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*Economics, Business and Social Sciences, Psychology
Article*

THE CONSIDERATION AND EVALUATION OF INDIVIDUAL AND COLLECTIVE HUMAN BEHAVIOR WITHIN BEHAVIORAL ECONOMICS INCORPORATING PSYCHOLOGY, SOCIAL PSYCHOLOGY, NEUROECONOMICS, AND ECONOMICS TO EXPLAIN ECONOMIC DECISION-MAKING SITUATIONS

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Abstract. This paper shows which factors play a central role in the subjective valuation of possessions. It relates these to a specific behavior that individuals exhibit in decision-making situations in which only limited information is available and a high degree of complexity prevails. Behavioral economics uses these findings as an opportunity to relativize the image of the rational utility maximizer, also known as homo oeconomicus, and to take greater account of psychological and social-psychological factors within economic considerations. Furthermore, the connection between Prospect Theory and the systematic distortions of perception will be shown. Prospect Theory states that decisions are not made on rational grounds alone. One of the so-called systematic perception distortions is the endowment effect. This describes that a good, which one already has in possession, is considered to be more valuable than if one did not have the corresponding good in possession. Furthermore, perception distortions such as the status quo preference and loss aversion are described.

Keywords: behavioral economics, utility maximizers, endowment effect, behavioral anomalies, expected utility theory.

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Introduction

"I can't tell you how to get rich quick; but I can tell you how to get poor quick: namely, by trying to get rich quick." - André Kostolany. Many people are subject to the distorted misconceptions described by Kostolany.

By the middle of the 20th century, psychology had largely disappeared from the economic discussion. Many factors revived this discussion and contributed to the development of the theory of behavioral economics. Theoretical models and their experimental testing on expected utility and utility after cost deduction achieved widespread recognition by providing testable hypotheses taking into account uncertainty and intermediate consumption, respectively. A number of observed and repeated anomalies challenged these hypotheses. Furthermore, in the 1960s, cognitive psychology began to view the brain as an information processing device, in contrast to models of behaviorism. Behavioral economics is a branch of economics concerned with the behavior of people in economic decision-making situations. The following discussion addresses the overarching scientific field of behavioral economics, which includes the endowment effect. Here, the questions of what decisions are and what role the reward and punishment system plays in the selection of alternatives are addressed. Subsequently, Beck (2009) states that behavioral economics brings together different views of human beings. He links the view of human beings from economics with that from psychology and social psychology. The task of behavioral economics is to investigate the reasons

why people systematically make wrong decisions, under which conditions this happens and what influence this behavior has on their economic decisions (Beck, 2009).

Classical economics considers humans as rational beings the so-called homo oeconomicus, who are fully aware of their needs, constantly calculating and weighing benefits and costs. This homo oeconomicus is an essential element of classical economics and facilitates the development of statements and models about human behavior based on mathematical and statistical foundations (Beck, 2009). From this perspective, the individual is a utility maximizer who is not influenced by his or her cognitive abilities, perceptual weaknesses, or even emotions. Weakness of will, self-control problems, or irrational behavior hardly find consideration within this thought construct. Moreover, altruistic behaviors are not taken into account. The individual strives above all to maximize his own benefit. Motives such as cooperation or fair play are only taken into account to the extent that they might be useful for self-interest. Behavioral economics contradicts these assumptions and postulates that although homo oeconomicus functions in the world of mathematical and statistical models, in reality decision-making processes are more multilayered and complex (Beck, 2009).

Literature Review

The decision process, the behavior as well as the explanatory approaches

Decision can be described as the selection of a specific option from a set of alternatives. According to Hubert & Kenning (2011), depending on the situation, the utility and potential value of the option are considered in the selection process. Decisions play a central role in economics, as every purchase of a product or brand is preceded by a decision-making process. First, the stimulus is evaluated, which is followed by rational weighing and emotional evaluation. In terms of brain physiology, the decision takes place in the prefrontal cortex. This part of the brain is connected to the organism's reward and punishment system. Therefore, both emotional factors and cognitive factors are active in decision-making. Especially in the case of branded products, it can be seen that emotional factors often trump cognitive factors (cortical discharge), which is why advertising usually focuses less on presenting facts and more on triggering feelings (Hubert & Kenning, 2011).

In particular, neuroeconomics sheds light on irrational behavior of individuals in the marketplace. The basic assumption of Bürger and Weber (2011, p. 222.) is: "*Humans are incapable of rational thought and action due to our evolutionary psychophysiological makeup.*" The brain developed in an evolutionary process that took many millions of years. In the process, mutations resulted in corresponding adaptations of the brain structure to the respective living conditions. Neural networks have therefore evolved for an environment in which there were no international financial markets or complex purchasing decisions (Bürger & Weber, 2011). Rather, our brains are still geared to Stone Age situations that often involved fight or flight. Rational and logical examination of the situation at hand could quickly become life-threatening here. A large part of our behavior is therefore still dependent on automatic, partly unconscious, processes. Especially the handling of money is a relatively new invention compared to the evolution of the human brain. It is therefore necessary to be constantly aware that not only rational motives influence financial events, but that a whole range of other factors are active in decision-making processes (Bürger & Weber, 2011).

Prospect Theory, also called New Expectancy Theory, is an alternative to the classical model, Expectancy Utility Theory, and takes into account that people's decisions are often influenced by perceptual biases and irrational behavior (Miller, 2003). Expectancy utility theory serves as the architecture of rational decision-making in situations of uncertainty or lack of information. The basic assumption is that an individual forms a kind of hierarchy with respect to his or her preferred goods. Accordingly, certain goods have a higher ranking and are thus evaluated as better. The individual expects a higher utility from the better valued good and strives to maximize its utility (Miller, 2003).

Prospect Theory was introduced by Kahneman and Tversky (1979) and claims to be a more realistic assessment of human behavior because it also takes into account cognitive biases in human behavior and thus can explain irrational behavior (Forbes, 2009). Analysis of how individuals value

gains and losses shows that the resulting value function is asymmetric, as losses are generally valued more than gains. This leads to a number of effects. These include the endowment effect, status quo preference, the security effect, and loss aversion (Forbes, 2009). Prospect Theory postulates a number of perceptual biases that influence decision behavior in complex and uncertain situations. These include the presumption bias, which leads to overestimating one's own capabilities and influence. Also, the competitor's capabilities are often underestimated, while one's own insights and knowledge are overestimated. Proximity bias leads to a preference for things one is familiar with while ignoring alternative options (Budde, 2011). People also often set wrong priorities and spend a lot of energy on unimportant decisions. They expend less energy on important decisions. In addition, individuals stick with a decision once it has been made for a long time and have great problems distancing themselves from positions they have taken. At the same time, a lot of time and energy is spent on losses (Budde, 2011). Behavioral economics can explain consumer behavior much better than previous models could. So if you combine the findings from behavioral economics with the tried-and-tested methods from marketing, much stronger effects can be achieved and the efficiency of marketing increases. Some approaches may seem a little strange at first glance, but this is mainly due to the widespread, rational view of buying and consumer behavior. Once you have internalized the fact that decisions are often not made rationally, behavioral economics opens up completely new marketing opportunities (Akerlof & Shiller, 2010).

Methods

The endowment effect and experimental evidence of human behavior

The endowment effect explains certain behaviors of people and shows that the possession of a good influences the value we attach to it. The following explanations illustrate this relationship using selected experiments on the endowment effect.

Kahneman, Knetsch and Thaler (1991) give an interesting and at the same time illustrative example for the explanation of the endowment effect. A wine lover buys Bordeaux wine at a time when the prices for the bottles are relatively low. He has to pay just 10 dollars per bottle. However, the wines he buys increase greatly in value over time. After some time, the wines cost over \$200 per bottle at wine auctions. The wine lover does drink from his wine now and then. However, he is not willing to sell his wine even if he could get far more for his bottles. This behavior pattern is called the endowment effect. The endowment effect states that individuals value a good they already own as more valuable by the mere fact that they own it than goods they do not own. As a result, individuals find it difficult to part with goods once they have acquired them (Kahneman, Knetsch & Thaler, 1991).

The endowment effect was first demonstrated by a lottery experiment. Participants in this study were given either the amount of \$2 or a lottery ticket. Some time later, the subjects were given the opportunity to exchange the money, or the ticket respectively. Those who had received money could exchange it for a lottery ticket. The ticket holders, on the other hand, could receive the amount of money. It turned out that only very few participants accepted the offer. In particular, the lottery ticket holders seemed to value the ticket more than the money and did not want to exchange it again (Kahneman et al., 1991).

Knetsch (1989) conducted an important experiment on the endowment effect. He formed three groups for this purpose. The members of the first group were each given a coffee cup at the beginning of the experiment and were then asked to fill out questionnaires. After the group had completed the questionnaires, the study leader offered them a trade. They could now exchange the coffee cup for a chocolate bar. However, they had to choose between keeping the coffee cup or giving up the cup and receiving the chocolate in return (Knetsch, 1989). The second group did not receive a coffee cup at the beginning of the experiment, but received a chocolate bar. All other experimental conditions remained the same. The second group was also given a chance to trade at the end of the experiment. They were offered to trade their candy bar for a coffee cup. The third group, on the other hand, received neither a cup nor chocolate. Rather, they were given a completely free choice between a cup or a chocolate bar (Knetsch, 1989). The result of the study shows that if the subjects can decide freely between a coffee cup and a chocolate bar, as happened

with the third group, the preferences are relatively balanced. 56% of the subjects chose the cup, 44% of the subjects chose the chocolate. However, the result for the other two groups is quite different. The first group, which had received the coffee cup, chose the cup 89% of the time and the chocolate only 11% of the time. In contrast, the second group, which had received the chocolate, chose the chocolate 90% of the time and the cup only 10% of the time (Knetsch, 1989). The coffee cup experiment shows that subjects who were in possession of a specific good rated it higher and were more likely to want to keep it. If the subjects did not have a specific good in their possession, the evaluation was correspondingly more neutral. The possession of a good thus exerts a particular influence on its valuation. A good that is already in one's possession is valued more highly (Davis, 2011).

In addition to real experiments, telephone surveys were also conducted on the endowment effect, in which respondents were given certain choices and asked to decide on one option at a time. Subjects were asked to answer questions about a hypothetical annual change in income associated with an increased risk of becoming a victim of an accident. The first group was asked whether they would be willing to accept a \$700 increase in their income in exchange for a 0.5% doubling of their accident risk (from 0.5% to 1%). They owned the low accident risk good and could trade it in return for a hypothetical \$700 annual income increase. 61% of the subjects rejected this offer. They were not willing to give up their good low accident risk. The second group was asked whether they would be willing to give up \$700 per year if it meant a 0.5% decrease in the probability of an accident, from 1% to 0.5%. This group already possessed the good of money and had the chance to obtain the good of lower accident risk by giving it up. Only 27% of the respondents answered that they would be willing to give up the \$700. Again, this shows that whether or not you already own something has an impact on your decision. Only 39% preferred the money if it meant losing some of their good risk, while 73% preferred the money if they already had the money in their possession (Knetsch, 1989). The money-or-vacation experiment also underscores what has already been said about the topic. This result corresponds to the cups versus chocolate experiment. The good that is already owned is considered more valuable. The results were also comparable in another situation. If subjects were offered to give up a week of their vacation in order to receive \$500 more income, 66% rated the vacation as more valuable. If subjects were offered to give up \$500 of salary in order to receive one week more vacation, only 29% chose vacation (Knetsch, 1989).

The status quo preference is a decision heuristic. Heuristics represent simple rules according to which decisions are made. Hering and Olbrich (2003, p. 73.) define heuristics as: "*A procedural technique in the sense of a special calculation rule or algorithm that finds application in dealing with problems for which no efficient, optimizing solution paths are known.*" The status quo preference can be described as a manifestation of the endowment effect. In the following, the relevant aspects of this preference are illustrated by an example and an outlook on its effects on everyday life is given. In status quo preference or status quo bias, a significant bias in decision making towards the status quo takes place. Status quo preference was tested using a series of questionnaires that required subjects to make decisions. This involved manipulating the surveys so that subjects had to make decisions under an experimental condition in which the options were neutral with respect to each other (neutral framing) and another time an alternative was framed in the status quo position (status quo framing) (Samuelson & Zeckhauser, 1988). For example, one study of status quo preference consisted of decision making in a political election. If subjects were to choose a candidate under the condition that a candidate already held office, 59% of subjects chose the incumbent. Under the neutral condition, in which the same candidate was not in office, only 39% would vote for him. The status quo preference is more pronounced the more alternatives are available. For example, if four candidates are running for election, each of the candidates receives 25% of the approval under the neutral arrangement. However, if one of them already holds office (status quo framing), that candidate receives 38.5% of the vote. From this, we can conclude that people prefer the status quo in the decision-making process, even if, as the example points out, the number of options (co-candidates) increases. We base a decision on what already exists (Samuelson & Zeckhauser, 1988).

Results

Effects in economic processes and in everyday life

Samuelson and Zeckhauser (1989) also recognize the status quo preference in immediate everyday situations. As a first example, the two authors mentioned a situation from Germany. Due to coal mining operations, a small town had to be relocated. The inhabitants were therefore supposed to move to a town close to their previous town. However, although the government developed a whole range of proposals to redesign the future town, the residents insisted that the town should be rebuilt exactly as the old town looked (Samuelson & Zeckhauser, 1989).

Samuel and Zeckhauser cite a brewery's creative advertising idea as another everyday example of status quo preference. The Schlitz beer company had convinced beer drinkers of the brewery test Budweiser beer in live broadcasts. The Budweiser fans did not know which of the two beers came from which company. Many Budweiser fans preferred the beer of the competitor Schlitz, which they thought was the original Budweiser. Since the majority preferred the competitor's product, the irrational decision to reach for the alleged Budweiser product may indicate that a bias toward the status quo of the Budweiser brand is occurring here (Samuelson & Zeckhauser, 1989). Loss aversion plays a central role in the classification of the endowment effect, since individuals value losses more highly than gains. Loss aversion also includes the certainty effect and sunk costs.

Loss aversion is understood to mean that individuals value losses more highly than gains. The anger about losing 1,000 euros is greater than the joy felt when winning 1,000 euros (von Nitzsch, 2006). Loss aversion can be explained on the basis of cognitive dissonance theory. According to this theory, every decision is associated with a commitment. How strong the commitment is depending, among other things, on whether the decision was voluntary and how much has already been invested. The stronger the commitment, the greater the loss aversion. The individual uses mental accounting to calculate how great the dissonance would be in the event of a loss, and the greater the commitment, the greater the dissonance (von Nitzsch, 2006). Why the valuation of losses is more severe compared to the valuation of gains is related to the pressure to justify and psychological costs in case of loss. While gains do generate joy and pride, the cognitive dissonance is not as strong as in the case of losses. The degree of cognitive dissonance is also related to the question of whether the decision or loss was voluntary or involuntary. If one is robbed and has no opportunity to fight back, there is less cognitive dissonance and thus less loss aversion (von Nitzsch, 2006). In classical theories, such as expected utility theory, the assumption is often that utility and probability of an outcome are related. However, this assumption is regularly violated. Instead, it turns out that outcomes that are certain are overvalued compared to outcomes that are only probable (Bloss, Häcker & Eil, 2009).

If a gain is certain, it is then preferred even if the gain, which is merely probable, is higher. On the other hand, this psychologically induced effect leads to losses that are merely probable being preferred to certain losses, even when the certain loss is lower (Bloss et al., 2009). The certainty effect can also be used to explain irrational behavior in the stock market. From 1996 to 2000, the number of Germans owning stocks increased from 3.5 million to 6.3 million. During the dotcom crisis, however, only 1.2 million investors dropped out again, whereas most investors were not prepared to realize a certain loss. Instead, many were hopeful that the markets would recover, which is why the majority of stockholders accepted the higher, but merely more likely, loss. When stock prices rose again, the number of stock investors did not grow, but decreased. Many investors now wanted to focus on safe investments such as life insurance and government bonds. They thus preferred the safe but lower profit to the larger but merely more probable profit (Bloss et al., 2009). Situations can always arise in which it turns out in the end that the costs or energies already invested have to be finally written off. The costs incurred for this purpose are also referred to as irreversible costs or sunk costs (Zayer, 2007).

It shows that people tend to stick to a particular decision if they have already invested a lot in that decision, be it energy, money or time. Thus, the past is factored into the decision-making of the future. However, a systematic evaluation error can occur here, which leads to disadvantageous investments or projects being abandoned too late. This also contradicts the classical expected utility

theory, which assumes that only future payments are included in the decision (Zayer, 2007). Valuation based on irreversible costs is mainly used when there is otherwise little or no information about the future course of the investment. The valuation of future payments is not relevant here, as the valuation is purely based on the costs already invested. In this context, the more uncertain the situation is, the stronger the valuation based on sunk costs will be. Zayer (2007, p. 136.) states: *"This positive bias in valuation can tempt decision-makers to continue projects because the distorted valuation makes further investment seem worthwhile, even though a rational valuation would require abandonment."* The sunk-cost effect has been proven time and again by studies and states that the decision to abandon a bad investment means the certain realization of a loss. Further investments open up the chance of compensating for the losses, but are associated with the risk of an even greater loss. For example, when subjects received information about certain projects and were asked which were particularly valuable, they were strongly oriented toward the information about how much had already been invested in the project.

The lower the sunk costs were, the less the value of the project was estimated. In another experiment, subjects were presented with a choice of two different vacations. In this example, the vacations had already been paid for; all that was needed was to choose a location. The subjects knew that vacation spot A had cost twice as much as vacation spot B. However, they were told by the project leaders that vacation spot B would offer more advantages. Nevertheless, the majority of subjects chose resort A because they knew that higher irreversible costs had been incurred here, which made this alternative more valuable to them (Zayer, 2007).

Conclusion

Behavioral economics examines and models human behavior in economically relevant situations. In our view, economically relevant is everything that has an impact on human well-being, and behavioral economics tries to understand and mathematically model deviations from rational behavior. This is done primarily through extensions of the classical models of utility maximization and equilibrium behavior. Behavioral economics has already noticed the human behavioral anomalies and is in the process of revising the classical models. The behavior described by Prospect Theory can also be observed in financial decisions. The fact that people do not always make rational decisions is not a bad thing and is clear to most people anyway. But knowing why and how far we do not decide rationally can help us to better understand ourselves and our decisions.

Collaboration between the disciplines of psychology, social psychology, neuroeconomics, and economics has proven fruitful here, allowing social psychology to gain a better understanding of individual and collective human behavior. Continuously, psychological aspects of human action are coming more intensively into the focus of economic business practice. The established and traditional economic science, which usually only speaks of anomalies when observable behavior deviates from its own model world, is increasingly supplemented, expanded as well as modified by the findings of behavioral research and neuroeconomics (Bénabou & Tirole, 2011).

We humans do not behave rationally, as the classical model assumes about homo oeconomicus, but systematically commit wrong decisions because we are guided by perceptual errors. People associate emotional attachment with possessions, which in turn affect their decisions to act. The emotional attachment to possessions is not only reflected in the endowment effect. Status quo preference, loss aversion, the security effect, and dealing with irreversible costs also prove that people are not rational decision makers. The endowment effect provides us with the insight that we value things we already own more highly than things we don't.

Dan Ariely addresses the issue of behavioral economics in his book *Predictably Irrational*. In it, experiments are described that once again shake up the image of homo oeconomicus. The list of such experiments can be extended at will. The results are always the same. People behave irrationally because they are subject to behavioral anomalies in their decisions.

Emotions determine what happens on the economic markets. André Kostolany, a stock market and financial expert and business journalist, was aware of this. Kostolany was convinced that the stock market only reacted to ten percent of the facts. But how much psychology is really

involved in share prices? The most consequential example of the endowment effect comes from the stock market. Despite falling prices, a great many shareholders hold on to their shareholdings for far too long. The fear of losing ownership - of the shares - is greater than the fear of the actual loss in value. The rational thing to do would be to sell the shares quickly and thus minimize the losses.

Brain researchers have long been able to prove that we feel real pain when we lose or have to give away something that was previously in our possession. Even when we sell the precious good - in other words, when we actually receive something in return. That's why, for example, many people mourn the loss of their old and rickety car, even though they got a good price when they sold the rust bucket. The possession effect is also regularly used in marketing - with coupons or loyalty points, for example. With each new point in possession, the perceived value increases. But this is only intended to entice people to spend more. This trap works even more effectively with test drives, trial months or trial subscriptions for products. Once touched or once used the probability increases that the alleged product is not given no more from the hand (Hunt, 2011). The psychologist Fishbach was able to prove in experiments that the extent of the possession effect depends on the mood of the people: Those who are in a good mood succumb to the endowment effect to a lesser extent than people who are in an emotional bad mood (Fishbach, Zhang & Koo, 2009).

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Social Sciences

Abstract

GENDER DIFFERENCES IN PHYSICAL ACTIVITY

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Abstract. *Introduction:* Many teenagers today fail to meet the physical activity guidelines. However, low levels of physical activity have been positively associated with an increase in NCDs. The purpose of the research is to investigate the physical activity levels of adolescent girls and boys. *Methods:* A sample of 23 boys and 27 girls' healthy adolescents from Greece was considered. The IPAQ questionnaires were used to assess both physical activity and sedentary activities across school time and leisure time over the past 7 days. *Results:* It was found that there are no differences in the intense, moderate (days and time) physical activity of girls and boys both overall and during the days. A similar pattern was followed for the time they spend walking, in sedentary activities as well as the time they spend sleeping. However, differences were found in the way they travel to school with girls moving more often by walking as opposed to boys traveling by car ($p=.024$). Finally, there were no differences in travel from school to home. *Conclusions:* The low levels of physical activity of teenagers from Greece were confirmed. Furthermore, adolescent girls and boys do not show different patterns of physical activity except in how they choose to travel to school. Further research in a larger sample and investigation of socio-economic factors is needed to more fully understand this phenomenon.

Keywords: IPAQ, adolescence, gender, physical activity, inactivity.

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Social Sciences

Abstract

AGE DIFFERENCES IN PHYSICAL ACTIVITY

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Abstract. *Introduction:* Internationally it is argued that with increasing age the levels of physical activity decrease more. This combined with the low levels of physical activity recorded worldwide during adolescence may lead to an increase in the negative consequences of inactivity. The purpose of the research is to investigate whether age affects the physical activity levels of adolescent. *Methods:* A sample of 50 healthy adolescents from Greece was considered. The IPAQ questionnaires were used to assess physical activity and sedentary activities across school time and leisure time over the past 7 days. *Results:* It was found that age does not affect the total time and the total number of days that adolescent children participate in intense and moderate intensity physical activity. Similar levels were also found for the time and days spent walking on weekdays, at the weekend and overall. Finally, age was not a limiting factor in sedentary activity, the hours spent sleeping, in sports activities and the way of commuting to and from school. *Conclusions:* It was not confirmed that age is a factor that separates physical activity levels between the two sexes. Possibly this is due to the time children spend in tutoring in the afternoons. A larger sample as well as the investigation of the factors that led us to this result will help to implement appropriate intervention programs for this age.

Keywords: IPAQ, adolescence, age, physical activity, inactivity.

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CAN DEEP SEA WATER BE PROCESSED INTO POTABLE WATER AND DISTRIBUTED INTO THE MIDDLE EAST?

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Abstract. The study will conclude with a way to develop institutional structures implementing Solow's conceptualization of inter-generalization that can collaborate peace and increase funds for quality water throughout the Middle East. The study integrates quantitative statistical data and defends the argument that every individual has the right to fresh quality drinking water. The study formulates a hypothesis to gain control, offers visibility into the water industry in the Middle East and delivers reliable information. Identify what the commonalities between different sectors were and where synergies lay in terms of governance paths (Tiller et al, 2021.p.1). Machine learning is exploding as an application of narrow Artificial Intelligence (AI), used to comb through vast amounts of data to better develop and market product (Capitol Technology, 2022. p.1). Cultural transparency will be investigated along with how the government manages reluctance and how they build strong relationships. A focus is on building a network of founder's challenges facing our world today demonstrate how interconnected we are and how the fates of all people are bound up together. The outbreak of a virus overseas can cause profound grief and suffering at home. Energy data will be reported to show key metrics and will be compared to countries in the Middle East and measured in amounts of water consumption and renewable energy. "Questions such as these will be answered by world data," how water is produced by renewable energy"? Conflict a continent away can create endangers our own security. Economic downturns abroad can mean lost jobs and shuttered businesses in towns across the globe (President Biden, 2021). Global climate change worsening hurricanes in the Gulf, floods in the heartland, and wildfires in the West. Because of global warming areas in the world are becoming scarce of potable water for a variety of reasons. Yet what is sure in the oceans is an infinite source of water that is not dependent on rainfall be used to provide potable water for all these drought-stricken regions.

Keywords: Artificial Intelligence, Synthetic Intelligence, Twin Water, Dubai.

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Introduction

With a ship in the ocean pumping the deep ocean water to a purification system reserves osmosis, (RO) system on board and store in specially prepared containers. A long pipe extending from the purification station on shore to the deep ocean where the water is recovered. The power for the RO unit can be supplied by wind turbines or photovoltaic. Water from the purification station be fed into the local distribution system and which be an offshore wind turbine to supply the power and a pipe extending from near the turbine to a RO station on a floating platform (although anchored to the seabed). Water is then delivered to containers on a ship or pumped to shore. A detailed engineering analysis of all three options is needed to decide which method is the most cost effective and the potential seating locations. Initial potential locations be Dubai or Taiwan. The company has requested over 100 orders of this water and a consortium of supermarkets, as well. As a first step, my company is looking to collaborate with a partner to perform a feasibility analysis to

determine which method will be the least costly to implement, have the secured payback in terms of selling the potable water, and have the largest long-term profitability. It will depend on the location of the demand. Assuming the initial analysis shows the feasibility of at least one location to be cost effective, move to the development of a prototype at a selected location. Because potable water is always supplied through some municipality or other government agency, we envision a public-private partnership for this phase.

Literature Review

Intended Audience, Leading Corporations, Innovators, Investment Managers, Companies Raising Capital, Wealth Advisors, Independent Scientists, Research Centers, Universities, Governments, Institutions, Water Dubai Industrial, Independent Sponsors, Islamic Financial Market, Governance Indicators, Businesses in the Arab World, Professors, Deans, Ministries, Authorities, Engineers, Foreign Holdings, The General Reserve, Monetary Agencies, Scholars, and Sovereign Wealth Fund Institutions. The study gives a historical comparison and uses the Ad Hoc theory implementing when necessary. The author is discussing how we can reduce evaporation as this increases the amount of water being produced. There is a more substantial cost with producing water from air. There is also an abundance of panels that are required. Desalination is not new; it has been around since the 70's. The study shows that the Middle East will increase the water supply and have a cost available at .88 per cent which comes from desalination plants which is much higher than what households and businesses pay for it (MENA, 2021, p.1). On current plans and projections, Bahrain will be able to increase desalination capacity to meet municipal water demand to 2030, but that will entail heavy financial, economic, and environmental burdens (Mena, 2021).

The study will investigate extramural support, Shared Equipment Authority for quality water distribution. The indicators are implemented to prove water distribution is needed for well-being and improve social challenges of the Middle East. Former United Nations Secretary-General Ban Ki-Moon, warned: 'extreme weather events continue to grow more frequent and intense, in rich and poor countries alike, not only devastating lives but also infrastructure, institutions and budgets –an unholy brew that can create dangerous security vacuums (United Nations, 2011), (Ide, Lopez, Frohlich, Schffran, 2021, p. 569). International governments should be aware of local conflicts to open the pathway to more resources and try to appease the water industry with regulation. The feasibility study examined alternatives for producing freshwater, one from the sea on a ship and one from a pipeline and a conversion land based and include a no-project results. There are the advantages of working in the Middle East, Dubai, Taiwan, and the Emirates. There will be an offshore pipe with a filter to keep out any debris and it will be far enough out so they can reach it. The current state-of-the-art equipment in the water industry is investigated along with the latest developments towards implementing or upgrading the system. A focus is on the equipment being able to reject salt in a way that is cost effective and non-toxic. That is connected to a pump size the knee meets the needs of the recipients of the water. Reverse Osmosis system distributes water to the domestic water supply system. Financial arrangements, the breakeven timeframe and how much money is really needed to build this with an engineering firm to work will be presented. Most of the water today is supplied by private companies. Up to now, most of the related literatures were about the conceptual design, theoretical analysis, and there conceptual schemes proposed for hydrostatic pressure driven RO desalination, i.e., the submarine, desalination plants, underground plants, and mountain-foot plants (Cui, Ma, Wu, Lu, Fan, 2021, p.1). The study will investigate the information of the needs in terms of water usage per hour or per day. Which will assist in making decisions on the size of the equipment. A & E companies will be scouted that specialize in water and wastewater treatment and purification facilities. A spreadsheet with revenue and expenses for three years' year 1 by month, and the next 2 years by quarters. All the capital investments are started and enumerated. All expenses will have a line. Vision 2030, Global Networking & Siren De will be presented as case studies. Oil transitioning to water will be highly monitored showing the effects of the transition as Saudi Arabia has built most of its wealth from oil and gas.

The Red Sea –Dead Sea Canal Project

The study includes Global marketing, Siren De and Deep-Sea Water Company's teams, Deep Sea Water technology and experts in California. Biofouling and brine are investigated as some of the most serious issues associated with desalination. The study will give an overview of companies, consumption, infrastructure, and infographics.

The Red Sea high-profile joint project agreement in the Middle East has been set in place for 2030. Quantitative studies were performed using surveys, experts, case studies and sample models to exhibit effective distribution of quality deep-sea water. Comprehensive understanding of the independent and dependent variables was presented.

Desalinating techniques are the most favorable. That is due to the simplified process of removing salts that conventional treatments are not capable of completing. New standards are being enforced to protect wildlife and marine life and create a more sustainable environment.

Background of Study

Data networks, relationships, partnerships, experts, and wealth integrate and design a system to make quality water a global interest". Vision 2030 promises a transformation of Saudi Arabia's economy. And the financial sector will be crucial to achieving this (Schulkes, 2021, p.1).

The sector will facilitate private investment focusing on small and medium-sized enterprises (SME) financing. Fund mega-projects and be a driver diversifying away from oil (Schulkes, 2021, p.1). As a result, banks must go from being disruptive and passive to developmental and active (Schulkes, 2021, p.1).

Commercial banks are becoming financial intermediaries between all facets of the Saudi economy, not only the state and large conglomerates (Schulkes, 2021, p.1). The new banking environment requires updated approaches and since Saudi companies – with a few notable exceptions- do not borrow abroad, the domestic banking system is a critical source of funding for Vision 2030, (Schulkes, 2021, p.1). Between 2013 and 2030, this result in cumulative costs of \$11B and consume 15.9 billion m³ if Bahrain's gas - driving competition for limited gas resources between industrial and municipal sectors as well as emitting million tons of carbon dioxide (CO₂) (Mena, 2021). The costs of municipal water supply in Bahrain, revising Bahrain's municipal water tariff structure help conserve water, enhance cost recovery, and contribute to achieving social equity among water consumers (MENA, 2021).

Water Produced by Air.

Here we use regional hydrologic and techno-economic simulations of solar PV panels covering California's 6350 Canal network, which is the world's largest conveyance system and covers a wide range of climates by an average of 39+12 thousand m³ per kilometer of canals (McKuin et al., 2021, p.1). We find that over-canal solar reduce annual evaporation by an average of 39+12 thousand m³ per kilometer of canals (McKuin, et al., 2021, p.1). The net present value (NPV) of over-canal solar exceeds conventional over-ground solar by 20% to 50%, challenging the convention of leaving canals uncovered and calling into question our understanding of the most economic locations to locate solar power (McKuin, et al., 2021, p.1).

The SOURCE Hydropanels work by using solar energy to condense drinking water from moisture in the air (GWI, 2020). They are not the only atmospheric water generators on the market, but they are unique in being entirely solar powered, allowing them to operate independent of any infrastructure (GWI, 2020). According to the AHO, between December and March each hydro panel produced an average of 3.8 liters of water a day (GWI, 2020).

In March, the 48-panel array delivered a total of 2, 123 liters (GWI, 2020). Therefore, in each month, up to 42 times more water is transported by truck than produced by 48 hydro panels (GWI, 2020). Bulk water is cheaper too (GWI, 2020). Hight told GWI that he pays A\$4,000. for 22,000 liters (about the volume of a large U-Haul truck) of water in 10-liter boxes from a supplier (GWI, 2020).

That works out at approximately US\$0.12 per liter (GWI, 2020). Hydro panels, bringing the cost to approximately \$70,000. (GWI, 2020). Still, this is a significant upfront capital investment for a service that will only be useful during temporary periods of crisis (GWI, 2020).

Water produced by the SOURCE Hydro panels is dependent on local environmental conditions of relative humidity (RH) and solar energy (KWR) (SOURCE, 2020). SOURCE performs predictive analytics to predict water production in any area of interest (SOURCE, 2020). On average, each Hydro panel produces 90-150 liters (about twice the volume of a mini fridge) of high-quality drinking water per month (Source, 2020). SOURCE water brings quality and sustainability together - no pipes, no grids, no electricity all made possible with SOURCE Hydro panels (SOURCE, 2020). A two - panel array costs around \$6,000 and produces around 7.5 liters of water per day (GWI, 2020). Amortizing that cost over 15 years gives a water price of \$150/m³ - 124 times the global average cost of tap water (GWI, 2020).

A decision on ultimate feasibility weighs all options, said McPhail (World Bank, 2010). For example, current estimates are that the project be a net consumer of energy in the order of 250MW, according to David Meehan the engineer who heads the feasibility team (World Bank, 2010). "The power demand for the proposed project will be updated as the work evolves," he said (World Bank, 2010).

Currently we are looking at 250MW but that change and of course energy demand will be a factor in the overall feasibility (World Bank, 2010). Although the work was carried out in the lab, the finding is the first to show that migrating zooplankton – or indeed any organism – can create turbulence on a scale large enough to mix the ocean’s waters (Adams, 2018, p.1). This multiplies the brine. The work alters the way ocean scientists think about global nutrient cycles like carbon, phosphate, and oxygen, or even ocean currents themselves (Adams, 2018, p.1) (Tables 1, 2).

Table 1 Alternative Methods of Technology
Vessel
Solar Power Plant
Wind Power Plant
A Battery Storage System
Sewage Treatment Plants
Collecting Water from Air-Extracted by Condensation
Pumping-Pipeline
Marine-Ships
Desalination-Reverse Osmosis
Bottling-Plant Construction
Supply-Chain
Logistics-Packaging Distribution
Mineralizing Rivers
Drilling into the Ground
Underground Reservoirs
Extracting Water from the Air
Onshore
Offshore
Municipal and Solid Waste Plant
Primary Networks/Hubs
Infrastructure & Facilities
Brackish Water
Captive Deionization
Mangroves

Table 2 Characteristics of Water
Agriculture
Drinking
Bathing
Oil & Gas
Food
Pharmaceutical

Methods

The more cited work is geared towards agriculture. This study proposes to increase water in drought areas; although, it may increase water for agriculture which is not the focus for the author. The studies place a focus on chemicals.

The processes eliminate toxins and balance minerals and do not have a need for an abundance of chemicals. The Middle East is renowned for desalination, and they have the largest amount of desalination plants and show a surplus, paradox, areas are scarce of quality water resources. This study differentiates as it does not have an evolved interest in chemicals. In this article by author Djamel Ghernaout, the author presents an overview of the state-of-the-art area of mathematical modeling for reverse osmosis (RO) processes (Ghernaout, 2017, p.112).

The similarity with the articles on water processes are roadmaps and methods. An important variable mentioned frequently in the articles is pressure. From the idea, which conducted to RO, where Samuel T. Yuster imagined the concept of utilizing the Gibb's adsorption equation as a road map to discover methods for making fresh water from Brackish water and seawater, started a long history for a new revolutionary technology for desalination and water treatment (Ghernaout, 2017, p.117). Modeling RO technique still has great tasks to perform until a complete and exhaustive model is obtained (Ghernaout, 2017, p.117).

Geopolitical and discharge are two variables to consider in the study. Are lakes being built around that are inaccessible?

Feasibility Study

Definition - Preliminary Feasibility Study refers to the verification and evaluation of the validity of a new large-scale project conducted in advance under the supervision of the Ministry of Economy and Finance in accordance with Article 38 of the National Finance Act and Article 13 of the Enforcement Decree of Act to establish a valid budget allocation and fund management plan for new projects (Korea Development Institute, 2018, p.1).

Purpose - The purpose of the Preliminary Feasibility Study is to prevent wasting of budgets and to uplift the efficiency in fiscal management by contributing to the transparent and fair decision of the new investment to a government project based on prioritization through the objective and neutral investigation of the validity of a large – scale government project (Korea Development Institute, 2018, p.1).

Assessment of Project Plan

If necessary, The Minister of Economy and Finance can review the appropriate project scale, total project costs, and efficient alternatives of the projects exempted from the Preliminary Feasibility Study based on the methods of Preliminary Feasibility Study and reflect the result in the budget proposal and the establishment of a fund management plane (Korea Development Institute, 2018, p.1). The report notes that policy makers will need to make trade-offs between short-term, uncoordinated measures to respond to immediate water needs, and long-term measures needed to address structural water issues (The World Bank, 2021, P. 1). Recognizing and managing these trade-offs will help ensure that water risks do not undermine progress toward a sustainable recovery in the MENA region (The World Bank, 2021, P.1).

The objective of the Red Sea and Gulf of Aden Ecosystem Management Project for Middle East and North Africa is to improve management in the marine resources in the Red Sea and Gulf of Aden in selected MPAs building on resources protection and incentive systems for communities and the harmonization of the knowledge base on marine resources among Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden, or PERSGA member countries (The World Bank, 2021, p.1). The feasibility study is intending to show the no project results as well as the projected results if adoption takes place. The oil prices drop which occurred in international markets in 2014 has renewed concerns about the economic situation of Saudi Arabia (Faudot, 2019, p.1).

Vision 2030 is a plan for peace and overcoming dropped oil prices (Faudot, 2019, p.1). Saudi Arabia is the biggest oil exporter in the world, and its oil production costs are among the

cheapest in the world (Faudot, 2019, p.4). Saudi GDP depends on oil export revenues (Faudot, 2019, p.4).

It does not mean that no poverty exists in Saudi Arabia, but the Saudi economy is led by a distributive state, not by capitalist entrepreneurs and expropriation of labor (Faudot, 2019, p.10). The enormous wealth accumulated by the Royal family and by the Saudi elites who have privileged access to the oil rent does not make capitalist entrepreneurs (Niblock and Malik, 2007, pp. 88-89, Faudot, 2019, p.10). "Dependency on the state has rendered a large segment of the Saudi population unwilling even to consider employment beyond the public sector (Faudot, 2019, p.12).

Saudi Arabia looks like a pre-capitalist economy where happened the contrary to what Karl Max described as the process of primitive accumulation (Faudot, 2019, p.10). Geopolitical and contractual are imperative in the adoption process. "Memorandum of Understanding", need to be investigated.

With solar panels there is no need for electricity or pipes. SOURCE Hydro panels are an expensive way of making water and a small volume of water produced is another determinant (GWI, 2020). Feasible to consider a "contingency resource" (GWI, 2020). Desalination continues to win on production as there is an unlimited source of water available from the sea.

There is still a quality taste that be further researched. Which taste is preferred etc.? An example is Perrier water; they have made a tremendous name for themselves in quality. Individuals are willing to pay more to drink Perrier.

There is a sense of urgency in coupling renewable energy. In Jordon's case they have capital issues. One way to increase revenue is to share cargo loads.

It needs further investigation but what is a possibility is delivering the water to Jordon with the highest security and coming back with retail. Aquila network of caravan trade was crucial in establishing motorized connections across the territories that had formerly been parts of the Ottoman Emon Empire (Petriate, 2021, p. 273). Private and public are working together; paradoxically, have not achieved the desired results.

Co-sharing reduces the burden of elaborate costs and keeps the price affordable for the desalination plants in the Middle East showing the surplus (they are the only ones to show such success). In the Middle East and North Africa, the region with the highest levels of forced displacement, water resilience is key to long-term growth (The World Bank, 2021, p.1). The report anticipates that the world's cities, which receive migrates and are now how to 55% of the global population, will face arising number of "day-zero" events- when taps run dry (The World Bank, 2021, p.1).

The report, Ebb and Flow provides the first – ever global assessment of the impact of water on migration ever assembled, covering half a billion people from 189 population census in 64 countries, from 189 censuses (The World Bank, 2021, p.1). In the Middle East and North Africa (MENA), where 60 percent of the population lives in the water-stressed areas, the report notes that water is already one of the main vulnerabilities faced by people living in the region, particularly those displaced by conflicts and the host communities (The World Bank, 2021, P.1). Yet it is often the poor that cannot afford to leave (The World Bank, 2021, p.1).

The MENA region has the world's highest levels of forced displacement with an estimated 7.6 million refugees (about twice the population of Oklahoma), of whom 2.7 million are hosted in the region, and 12.4 million internally displaced fleeing protected conflicts (The World Bank, 2021, p.1). Using data from Duke University's targeting of infrastructure in the Middle East (TIME) database, the report finds that, since 2011, there have been at; least 180 instances in which water infrastructure was targeted in conflicts in Gaza, Yemen, Syria and Libya, leaving hundreds of thousands without access to water (The World Bank, 2021, p.1).

Resolution Opportunities

Integrate state-of-the art innovation, partnerships, private investing, co-sharing shipments, and knowledge for informed decision making.

- Ecological Partnerships

- Import & Export Arrangements
- Proper Licensing
- Proper Disposition of discharge.
- Maintaining records.
- Achieving the highest quality water with maintain quality.
- Analyzing Key performance.
- Cooperative Management for shared water resources.
- Expand on keeping the peace.

The case study presented is the Red Sea project and an investigation into the Dead Red Sea. The main project is called, Triple Bay”, (Gulf Construction Online, 2021, p.1). The Red Sea project and Amaacla is expected to create more partnerships and break new ground (Gulf Construction Online, 2021. P.1).

We are embracing nature-based solutions in addition to technical approaches for carbon sequestration, including growing more mangroves and seagrasses, and even mechanical trees, which will help us to achieve 100 per cent carbon neutrality (Gulf Construction Online, 2021, p.1). We plan to deploy around 2,500 Internet of Things (IOT) sensors throughout the coral reefs, turtle nesting sites and the wider lagoon (Gulf Construction Online, 2021, p.1). The goal is to achieve 30 per cent net conservation benefit by 2040 (Gulf Construction Online, 2021, P.1).

Problem Statement

The general problem is the growth of population, industrialization, environmental deterioration, and economic evolution in the world has resulted in increased demand for accessing fresh water (Ali, Hilal, Pathak, Shon, 2020, p.485).

Purpose of Dissertation Study

The author Diane Roessler Weinert, began a study of eczema when testing cures hydration was a factor for curing eczema. Testing on one patient, the eczema was cured. The study trumped the impossible.

When the study was taking place, the author wanted the le crème’ de, le crème of everything that needed to be implemented. The phenomena were reached, and the research expanded. The author was elated when Capitol Technology University accepted the proposal for the water project.

The Middle East was the chosen geographical location as when the author was investigating areas the author came across “Vision 2030”. The author has learned a lot in her academic years and one thing stands out you must have focus and be specialized and if you deviate or go one million directions it will not work. That is why only the Middle East is selected. Chi-square and meta-analytical are the methods synthesized in the study.

I will be implementing chi-square instead of showing multiple scenarios. I will present to the chair the feasibility study with information on costs executing the study and if the proposal is not executed. Empirical evidence has been chosen over conventional theory.

If it has not worked in the past, why we accept the concept that it will work today? Desalination is a process that works; however, it is geographical. To distribute the water another process will need to be included.

Conventional truth (samvrit-satya) is tapped in to include the history of desalination. More attention applied to transparency that will be referred to as the ultimate " real truth". The goal is to conclude the study with information that will assist in the discovery of relevant and accurate decisions. The satellite data includes relevant data about water availability and scarcity in the immediate area in the Middle East with metrics of limited rainfall, groundwater, rather than approximating measurements (WRAP, 2018, p.1).

Significance of this Study

Significance of this Study: The purpose of this quantitative phenomenological study is to complete a feasibility study of extensive data of deep-sea water, technology such as hydropanel and

desalination to eliminate quality water scarcity and improve health for displaced people in the Red Sea such areas as Jordon.

Nature of Study

The study will contribute to the field with knowledge about drought areas in the Middle East and present available options to improve the best and low-cost alternatives and how these will influence specific research questions (Capitol Technology, 2021, p.1).

Research Questions

The questions are designed to synthesize chi-square and meta-analytical methods (Randolph, 2009, p. 4). The key components are (a) a rationale for conducting the review; (b) research questions or hypothesis that guide the research, (c) an explicit plan for collecting data, including how units will be chosen; (d) an explicit plan for analyzing data, and (e) a plan for presenting data (Randolph, 2009, P.4). The study takes on a specific direction of investigating pricing for the alternatives of water and proposes a recommended solution.

The Middle East through this study has been categorized as “high risk” due to geopolitical. The questions are geared to understand how the water is currently processed and to see if the recipients may have a recommendation. Geopolitics are in flux (Service, 2020, p.1).

Putin has argued that the export of liberal values to the region crushed domestic traditions and destabilized whole societies (Service, 2020. P.1). Nothing is stranger that the notion, widely held that Russia is a newcomer to the Middle East (Service, 2021, p.1). The Syrian military intervention which started in 2015 was a piece with this geopolitical strategy (Servioce, 2020, p.1).

Russia has established a solid foothold across the Middle east (Service, 2020, p.1). The Mediterranean is both a fault line of cultures in conflict and geostrategic chokepoint (Strauss,2019, p.1). Even in ancient times, a series of small canals connected the Nile River- and, thereby the Mediterranean –to the Red Sea, but they were in no way as efficient or as navigable as the Suez Canal (Strauss, 2019, p.1)

Questionnaire

(1) Will having quality water available increase the revenue in improvised areas?

The problem of low coverage levels, particularly among poor and marginal communities is of particular concern in developing countries and those with rapid rates of population growth and migration (Mumssen, Triche, Sadik, Dirioz, 2017, p.12).

(2) Who is purchasing the water?

Water is, of course, highly political and management decisions are subject to serious debates and anxieties at scales, but often with a sense of higher stakes in desert settings (Koch, 2021, p.90). The cases analyzed have engaged the formal private sector (national, international, or both) to invest in and operate large-scale projects (Mumssen, Triche, Sadik, Dirioz, 2017, p.12). Economic regulation refers to the laws, regulations, enforcement mechanisms, incentives, and processes that are employed by governments to ensure that essential services such as water supply and sanitation services (WSS) are available to the population at reasonable prices (Mumssen, Triche, Sadik, Dirioz, 2017, p.12).

Industrialized nations agree under the convention to support climate change activities in developing countries by providing financial support for action on climate change – above and beyond any financial assistance they already provide to these countries (United Nations Climate Change, 2021, p.1). A system of grants and loans has been set up through the Convention and is managed by the Global Environment Facility (United Nations Climate Change, 2021, p.1). Industrialized countries also agree to share technology with less advanced nations (United Nations Climate Change, 2021, p.1).

With the Paris Agreement, countries established an enhanced transparency framework (ETF) (United Nations, 2016, P.1). Under the ETF, starting 2024, countries will report transparently on actions taken and progress in climate change mitigation, adaptation measures and support provided or received (United Nations, 2016, p.1).

(3) What are the dangers to marine life?

Regulatory framework-usually refers broadly to both the enabling environment that supports accountability, transparency, and achievement of regulatory objectives as well as the specific regulatory rules, mechanisms, and procedures that are applied as part of the regulatory process (Mumssen, Triche, Sadik, Dirioz, 2017, p.12).

(4) What are the dangers with the infrastructure?

Formal regulation of WSS became a topic of international interest in the late 1980s when the rising costs of infrastructure needed to serve expanding populations and protect the environment led policy makers to seek private investment (Mumssen, Triche, Sadik, Dirioz, 2017, p.12).

(5) Can increasing wealth increase the availability of water resources?

Water resources management (WRM) aims to ensure the sustainability and quality of water resources, manage water shortages and avoid the economic, political and national security risk associated with water shortages (Mumssen, Triche, Sadik, Dirioz, 2017, p.12).

(6) How do you receive water information?

What are some of the challenges you have encountered in leading a project of this scale since its interception (Gulf Construction Online, 2021, p.1)?

From our approach to regenerative tourism to the fact we are building our own infrastructure that ensures we are off grid 100 percent powered by renewable energy (Gulf Construction Online, 2021, p.1). A lot of what we are doing is new (Gulf Construction Online, 2021, p.1). Likewise, our strict sustainability commitments mean for any development works we carry out, we must ensure that the habitat and wildlife are protected at all costs (Gulf Construction Online, 2021, p.1).

What is the vision of creating a cooperation between The Red Sea Project and the Amaala project?

The Kingdom's Vision 2030 programme lays out the framework to diversify the economy with three main themes: a vibrant society, a thriving economy, and an ambitious nation (Gulf Construction Online, 2021, p.1). The Red Sea Project includes inland resorts but is a destination built around a stunning archipelago of more than 90 islands (Gulf Construction Online, 2021, p.1). Please comment on the progress achieved to date on The Red Sea Project, given the fact that it is a unique development in a remote location and like all projects, will have faced challenges in the wake of the COVID-19 crisis (Gulf Construction Online, 2021, p.1).

Despite the difficult circumstances surrounding the pandemic, we have more than 500 contracts worth over SR15 billion (\$4 Billion) to local and international partners (Gulf Construction Online, 2021, p.1). We have an exciting year ahead of us at TRSDC (Gulf Construction Online, 2021, p.1). As we move into a post-COVID world, we are creating more partnerships, breaking new ground and continuing to move forward with our plans to welcome the first guests by 2022 (Gulf Construction Online, 2021, p.1).

Source water is produced using patented solar technology that draws pure water vapor out of the air and converts it to premium, mineralized drinking water (The Red Sea Development Company, 2021, p.1). Water created from these hydro panels will be bottled at a plant that also runs on solar energy, creating the largest solar powered of its kind (The Red Sea Development Company, 2021, p.1). Located on site at the Red Sea Project, the source facility will have a capacity of 2 million 330 ml bottles annually and will initially produce 300,000 bottles a year (The Red Sea Development Company, 2021, p.1).

The reusable glass bottles will be refilled on site as part of a circular sustainable distribution model (The Red Sea Development Company, 2021, p.1). Water harvesting and bottling will generate zero carbon and zero single-use plastic bottles (The Red Sea Development Company, 2021, p.1). Our partnership with Global Source makes us the only destination in the world with truly regenerative bottled water and reflects our commitment to separate using only renewable energy and free of single-use plastics (The Red Sea Development Company, 2021, p.1).

TRSD uniquely serves sustainable tourism market, which is poised to grow by US \$130.12 billion between 2020-2024 (The Red Sea Development Company, 2021, p.1). The Red Sea Development Company will make Source water its exclusive water including the largest solar-

powered facility of its kind ensure the use of glass over plastic have 0 impact and produce 300,000 glass bottles per year (The Red Sea Development Company, 2021, p.1). Source Global, PBC's mission is to make drinking water an unlimited resource (The Red Sea Development Company, 2021, p.1).

Theoretical Framework

The theoretical framework selected is circular technology economy framework that will include - quantitative synthesis, budget, historically, conceptually, methodology, geopolitical, quality, coverage, significance, and rhetoric (Randolph, 2009, p.1). Familiarity with the historical, germinal, and current literature in the field. The framework was selected for this study because it is focused on the scope, the author manipulated the questions to fit the industry.

Thanks to its single nature, this framework will enhance the knowledge of the water industry, the history of the water industry and the upcoming project for the water industry. Literature analysis and discussions took place held at the 2021 Family Conference. The study considers the different methodology, conservatism, bureaucracy, and geopolitical and investigates the logic that each play in each role of the process in developing sustainable water that is accessible.

Additional verification was completed by experts from the water and engineering fields. There will be a thorough investigation of the issue of the Middle East's lack of water. The frequency and hypothesis of water distribution in the Middle East are tested using meta-analysis and chi-square.

The probability theory shows that desalination is a more popular choice among people in the Middle East. The Middle East also shows that they have a surplus. The author wants to eliminate falsification and be able to present the truth. Investors are interested in knowing if they will make money.

In the article by Richard C Whitfield, "Solar Thermal Hot Water for Hotels", the process of hotel water distribution is explained. The author explains that solar approach does work yet not adopted by everyone. Historically, all hotels incorporated boilers fueled by wood or fossil fuels for making hot water (Whitefield, 2021, p.1).

Solar water heating systems ("Solar water heating", n.d.) are also starting to attract interest for hotels (Whitefield, 2021, p.1). As to be hoped about climate change issues, hotels are clearly starting to put considerable efforts into reducing the energy consumption, and these initiatives are achieving very reasonable returns on investment and decreasing (and not increasing) the operating costs (Whitefield, 2021, p.1).

Research Design

For the Foster Plot the author searched the ISSN number on Google Scholar and recorded the number of citations.

Identified Research Variables

Independent Variable - State-of-the-Art water innovation study

Alternative equipment will be researched, and a feasibility study is given. The goal is to produce the best quality water and the lowest cost available.

Dependent Variables

- 1) Population Growth- population is expected to increase with mitigation by 2050.
- 2) Risk-Area studies research and forms of knowing can often be "territorially trapped" - that is, they are bound by rigid spatial frames of the global map, which neglect the dynamic ways that people, ideas commodities, and power relations cross borders and unite places for removal from one another (Koch, 2021, p.89).
- 3) Historical-The history of the antiquated and rhetoric will be analyzed. Desalination is the preferred method.
- 4) Geopolitical - A desert geopolitics framework is thus insofar as it refuses to take the "place out of the landscape" by detaching water as a separate category of analysis (Koch, 2021,

p.90). Is strong arming keeping one country ahead of another? Is lack of water due to affordability? This will be investigated.

The field of geopolitics encompasses a great deal but for critical geographers today, it most fundamentally reflects how people visualize and make sense of the world by associating political and moral value with various places (geopolitical imaginaries) and how they act on those maps (geopolitical practices) (Koch, 2021, p.101). To study geopolitics is to examine “the geographical assumptions designations and understandings that enter into the making of world politics” (Koch, 2021, p.101).

5) Landowners- This article shows how jointly imaginaries of the desert have been enlisted in both forged foreign relations and domestic state making in the US West and the Arabian Peninsula (Koch, 2021, p.101). The best-known case today of desert agriculture imperialism is the Israeli settlements in Palestine, ranging from the earliest Zionist farming projects to more recent tree-planting campaigns and the state-led takeover of science water resources needed to sustain Palestinian and Bedouin farmers (Koch, 2021, p.89).

Research methods

This is a quantitative, analytical model, in-depth- analysis, grounded theory meta-analysis study including primary and secondary research. A holistic environmental approach is taken with indicators which include vibrant society, thriving economy, ambitious nation, higher-education, innovation, sovereign wealth with frequency of occurrence. The indicators chosen to detect the market for productivity are high conversion rates, large consistent deposits and engaged with education.

The study will include past methods implemented and then compare with the results of methodological flaws of those methods presented. Peer Reviewed articles from to A journals are selected. Search engines ProQuest, Google Scholar, Royal Society & Stanford are used. Academic sends me an article daily. The author enjoys Smart technology, and a percentage is cited; however not all the articles are used in the study only implements the novel.

Results

On September 19, 2018, the Water Environment Federation published an article on their Stormwater report blog focused on WRAP’s collaboration with NASA DEVELOP to use satellite data to assist with identifying the most suitable locations for rain harvesting systems (WRAP, 2018, P.1). The author searched the Persian Gulf, Talha, Khan, Aquil, Qatar, Saudi Arabia, Isreal, Bahrain, United Arab Emirates and the counts were 415 companies and 1,860 contacts (Dunn, 2021, p.1). The study implements the methods chi-square to connect the relationships between categorical variables. Mangrove to include Artificial Intelligence.

Rentier Regime to implement regulation and investigate to conclude who owns the land. Ad hoc will drive the paper as it is designed to address the problem of water shortages. White Space is designed for the public.

Construction theory implements the philosophy of law.

Problem of water shortages. White Space

All counts related to the water desalination industry,

- Vessel
- Solar Power Plant
- Wind Power Plant
- A Battery Storage System
- Sewage Treatment Plants
- Collecting Water from Air-Extracted by Condensation
- Pumping-Pipeline
- Marine-Ships
- Desalination – Reverse Osmosis
- Bottling-Plant Construction
- Supply-Chain

- Logistics-Packaging Distribution
- Mineralizing Rivers
- Drilling into the Ground
- Underground Reservoirs
- Extracting Water from the Air
- Onshore
- Offshore
- Municipal and Solid Waste Plant
- Primary Networks/Hubs
- Infrastructure & Facilities
- Brackish Water
- Captive Deionization
- Mangroves (Dunn, 2021).

A database has been designed and coded for the articles selected. The results are examined at conferences and on a regular basis by experts within the water industry. The process of discovering phenomena is documented.

The process begins with an electric search of qualified articles that have high citation numbers (Randolph, 2009, p.1). Databases are searched by key words (Randolph, 2009, p.1). The research is complete when a point of saturation has been reached (Randolph, 2009, p.1).

The relevant information was separated from the irrelevant information (Randolph, 2009, p.1). The authors' citations from articles have been verified; consequently, not implemented in future research as the author finds outdated. The author uses a five-category Rubicon for evaluating the literature review, coverage, synthesis, methodology, significance, and rhetoric (Randolph, 2009, p.11).

What might we glean from investigating the myriad ways that deserts of the world relate to one another (Koch, 2021, p.190). Like oceans, deserts represent an environmental imaginary that is hoped by certain physical traits (Koch, 2021, p.190). But humans always filter these traits through social, cultural, and political lenses- sometimes the unique features are deemed important (e.g., emphasizing the differences between deserts in Arizona and Arabia), and other times they are ignored (e.g., emphasizing a more global desert experience) (Koch, 2021, p.90).

Just as one never thinks to detach “water” from the story of oceans in the maritime response to the territorial trap and arid-lands response does not treat “water” as a separate category of analysis (Koch, 2021, p.90).

- Hypothesis - By having extensive amounts of desalination plants water will be available for everyone. Pricing will influence the decision process. The Middle East is focusing on keeping peace.

When individuals have available resources such as quality water they are living in a peaceful atmosphere. This leads to Maslow’s theory that basic needs must be met. When basic needs are met then people can prosper when the basic needs are not met then depression will set in.

Vision 2030 is promoting keeping peace. There are over 500 contracts signed by supporters.

- Gaps - Clear transparency on water processing alternatives. It has been difficult to complete a feasibility study as the author was unable to substantiate the pricing alternatives. RO remains a limited physical process which needs more research in terms of design and construction to increase its performance (Gheraout, 2017, p.118).

What is a statement of Washington’s “red lines”, - there is an urgent need for an end to ambiguity about what the US leadership is willing to tolerate before military, diplomatic or economic sanctions are applied (Service, 2020, p.1). Transparency enhanced public approval of decisions (Randolph, 2009, p.1). America has a lot of influence from the Elite (Service, 2009, p.1).

America lacks the capacity for symmetrical retaliation simply because in Russia, unlike the United States, the result of a presidential election is known in advance and immune to external influence (Service, 2009, p.1). The instruments of IT power are always available (Service, 2009, p.1). Jordan signed an agreement in 2013 to join the water shared program which has now changed.

Syria has decided not to go through with sharing water. The countries are fighting for independence and do not want to work with others. Israel paid an absorbent amount for Jordan to renege.

The world's biggest owner of publicly traded stocks, Norway sovereign wealth fund, is about to get the political go-ahead to insist that all companies in its portfolio have clear targets for cutting carbon dioxide emissions (Bloomberg, 2021, p.1). It's a goal that was enshrined in the 2015 Paris agreement as an essential step toward preventing catastrophic temperature rises (Bloomberg, 2021, p.1). "It's not practical to embark on something that's not coordinated with others," (Bloomberg, 2021, p.1) "

The biggest gains are tied to coordinated action, when investors team up (Bloomberg, 2021, P.1). It finds that effective cooperation between Israel and Palestine is unlikely soon if both parties with the business-as-usual approach (Dai, 2021, p.1). What constraints the two parties from achieving consensual agreement are political tensions, the constraints of current technology, the different perceptions of the value of the shared water, the mistrust between the two parties, the lack of external enforcement mechanisms, and the impacts of the domestic political environment (Dai, 2021, p.1).

Israel uses the water governance approach (Dai, 2021, p.1). Israel and Palestine in the water sector has been analyzed in a rich body of literature and interpreted through different disciplines, for example, legal, international relations and politics, engineering, and economics, and different perspectives such as climate change, water management, socioenvironmental relationship, cultural, and human rights (Dai, 2021, p.1). The 10 building blocks framework, the OECD Water Governance Indicator Framework, the Governance Capacity Framework, the Operational Framework for Water Governance, and frameworks that focus on the conditions of good governance, and the individual Governance criteria (such as effectivity, efficiency, and legitimacy (Dai, 2021, p.1).

These frameworks demonstrate one of the more important general conditions, such as the importance of indicators, the interconnectivity capacity of governance, and the conditions for Governance from a broad perspective (Dai, 2021, p.1). Dai's study proposes to examine the implementation constraints on Israel-Palestine water cooperation (Dai, 2021, p.1). To do so, the author chose the 10 Building Blocks framework as the analytical framework (Dai, 2021, p.1).

This is because, compared to other frameworks, the 1p building blocks Framework distinguishes water governance conditions related to content (characterization if water in terms of issues, drivers, and values), organizations (the role of stakeholders, trade-offs, and regulations) , implementation financing, enforcement, and conflict resolution) (Dai, 2021, p.2). The 10 Building Blocks Framework was developed by van Rijswick etc. al. with the aim identifying the strengths and weaknesses in water governance capacity from a holistic perspective (Dai, 2021, p.2). Each of the 10 elements is assessed by answering corresponding questions (Dai, 2021, p.1).

In Chapter 2 the author will be introducing the study with a literature review map in the appendix (Academic Review Checklist, 2021, p.1). Historical overview explaining research journals that were included in the study along with research documents and current findings (Academic Review Checklist, 2021, p.1). Reverse Osmosis can remove toxins and deliver purified water, the alternatives are not as transparent. In chapter 1 there is evidence to support desalination has the advantage.

Chapter 2 will delve more into the investigation of the gaps as we know now, water set aside for agriculture, white space, and transparency. The UNFCCC borrowed an especially important line from one of the most successful multilateral environment treaties in history (the Montreal Protocol in 1987) it bound member states to act in the interests of human safety even in the face of scientific uncertainty (United Nations Climate Change, 2021, p.1). Further studies will have to investigate how to influence the norms, traditions, and beliefs towards favorably supporting household sanitation decisions (Revilla, Seetharam, Rao, 2021, p.2).

The author undertook a meta-analysis approach to evaluate the relative impact of the water equipment process. Randomized case studies were compared by the damages of the water

distribution process versus the benefits. In total the Middle East identified reported long-term benefits showing a surplus in water distribution with desalination.

The primary endpoint was a stream of quality water available to everyone without an astronomical price. A funnel plot was used for quantitative purposes. The meta-analysis investigated the relative longevity of quality water implementing *a* and *b* are true and *c* is false.

UAE residents use up to 550 Liters of water per day (International average is 170-300 per day making it 82 per cent higher than the world average (Gulf News, 2018, p.1). The UAE has the highest bottled water consumption per capita (265 Liters per year). The UAE accounts for 14 percent of the world's desalinated water (Gulf News, 2018, p.1).

Intensive research is required as all tests were not evaluated which concludes biases. The purpose of this funnel plot is to detect any risks and improve the quality and profitability of quality water. An exorbitant number of biases exist.

In this Chapter the author shares findings and a couple of lessons learned on the history of water distribution in the Middle East. The Chapter will allow investors to know in a single sentence what the study is about. Until a more reliable source can be discovered, the World Bank is the one referenced for measures and scales.

The study stands out as it incorporates the top journals and introduces a tangible paper to sum the industry up. The author works with A & E companies to get the costs for the feasibility study. Investors like to see a pattern of success before investing.

"Vision 2030" and Global Networking will be used as a case study. Global Networking helped build the pathway for Artificial Intelligence with Japan and the cure for eczema. Increased revenue by \$8. Trillion dollars.

Global Networking created the design for higher education internationally internally. If commonality and interest can be reached it can improve the wealth of the displaced areas desperate for quality water. This will generate a more pleasant lifestyle for what they are used to and allow for peace amongst rivals.

Once areas are developed with infrastructure and wealth increases it takes a utilitarian approach and will improve physical and mental health. The study will examine if water is available and if it is more of a geopolitical risk that is hindering water distribution. The investigation was completed using an A journal and an expert, Jack Woo.

Jack is a successful attorney family-oriented person putting his kids through college and one if they earn over \$1MM a year with his first job earning \$100,000 a year. When Jack speaks of his investing habits, he explains that he invests with no emotional attachment. He invests in where people are controlling the distribution such as bottled water versus municipal water.

One of the largest issues people are experiencing is imposing themselves on people not interested. This causes the wealthy to flee. There is also the issue of greed setting in.

As Jack mentions, taxing the wealthy is what the US has in its strategy; consequently, this will not work as the wealthy are not dumb and no way will they just give you the money. Jordan is showing depletion of the Middle Class. An investigation into Union status be looked at. De-risking is going to be a priority.

Some believe that the size of the Middle Class was decreased, especially after the Jordanian family the deterioration of economic conditions resulting from low economic conditions resulting from low economic growth rates and high unemployment rates (Aljaloudi, 2021, p.1). The goal of this chapter is to complete a feasibility study with a cost analysis explaining the opportunities, benefits, and risks. The author will cover different theories and methodologies being implemented throughout history and today.

The study will investigate the barriers such as geopolitical, historical, governance, bureaucracy, water inequality, to create quality water distribution. White spacing and gaps are explored. Conflict resolution and transformation are analyzed investigating geopolitical.

Hypothesis is being implemented to test all findings. The study will present the disruptions that have caused water shortages. The study will explore that by increasing the wealth water scarcity will no longer be an issue for deprived areas.

De-securitization will be employed to get to the root of issues. The study will consist of a case study of, “Vision 2030”, and investigate the common vision with the cross-border environment and peace building. Who is influencing the decisions will be included.

This is especially pertinent as we are moving into an area of artificial intelligence as the bots are producing the data. It is important that the deprived areas are included in the mapping and budget allocation to meet the basic needs. The study makes clear practical concerns why private is important to the Middle East then shows how the concerns can be addressed (Randolph, 2009, p.8).

Current literature will be analyzed implementing five-category rubric, categories of coverage, synthesis, methodology, significance, and rhetoric (Randolph, 2009, p.11). The author used a rubric to rate articles of 50 education-related academic dissertations (Randolph, 2009, p.11) Figure 1.

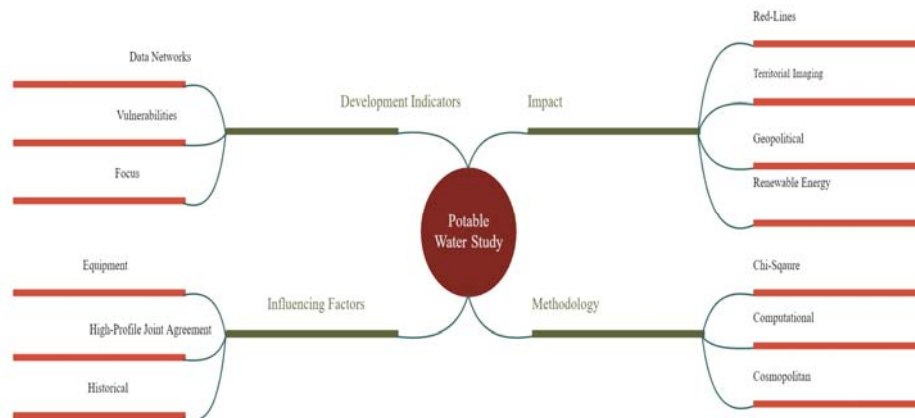


Figure 1. Conceptual Model

The article "Understanding Stakeholder Synergies Through System Dynamics, Integrating Multi - Sectoral Stakeholder Narratives Into Quantitative Environmental Models", found on Research Gate, illustrates stakeholders and explains how one variable could affect another variable (Tiller et al, 2021, p.7).

The Ad Hoc approach of the Study builds the relationships of data, networks, co-sharing, partnerships, experts and wealth to ensure quality water is available to everyone. Plentiful of cited articles lack luster and less impactful with an attention towards agriculture and chemical processing.

The article is a Blueprint for methodology and framework. The goal of the article is to design a comprehensive scope with value and synergy with delivering a new approach with artificial and synthetic intelligence. The article assists in answering the question," Are there any important links missing and if the strength of relations was correctly represented (Tiller et al, 2021, p.7)? The study is organized in a historical format chronologically, and emphasis is on the progression of the research methods, theories, and a change in practice over time (Randolph, 2009, p.4). The study is organized methodologically as an empirical paper (introduction, method, results, and discussion) (Randolph, 2009, p.4). The author begins with an introduction, defines the method, and presents the results in a historical way then moves on to discussion formats (Randolph, 2009, p.4).

China is inching strongly towards the top of the global order in accordance with a vision adopted by the Communist Party to turn China into a middle-level advanced country by 2035 and a superpower matching the United States by 2050 (Saqr Alsulami, 2021, p.1). The United States maintains a strategic military presence in the Middle east to protect its interests (Saqr Alsulami, 2021, p.1). It partnered with the Gulf states to extract and export oil in the past and currently it is among the biggest trading and investment partners to countries in the region (Saqr Alsulami, 2021, p.1).

The region depends on it to provide high-tech services and products such as industrial, medical, technological and consumer equipment as well as machinery, transportation, and spare parts (Saqr Alsulami, 2021, p.1). Meanwhile, US investments in the Middle east reached \$75 billion during the period from 2009-2019 (Saqr Alsulami, 2021, p.1). This is classed by some as a form of

a “soft military presence” to protect its trade movements within key strategic corridors (Saqr Alsulami, 2021, p.1).

Chinese investments in the Middle East and North Africa reached \$197 billion during the period from 2005 to 2020 (Saqr Alsulami, 2021, p.1). Along with this growing technological influence, China’s influence is growing via its Belt and Road Initiative, which strengthens its presence on the ground in the region (Saqr Alsulami, 2021, p.1). Owing to its geostrategic location and its rich energy resources, the Middle East receives much attention from all global powers, despite the divergent visions and political ideologies (Saqr Alsulami, 2021, p.1).

The funds for water distribution are through indicators is from UAE Sovereign wealth funds, capital from Gulf equity partners, family offices, The World Bank, Bank of Bahrain, institutional investors, pensions, charities, insurance companies and endowment funds. Putin has become a player in the Middle East (Durmaz, Habibullina, 2020, p.5365). Our goal is to present the growing role of the Russian Federation in the Middle East using data and explore the role of economic and energy investments in this process (Durmaz, Habibullina, 2020, p. 5365). Results were mixed on the efficiency of sanitation delivery since political factors and administrative characteristics vary across locations (Revilla, Seetharam, Rao, 2021, p.2).

Conceptual or Theoretical Framework

In this chapter the author explores problem formation, data collection, data evaluation, analysis, interpretation, and public presentation (Randolph, 2009, p.4). With a few modifications, what one knows about conducting primary research applies to conducting secondary research (literature review) (Randolph, 2009, p.4). The key components are (a) a rationale for conducting the review, (b) research questions or hypothesis that guide the research, an explicit plan for collecting data, including how units will be chosen, (d) an explicit plan for analyzing data, and (e) a plan for presenting data (Randolph, 2009, p.4).

Validity and reliability, the same issues that apply to primary research, also to secondary research (Randolph, 2009, p.4) (Table 3).

Research Comparison

Conceptual maps were designed from each sectoral casual loop diagrams , capturing the system feedback structures across the sectors (Tiller et al, 2021, p.2). Today, meta-analytical review has taken the forefront (Randolph, 2009, p.8,9). In a meta-analytical review, the reviewer (a) collects a representative or a comprehensive sample of articles, (b) codes those articles according to aspects (study quality, type of intervention used, type of measure used, study outcomes), finds a common metric (standardized mean difference effect size) that allows the study outcomes to be synthesized, and then (d) examines how the characteristics of a study covary with study outcomes (Randolph, 2009, pp.8,9). One of the largest issues is who is purchasing and the influence they have over the outcome.

Private is examined to see how private wealth is distributed. The Middle East is under autocratic rule. With oil prices dropping they are seeking alternative investments.

The participation of private sector, through public-private partnerships (PPPs), has been considered an alternative effective method for increasing the efficiency and productivity of urban infrastructure development (Tamosaitiene, Sarvari, Chan, Cristofaro, 2020, p.1).

Per capita resource levels are political settlement tends to be more constrained – rulers are threatened by the private sector-autocrats tend to restrict private sector development to prompt or suppress threats from outsiders (Tamosaitiene, Sarvari, Chan, Cristofaro, 2020, p.1). Results show that technical and organizational barriers and risks were perceived as the most important to private sector participation, followed by economic, financial barriers, risks, and then political and legal barriers (Tamosaitiene, Sarvari, Chan, Cristofaro, 2020, p.1).

The top 12 development journals published a total of 18, 329 papers during the period 2000-2020 (Revilla, Seetharam,Rao, 2021, p.2). The data evaluation findings proved that The World Bank has a reliable, significant, and accurate database (Randolph, 2009, p.8). The data was extracted for population growth and funding.

Table 3 Problem exploration of research stage					
Research Stage					
Stage Characteristics	Problem Formulation	Data Collection	Data Evaluation	Analysis and Interpretation	Public Presentation
Research questions asked	What evidence should be included in the review?	What procedures should be used to find relevant evidence?	What retrieved evidence should be included in the review?	What procedures should be used to make inferences about literature as a whole?	What information should be included in the review report?
Primary function in review	Constructing definitions that distinguish relevant from irrelevant studies.	Determining which sources of potentially relevant sources to examine.	Applying criteria to separate “valid” from “invalid” studies.	Synthesizing valid retrieved studies.	Applying editorial criteria to separate important from unimportant information.
Procedural differences that create variation in review conclusion	Narrow concepts might make review conclusions less definitive and robust. Differences in operational detail.	Differences in the research contained in sources of information.	Differences in quality criteria. Differences in the influence of non-quality criteria.	Differences in the rules of inference.	Differences in guidelines for editorial judgement.
Sources of potential invalidity in review conclusions	Narrow concepts might make review conclusions less definitive and robust. Superficial operational detail might obscure interacting variables.	Accessed studies might be qualitatively different from the target population of studies, People sampled in accessible studies might be different from target population of people.	Nonequality factors might cause improper weighting of study information. Omissions in study reports might make conclusions unreliable.	Rules for distinguishing patterns from noise might be inappropriate. Review based evidence might be used to infer causality.	Omission of review procedures might make conclusions irreproducible. Omission of review findings of study procedures might make conclusions obsolete.

Then the information entered the main body of the dissertation (Randolph, 2009, p.7). The literature review, of course, will require the extraction of additional types of data, especially data that identify the factors that may influence research outcomes (Randolph, 2009, p.7). In the experimental research the reviewers coding book will extract from each article of the measurement instruments used: the independent, dependent, and mediating/moderating variables investigated; the data analysis procedures; the types of experience tall controls; and other data (Randolph, 2009, p. 7).

Both high quality and low-quality studies and reporting the difference between the two (Randolph, 2009, p.7). The goal of reviews is to synthesize research outcomes (Randolph, 2009, p.7). The literature review, combined with the research problem should lead to the formulation of empirical research question, “Can Deep Sea Water be Processed into Potable Water and Distributed into the Middle East” (Randolph, 2009, p.8)?

The study makes a meaningful contribution to knowledge in the field (Randolph, 2009, p.8). Meta-Analysis is used to synthesize and analyze a body of quantitative research (Randolph, 2009, p.9). MDTF supports technical assistance for project preparation, analytical studies, capacity building and knowledge sharing (The World Bank, 2021, p.1).

Independent Variable.

State-of-the-art water innovation study.

Dependent Variables:

Financial and Environmental Risks - Managing financial risks encompasses the identification, assessment allocation and practical controls designed and implemented by the project manager together with all the relevant stakeholders of the project (Akomea-Frimong, Jin, Osei-Kyei, 2021, p. 2).

Indicators - The indicator tracks hostile volatility in inflation, shortages of investment capital, high interest charges, ever-increasing construction material costs and huge cost overrun from delays in completion for the project (Akomea-Frimong, Jin, Osei-Kyei, 2021, p.2). Financial risks are assessed based on occurrence and severity of consequences with both statistical and nonstatistical tools (Akomea-Frimong, Jin, Osei-Kyei, 2021, p. 2).

Geopolitical - A debate raised during the severe drought recorded in the region in the long term (Al-Masri, Spyridopoulos, Karatzas, Lazari, Tryfonas, 2021, p. 2). This debate raised during the severe drought recorded in the region in the late nineties, when Israel claimed that rainfall was not sufficient to provide Jordon with the amount of water as stated in the water agreement between Jordon and Israel, as a component of the Peace Treaty signed in 1994 (Al-Masri, Spyridopoulos, Karatzas, Lazari, Tryfonas, 2021, p. 2). People believe that water is a 'human right' and a commodity to be provided or granted (Al-Masri, Spyridopoulos, Karatzas, Lazari, Tryfonas, 2021, p. 2).

This argument causes people to negatively react in cases of water shortages or a decrease in the supply and justify the actions by claiming that securing water is a right (Al-Masri, Spyridopoulos, Karatzas, Lazari, Tryfonas, 2021, p. 2).

Discussion

If the development and persistent dominance if the United States has taught us anything, it is that technology and entrepreneurial spirit are the supreme source of geopolitical capital (Samadi, 2022, p.1). In the end, cooperation between scholars with different theoretical and methodological approaches is key to study, and eventually address, intertwined global problems such as exclusion, poverty, climate change and conflict (Ide, Lopez, Frohlich, Schffran, 2021, p. 568). One concern is giving appropriate credit, sharing data do not mean diminishing the originator (Ide, Lopez, Frohlich, Schffran, 2021, p. 568). Ensuring that water is part of the broader humanitarian development policy discussion and plans is vital for stabilizing economies, rebuilding livelihoods, and forgoing a green, resilient, and inclusive future for all (The World Bank, 2021, P.1) See Appendix A-C for additional sample items.

By ensuring that local voices are heard, knowledge is explored, and the process is perceived as more transparent, giving users ownership in decisions that are taken (Tiller et al, 2021, p. 2). This development of a broad epistemic community or "community of shared knowledge" that compasses the key shareholders in a given issue-and geographical area, is key to achieving global aspirations such as the SDG's (Tiller et. al, 2021, p.2). Developing methods for facilitating comparative analysis between different countries, local communities and socio-economic regions is important to observing the proceedings toward reaching a global goal-made possible when epistemic communities are activated (Tiller et. al, 2021, p.2). Epistemology is integrated to decipher fantasy from reality.

Finally, it is strongly suggested to upscale the process into a pilot scale facility in which a comprehensive evaluation of water quality and energy parameters can be, done, facilitating a life cycle assessment and cost cycle assessment of a hybrid process, which will give essential information on the direction that should be taken to develop robust low-cost water treatment hybrid systems to produce high quality water (Linares, Vrouwenvelder, 2014, p.136). The author's wish is that you have found the study to be resourceful, consider it state-of-the-art research and garner national and international recognition for the author's research endeavors. To be successful in the water project it is imperative to have transparency and implement the time-series approach which implements data points in a sequence of time. A partner is desired as it is a playing field with disruptions and to be a dominant player a large force will need to be backing the project. When searching for a partner these questions should be included. What projects have they completed in

the past? Where have they been done? How big have they been? Have they ever worked in the gulf? Sensor information will assist in managing the problem effectively. Any important links missing and if the strength of relations was correctly represented (Tiller et al, 2021, p.7).

Conclusion

Assumptions

The findings are making desalination the primary choice for water distribution. SOURCE is an attraction in “VISION 2030”. The coverage of research strategies of inquiry is limited to frequently used forms: surveys and experiments in quantitative research; phenomenology, ethnography, grounded theory, case studies, and narrative research in qualitative research, and concurrent, sequential, and transformation designs in mixed methods research (Creswell, 2009, p. 14). The philosophical assumptions in examining research and using theories are introduced as preliminary steps that researchers need to consider before they design their studies (Creswell, 2009, p. 14).

Limitations

Solar thermal system continues to perform to expectations, it has significant implications for future similar hotel developments (Whitefield, 2021, p.7). Moreover, the modular nature of solar thermal systems means that they can potentially be distributed through the property to increase resilience and reliability while simplifying piping networks and maintenance (Whitefield, 2021, p. 7). The commercial laundries that provide cleaning services to hotels are other prime candidates for solar hot water systems (Whitefield, 2021, p. 7).

It is a perception that SOURCE water can reduce costs. There is not a verifiable SOURCE that debates the quality of the water. From no plastic to no transportation, it does appear that the costs can be minimized.

Risks

Not able to execute the original plan that depends on rapid and international expansion (Swvl Inc, 2021, p. 1).

Unable to attract qualified investors (Swvl Inc, 2021, p. 1).

Unable to develop new offerings (Swvl Inc., 2021, p. 1).

The difficulty of obtaining required registrations, licenses, permits, or approvals (Swvl, 2021, p. 1).

Operates in and intends to expand into jurisdictions that are, or have been, characterized by political instability, may have inadequate or limited regulatory legal frameworks and may have limited, if any, treaties or other arrangements in place to protect foreign investment or involvement (Swvl, 2021, p. 1).

Elevated level of corruption (Swvl, 2021, p. 1).

Unknown risks (Swvl, 2021, p. 1).

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