/06/18).

Pradeep, D. & Prabhu, V. (2011). The Relationship between Effective Leadership and Employee Performance. 2011 International Conference on Advancements in Information Technology. Available at: https://pdfs.semanticscholar.org/2dc9/c1b1b36a7ac68a4b75b61d07a33860a28017.pdf (Accessed 23/09/18).

Rego, A., Sousa, F., Marques, C. & Cunha, M. (2012). Authentic leadership promoting employees' psychological capital and creativity. *Journal of Business Research*, 65(1), 429-437.

Rehman, S., Rahman, H., Zahid, M. & Asif, M. (2018). Leadership Styles, Organizational Culture and Employees' Productivity: Fresh Evidence from Private Banks of Khyber-Pakhtunkhwa, Pakistan. *Abasyn University Journal of Social Sciences*, 1–15.

Sayedi, N. S. (2016). Impact of Leadership Style on Employees' Motivation: A Case Study of Access Bank Nigeria. Available at: https://www.researchgate.net/publication/328803891_Impact_of_Leadership_Style_on_Employees%27_Motivation_A_Case_Study_of_Access_Bank_Nigeria (Accessed 26/12/18).

Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research,* 3(7), 749-752.

Singh, K. (2015). Leadership Style and Employee Productivity: A Case Study of Indian Banking Organizations. *Journal of Knowledge Globalization,* 8(2), 39-67.

Vatcheva, K., Lee, M., McCormick, J. & Rahbar, M. (2016). Multicollinearity in Regression Analyses Conducted in Epidemiologic Studies. *Epidemiol*, 6(2), 23-34.

Wilfred, N. O., Elijah, M. C. & Muturi, M. W. (2014). Effect of Remuneration on Employees Performance in the Ministry of Internal Security: A Case of Kisii County. *International Journal of Human Resource Studies,* 4(1), 223-231.

Wright, K. (2017). Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication,* 10(3), 23-35.