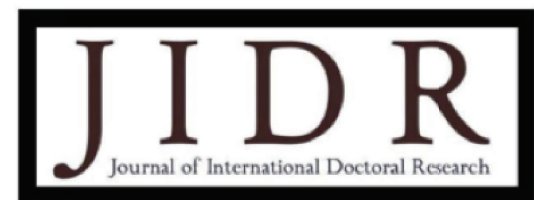


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CONTENTS

Introduction and Welcome <i>The Editorial Board</i>	3
Measuring Follower-Endorsed Effective Leadership and Sustainability Values Across Cultures <i>G Warner-Söderholm, I Minelgaité, R Littrell</i>	6
Project Benefit Co-Creation in The Icelandic Fisheries Sector with Stakeholder Involvement And Integration Of Sustainable Development <i>I Karlsdóttir, D Cook, I Minelgaité</i>	27
A Vector Autoregression Analysis On The Geoeconomic Prognosis Of The China-Central Asia Economic Partnership <i>E Balan</i>	97
Gender Gap In Labour Force And Economic Empowerment Disruption Through Pandemic <i>DM Mahapatra, SK Patra, SK Baral</i>	147
Does Higher Education Institutions Prepare Their Graduates With Employability Skills. <i>J Nadarajah</i>	166
Escalation Of Darkness By White-Collar Offenders: A Case Study Of Environmental Crime Convenience <i>P Gottschalk, KE van Oorschot</i>	178
Recovery of Non-Performing Assets Through Debt Recovery Channels in Indian Banks <i>R Mathur</i>	205
Economic Assessment Of Effective Empowerment And Change In Consumer Dynamics On Products At Bottom-Of-The-Pyramid Level <i>SK Pattanaik</i>	226
Submission guidelines <i>The Editorial Board</i>	245

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INTRODUCTION AND WELCOME

Vision

The International Doctoral Research Centre was created over two decades ago, by **like-minded researchers** from across the globe who wish to promote excellence in research.

The IDRC journal consequently represents our **multi-national effort** to integrate various organizational disciplines into a coherent body of knowledge and **facilitate the emergence of management and economics** as an interdisciplinary domain of study. The journal seeks to provide a forum for interdisciplinary approaches and research traditions. We aim to showcase an international perspective that **gives voice to doctoral and post-doctoral research and scholars** in all regions of the world.

To submit an abstract to one of the IDRC seminars, please forward your working paper to: patjoynt@online.no. To submit a manuscript for blind peer review for publication to the JIDR, please forward to: submissions@jidr.online. Scan the QR code below to visit our website or go to www.jidr.online.

Regards,

Editorial Board of the JIDR

Directors of the IDRC



Editor's Note - Sustainability in focus

During the last decade, the Journal of International Doctoral Research (JIDR) has been honoured with an important accreditation for all the hard work done by the Journal's authors, editorial review board members and editors, as the **journal was given official accreditation status** in listings such as Washington Academic Library Index and the Norwegian academic publishing system, amongst others. Our goal now is to maintain such rankings and continue to seek growth in external recognitions for the JIDR, continuing to develop the impact of our publication in the international research community. The **JIDR is devoted to a wide range of research themes**, which are all linked to the concepts of organizations and management both implicitly and explicitly. Management research is no longer defined or confined to work and organizational studies. Today, management is at the interface of ways of thinking and acting in all aspects of our lives. The very history of management scholarship is rooted in the world of work and with concern for employee's well-being, as workers are not simply units of capital production, but also human beings. Our special call for **this edition has been for new research within sustainability issues**, in light of the UNs call for sustainability goals as a critical focus for sustainable management. Consequently, in this issue we present a number of new studies, which use a management lens to look at some fundamental questions societies face today: questions relating to **follower-leader sustainability values** across cultures, **sustainable project management** in Icelandic fisheries, **geoeconomics prognosis** in China-Central-Asia, **gender equality** and pay gaps, **education management** and well-being, ethics and **white-collar crimes**, **economic issues** in Indian banking and lastly **consumer dynamics** in retail. The discussions in these articles highlight several recurring and yet under-researched issues in these fields.

With **United Nations sustainability goals in focus** for this year edition of our journal, we are proud to include outstanding scholars from many countries in this special edition.

In the coming years, it is our vision to have JIDR publish a combination of manuscripts to continue the theme of **diversity and sustainability in international research** – we very much appreciate your support as we strive to develop the JIDR as an authoritative journal, which publishes innovative research in an international context. The success and sustainability of our journal depends on the number of quality manuscripts submitted for peer review. Our acceptance rate is between 25 % and 50 % each year. Consequently, **we encourage you to invite colleagues to consider the JIDR as an excellent publication channel.**

All submissions by prospective authors will be handled efficiently by our blind peer review process, and will also be offered a similarity screening check. One of the great benefits to all authors who submit manuscripts to the JIDR is that no matter whether their work is accepted for publication or not, is **detailed one-to-one feedback on both content and language is always given.** These are high quality, helpful reviews that are designed to help authors improve their research methodology and manuscripts further.

As in prior years, we would like to take this opportunity to thank the JIDR advisory board members, reviewers and authors, who support the journal and help make it so successful. **We greatly appreciate your support and readership.**

With warm regards,

Dr Eric Balan

Head of Academic and Talent Development, AsiaTech Business School

Guest Editor

MEASURING FOLLOWER-ENDORSED EFFECTIVE LEADERSHIP AND SUSTAINABILITY VALUES ACROSS CULTURES

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ABSTRACT

This project responds to a gap in leadership literature to measure preferred sustainability leadership across cultures. Firstly, we combine the well-established LBDQ50 leader behaviour 50-item instrument together with 5-validated sustainability items, to develop a sustainability leadership measurement tool that is reliable and valid across cultures and languages. Secondly, we address the need to map sustainability values across national cultures by offering a call for new country collaborators to join us in our 2021-2022 FEELS* research project (follower-endorsed effective leadership and sustainability research project). Most leadership survey instruments are overly long, which hinders data collection opportunities. This newly developed instrument, based on decades of research, with just 55 items, can lead to better response rates and easier applicability in organizational settings. We detail the triangulation approach to scale reduction methodology used to develop a more parsimonious instrument, namely judgmental, validity, and reliability methods.

This can offer insights into both practitioners and scholars regarding quality and optimal length of any survey tool, both in and beyond management. We offer a call for researchers interested in becoming CCIs (country collaborative investigators), to join us in our study of follower-endorsed effective leadership and sustainability values in their own host country for a multi-national study in 2021-2022.

Keywords: effective leadership, sustainability analytics, scale development

**for more information please go to <https://feelsproject.wordpress.com/>*

1. INTRODUCTION

In researching the relationships between leadership and culture, fundamental cornerstones in the field are business management, psychology, social anthropology and sociology.

Review of the literature on leadership is fascinating, yet we see a gap in better understanding follower-endorsed leadership and sustainability values across cultures. Indeed, in the 1960s Ralph M. Stogdill (1974) reviewed leadership theories and research, and pointed out that:

“There are almost as many different definitions of leadership as there are persons who have attempted to define the concept”.

Twenty-five years later in 1999 Russ-Eft concludes from her review:

“There was no consensus on what makes a good leader. Lists of skills and attributes differed from study to study. It seemed that every professor, management guru, and strategist had his or her view, and overlapping findings were relatively rare.”

Clearly, talking about national management or leadership styles should be done with caution as we are dealing with stereotypes based upon an average of measurements of a society.

In an attempt to measure national differences in preferred leadership behaviour, a continuing series of studies (Selmer, 1999; Littrell et al., 2018, Warner-Söderholm et al., 20219) using the Ohio State Leader Behaviour Description Questionnaire XII (LBDQ XII) has been carried out in the last 8 decades. We build upon this research logic by developing a more parsimonious scale and by adding a survey measurement for preferred follower-leader sustainability orientation.

2. SUSTAINABILITY ORIENTATION WITHIN LEADERSHIP

The term sustainability is presented in scholarly and popular literature in a number of ways, almost as a by-word for a greener economy, due to its impact on society, influencing today's organizations and even resulting in emergence of movements, e.g. Corporate Social Responsibility Movement (Minelgaite, Bjarnadottir, & Kristinsson, 2021). In truth, originating in the Latin term 'sub-tenere' it actually refers to a situation that can be upheld and maintained in the long term, without damaging or detracting value from the present state of affairs (di Fabio and Piero, 2018). Indeed, in technology, politics, economics and ecology, the term 'sustainable' traditionally denotes the ability to achieve current aims without endangering future ones specifically (di Fabio and Piero, 2018). The United Nations 17 sustainability goals (UN, 2015) mark the urgency to join forces globally to ensure that the world can survive and prosper when faced with the danger of future extinction. We have developed an unsustainable way of life since the last industrial revolution and an unsustainable development of technology, individual prosperity, economics and ecology if we do not manage organizations responsibly. The marketing literature has already established the importance of sustainability for consumers when making purchase decisions of goods (Shao, & Ünal, 2019) or even services (Ročkutė, Minelgaitė, Zailskaitė-Jakštė, & Damaševičius, 2018). However, in

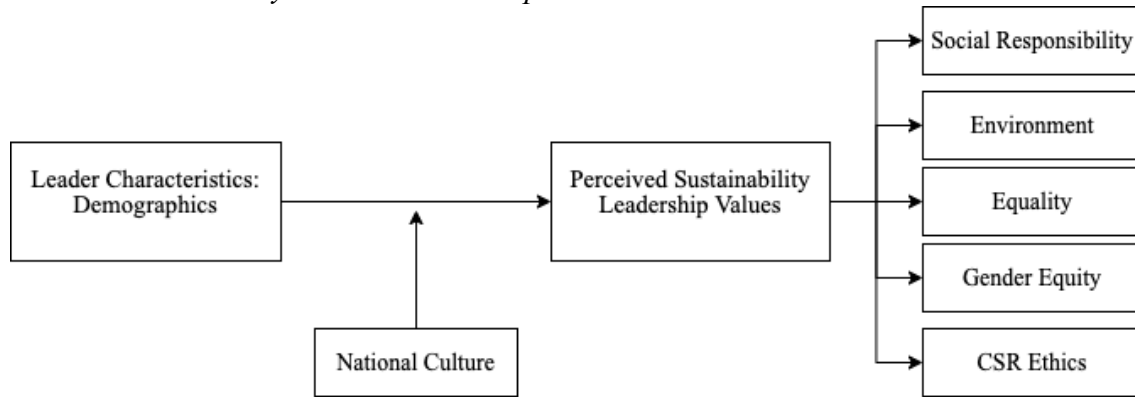
leadership literature followers' preferences towards sustainability attitudes of the leader are still under-researched. If we can better understand what followers expect of socially and environmentally responsible leaders, we can add value to a society by mapping and aligning such sustainability values between followers and leaders for long-term results.

3. CULTURALLY ENDORSED LEADERSHIP

Culturally endorsed leadership is a concept that is strongly related to the theme of values driving organizational success. By understanding such ideal leader values endorsed by followers across cultures and empirical settings, prioritization of specific drivers of sustainability leadership can be better understood and aligned. In this new framework we have developed an integrated concept, called follower-endorsed effective leadership and sustainability values and a scale to assess this across cultures. Consequently, the purpose of this paper is threefold; First, we present our multi-level conceptual research model of sustainability values and culturally contingent ideal leader behavior; Secondly, we outline our forthcoming global analytics research project: Follower-endorsed effective leadership and sustainability project' (FEELS); Finally, we invite researchers interested in joining this international collaboration project to apply to be country collaborators for their host country. The model in Figure 1 below presents our conceptualization of the antecedents as drivers of sustainability leadership.

FIGURE 1

Culture and sustainability: multi-level conceptual research model



4. LEADERSHIP BEHAVIOR DEVELOPMENT QUESTIONNAIRE XII (LBDQXII)

The above conceptual model in Figure 1 is based on a research synthesis of the extant literature within two fields: 1) followership-leadership studies operationalized within the Leadership Behavior Development Questionnaire XII (LBDQXII), combined with 2) synthesis of sustainability measures applied in management research. As discussed in our introduction to this paper, the LBDQXII has a long history of application, development and testing, resulting in a large number of studies of the instrument (Schriesheim and Karr, 1974; Littrell et al, 2018; Schriesheim and Stoghill, 1975; Schriesheim et al., 1995), confirming its validity and reliability in different organizational contexts (Boatwright, Lopez, Sauer, Van Der Wege and Huber, 2010).

Following the prescriptions of Cronbach and Meehl (1955), Littrell et al. (2018) reviewed the construct, content, and criterion validity of literature relating to the LBDQXII across cultures, finding some diverse effects attributable to culture. The instrument requires responses to items describing the behaviour of a person in a leadership or supervisory position of a working group or unit of which the subjects are a members (Stogdill, 1963). The original LBDQXII consisted of 100 items which defined 12 dimensions describing preferred leader behaviour:

TABLE 1

LBDQ: 12 dimensions

Factor 1: Representation measures to what degree the manager speaks as the representative of the group.	Factor 7: Role Assumption measures to what degree the manager actively exercises the leadership role rather than surrendering leadership to others.
Factor 2: Demand Reconciliation reflects how well the manager reconciles conflicting demands and reduces disorder to system.	Factor 8: Consideration depicts to what extent the manager regards the comfort, well-being, status and contributions of followers.
Factor 3: Tolerance of Uncertainty depicts to what extent the manager is able to tolerate uncertainty and postponement without anxiety or getting upset.	Factor 9: Production Emphasis measures to what degree the manager applies pressure for productive output.
Factor 4: Persuasiveness measures to what extent the manager uses persuasion and argument effectively; exhibits strong convictions.	Factor 10: Predictive Accuracy measures to what extent the manager exhibits foresight and ability to predict outcomes accurately.
Factor 5: Initiation of Structure measures to what degree the manager clearly defines own role, and lets followers know what is expected.	Factor 11: Integration reflects to what degree the manager maintains a closely-knit organization; resolves inter-member conflicts.
Factor 6: Tolerance of Freedom reflects to what extent the manager allows followers scope for initiative, decision and action.	Factor 12: Superior Orientation measures to what extent the manager maintains cordial relations with superiors; has influence with them; is striving for higher status.

LBDQXII is the most widely use instrument in leadership (Northouse, 2013) and can effectively describe desired leader behaviour in particular cultures and its value is evident. However, the use of this instrument is problematic, in part due to its length (100 items) which can be associated with effects such as survey fatigue (Warner-Soderholm, Minelgaite, & Littrell, 2019).

Hence a five-year global research study culminated in the development of a validated, more parsimonious measurement instrument, the Leader Behaviour Development Questionnaire 50.

5. LEADERSHIP ANALYTICS AND DEVELOPMENT OF THE LBDQ50

The validated LBDQ50 consists of 50 items which measure the same 12 factors, yet with a more parsimonious set of items. The LBDQXII item-reduction project was conducted by an international research consortium, organized by the consortium director, in cooperation with country collaborators who collected national data. Researchers used systematic random sampling techniques to distribute the surveys to samples of employed business people of the same nationality as the respondent country. Little guidance exists on how to reduce the length of a multi-item scale. The most common techniques include similar steps to those used in building and validating new models and measures, namely maximizing internal and external consistency and validity (Davila and Crawford, 2018). In addition, the seminal study by Stanton et al. (2002) extends this method when reducing a scale by adding a third category for evaluating item removal for scale reduction, namely *judgmental item qualities*.

Such *judgmental procedures* refer to those issues that require subjective judgement and/or those that are difficult to assess in isolation from the context in which the scale is administered. This step is reminiscent of the Q-sorting step of the pool of items at an early stage of survey development. The expert panel has the knowledge to understand the cultural and multi-language settings of the survey as well as the in-depth knowledge of the theories underpinning the items. They, at every stage, balance the trade-off of removing/keeping items that may only have moderate validating and reliability results, yet are essential to maintain the structure of the construct being measured. In our LBDQXII item reduction techniques we applied all three stages recommended by the literature: 1) validity and 2) reliability tests and 3) judgmental logic recommended by Stanton et al (2002) to apply insights from the expert team in judging all items.

The data were analysed in the three primary stages as recommended by the literature (Stanton et al, 2002, Warner-Söderholm et al, 2019). First, to test for reliability, Cronbach Alpha tests were conducted. Second, factor analysis tests were carried out for goodness-of-fit. Third, applying an iterative process, judgmental logic was applied at each stage. All 100 items were worked through manually to confirm “deletion sorting” with judgement logic which matched Cronbach Alpha results for best fit in a reduced scale: In first of three stages in sorting input, the four members of the expert country collaborators used Q-sorting logic applying the four criteria below. Findings were evaluated at the second stage by three expert panel members. Logic applied to deletions of items matched one or more of the following logic judgements for item purification.

- (i) Items which were repeat questions in the same construct
- (ii) Items which were culturally challenging to translate i.e. LBDQXI item 28: “Needles the group”: this is difficult to translate across languages and cultures.

Items which have different meanings in a given society or culture i.e. ‘a leader who encourages overtime’. In Scandinavia, where overtime is paid extra, it would mean «encourage you to earn more while assisting the company”. In many other western societies i.e. USA / UK, this could mean ‘encourages you to work long hours for the same basic pay’, hence may have negative affect (Warner-Söderholm et al, 2019).

6. SUSTAINABILITY ANALYTICS

In order to develop our new global study of FEELS, the second step in our questionnaire development process was to develop a measurement instrument to capture sustainability behavior in an ideal leader for followers across cultures. A review of the extant literature of sustainability measurement items within management research revealed a database of over 300 possible survey items.

A similar sorting approach was used to refine our Q-search, as described above: A stepwise process of selecting survey items which measured specifically broad areas of sustainability, namely social responsibility, environmental values, equality, gender equity and CSR ethical values preferred in a leader. Q-sorting techniques were applied to select and refine a set of valid and reliable sustainability measures in the context of values an ideal leader should manifest. Pilot tests were carried out in a number of countries and the preliminary results indicate that national culture plays a moderating role in the relationship between ideal leader traits and sustainability values. Choi, Y., & Yu, Y. (2014), developed 18 items to measure the influence of perceived corporate sustainability practices on employees and organizational performance. Abdullah, Z., & Aziz, Y. A. (2013) developed 29 items to measure institutionalizing corporate social responsibility: effects on corporate reputation, culture, and legitimacy. Di Fabio, A., & Peiró, J. M. (2018) validated a 16-item scale to measure Human Capital Sustainability Leadership to Promote Sustainable Development and Healthy Organizations. Arkellin et al. (2000). Measured Endorsement of the New Ecological Paradigm with a 15-item scale and Alcock, I. (2012) developed and validated a 7-item scale to measure commitment to environmental sustainability. A novel study by Eagle, L., Low, D., Case, P., & Vandommele, L. (2015) developed a comprehensive 36 items study to measure attitudes of undergraduate business students toward the sustainability issue. Milfont, T. L., & Duckitt, J. (2010) validated the comprehensive environmental attitudes inventory to assess the structure of environmental attitudes with 110 items measuring 11 sets of sustainability attitudes. Gericke et al., (2019) developed the sustainability consciousness questionnaire with 27 items, measuring the values of stakeholders working with sustainable development. Lee, S. Y., & Rhee, S.-K. (2007) applied 20 items to measure the change in corporate environmental strategies, whilst a 16-item sustainability survey instrument was developed and validated by Brønn, P. S., & Vidaver-Cohen,

D. (2008). The 4-item Corporate Citizenship Scale (Gorden, Anderson, & Bruning, 1992) was developed to map and measure employees' positive perception of the extent to which the employer is a company committed to social responsibility. After the rigorous Q-sorting of the above items, by the international consortium team in our project, the final list of sustainability 5-items for the present study was defined as follows.

- My ideal leader prioritizes gender equality in the workplace (developed from Abdullah & Aziz, 2013)
- My ideal leader conducts many environmental CSR practices (adapted from Choi & Yu, 2014)
- My ideal leader conducts many ethical CSR practices (adapted from Choi & Yu, 2014)
- My ideal leader has a policy on equal opportunities among the employees (Abdullah & Aziz, 2013)
- My ideal leader has the strongest focus on Profit – Environmental issues: (adapted from Eagle et al, 2015)

In summary, earlier studies with these sustainability items provide strong reliability and validity values. When mapping key elements of sustainability and expected follower values of an ideal leader, how we see equality, ethical practices and CSR, environmental ethics and how we map prioritization of profit vs. environmental concern in an ideal leader, are key elements to measure and understand. This 5-item factor shows high face validity as factor 13: Sustainability Orientation.

Pilot testing over the LBDQ50 items, combined with the 5 sustainability orientation items have shown promising results with significant differences in value orientations relating to follower-preferred effective leader values. Some of the pilot study results have supported intuitive

hypotheses such as a stronger value placed on a considerate leader who values environmental issues above profit in the Nordics, compared to a stronger focus on profit and production emphasis in developing societies. Our next step is to invite new country collaborators to join us in a large multi-society study of follower-endorsed effective leadership and sustainability, as we address the call to map sustainability values across national cultures. We hope that researchers reading this article will join us in our 2021-2022 FEELS research. Our demographic items and data management system are GDPR compliant. As a non-profit research collaboration, each researcher is self-funded in data collection and data analysis. Support will be offered by the cross-cultural centre in complying with excellence in research ethics and transparency in item back-to-back translation, data collection and data analytics. For our CCI's who have now collected the minimum recommended n of n400 nationals (people working and living in each society), we provide the syntax coding below to create your initial factor scores. With demographic data collected, multivariate analyses can then be carried out to investigate significant regional differences, gender differences and industry differences.

6.1 Calculating average factor scores for follower-endorsed effective leadership and sustainability item

Please note: The following values are to be applied in survey responses: (5) =Always, (4) =Often, (3) =Occasionally, (2) =Seldom (1) =Never. Please also note that the 'R' = reverse scored item (i.e. 5=1, 4=2, 3=3, 2=2, 1=5).

TABLE 2

Factor scores syntax

Questions in the survey	Factor item	Factor
1. Acts as the spokesman of the group	F1_1	F1
2. Waits patiently for the results of a decision	F3_1	F3
3. Gets along well with the people above him/her	F12_1	F12
4. Publicises the activities of the group	F1_2	F1
5. His/her arguments are convincing	F4_1	F4
6. Fails to take necessary action	F7_1R	F7
7. Keeps the group working together as a team	F11_1	F11
8. Speaks as the representative of the group	F1_3	F1
9. Argues persuasively for his/her point of view	F4_2	F4
10. Encourages initiative in the group members	F6_1	F6
11. Puts suggestions made by the group into operation	F8_1	F8
12. Seems able to predict what is coming next	F10_1	F10
13. Accepts delays without becoming upset	F3_2R	F3
14. Is a very persuasive talker	F4_3	F4
15. Lets the members do their work the way they think best	F6_2	F6
16. Lets some members take advantage of him/her	F7_2R	F7
17. Treats all group members as his/her equals	F8_2	F8
18. Keeps the work moving at a rapid pace	F9_1	F9
19. His/her superiors act favourably on most of his/her suggestions	F12_2	F12
20. Represents the group at outside meetings	F1_4	F1
21. Is very skilful in an argument	F4_4	F4
22. Is the leader of the group in name only	F7_3R	F7
23. Gives advance notice of changes	F8_3	F8
24. Pushes for increased production	F9_2	F9
25. Things usually turn out as he/she predicts	F10_2	F10
26. Assigns group members to particular tasks	F5_1	F5
27. Backs down when he/she ought to stand firm	F7_4R	F7
28. Is accurate in predicting the trend of events	F10_3	F10
29. Gets his/her superiors to act for the welfare of the group members	F12_3	F12
30. Is overwhelmed by situations requiring attention to many details	F2_1R	F2
31. Faced with problems, can wait patiently for a time, but then reacts with anger or annoyance	F3_3	F3
32. Sees to it that the work of the group is co-ordinated	F11_2	F11
33. His/her word carries weight with superiors	F12_4	F12
34. His/her behaviour tends to make complex and confused situations worse.	F2_2R	F2
35. Remains calm when uncertain about coming events	F3_4	F3
36. Schedules the work to be done	F5_2	F5
37. Allows the group a high degree of initiative	F6_3	F6

38. Is willing to make changes	F8_4	F8
39. Drives hard when there is a job to be done	F9_3	F9
40. Helps group members settle their differences	F11_3	F11
41. Gets what he/she asks for from his/her superiors	F12_5	F12
42. Is able to delay action until the proper time occurs	F3_5	F3
43. Maintains definite standards of performance	F5_3	F5
44. Trusts members to exercise good judgement	F6_4	F6
45. Urges the group to beat its previous record	F9_4	F9
46. Anticipates problems and plans for them	F10_4	F10
47. Gets confused when too many demands are made of him/her	F2_3R	F2
48. Worries about the outcome of any new procedure	F3_6R	F3
49. Asks that group members follow standard rules and regulations	F5_4	F5
50. Keeps the group working up to capacity	F9_5	F9
51. My ideal leader prioritizes gender equality in the workplace	F13_1	F13
52. My ideal leader conducts many environmental CSR practices	F13_2	F13
53. Conducts many ethical CSR practices	F13_3	F13
54. Has a policy on equal opportunities among the employees	F13_4	F13
55. My ideal leader has the strongest focus on Profit both profit and environmental issues environmental is- sues	F13_5	F13
1 2 3 4 5		

When calculating aggregate factors scores, post data cleaning: reliability and validity tests will ensure strong factor loadings:

Factor 1 items: Representation

F1_1: Acts as the spokesman of the group

F1_2: Speaks as the representative of the group

F1_3: Publicizes the activities of the group

F1_4: Represents the group at outside meetings

To find the average score for Factor 1: add the average scores for the following 4 survey questions together, then divide by 4: Survey questions (1+4+8+20) 4

Factor 2 items: Demand Reconciliation

F2_1R: Is overwhelmed by situations requiring attention to many details

F2_2R: His/her behavior tends to make complex and confused situations worse.

F2_3R: Gets confused when too many demands are made of him/her

To find the average score for Factor 2: add the average scores for the following 3 survey questions together, then divide by 3: Survey questions (R30+R34+R47) 3

Factor 3 items: Tolerance of Uncertainty

F3_1: Waits patiently for the results of a decision

F3_2R: Accepts delays without becoming upset

F3_3: Faced with problems, can wait patiently for a time, but then reacts with anger or annoyance

F3_4: Remains calm when uncertain about coming events

F3_5: Is able to delay action until the proper time occurs

F3_6R: Worries about the outcome of any new procedure

To find the average score for Factor 3: add the average scores for the following 6 survey questions together, then divide by 6: Survey questions (2+13+31+35+42+48) 6

Factor 4 items: Persuasiveness

F4_1: His/her arguments are convincing

F4_2: Argues persuasively for his/her point of view

F4_3: Is a very persuasive talker

F4_4: Is very skillful in an argument

To find the average score for Factor 4: add the average scores for the following 4 survey questions together, then divide by 4: Survey questions (5+9+14+21) 4

Factor 5 Items: Initiation of Structure

F5_1: Assigns group members to particular tasks

F5_2: Schedules the work to be done

F5_3: Maintains definite standards of performance

F5_4: Asks that group members follow standard rules and regulations

To find the average score for Factor 5: add the average scores for the following 4 survey questions together, then divide by 4: Survey questions (26+36+43+49) 4

Factor 6: items: Tolerance of Freedom

F6_1: Encourages initiative in the group members

F6_2: Lets the members do their work the way they think best

F6_3: Allows the group a high degree of initiative

F6_4: Trusts members to exercise good judgement

To find the average score for Factor 6: add the average scores for the following 4 survey questions together, then divide by 4: Survey questions (10+15+37+44) 4

Factor 7 items: Role Assumption

F7_1R: Fails to take necessary action

F7_2R: Lets some members take advantage of him/her

F7_3R: Is the leader of the group in name only

F7_4R: Backs down when he/she ought to stand firm

To find the average score for Factor 7: add the average scores for the following 4 survey questions together, then divide by 4: Survey questions (R6+R16+R22+R27) 4

Factor 8 items: Consideration

F8_1: Puts suggestions made by the group into operation

F8_2: Treats all group members as his/her equals

F8_3: Gives advance notice of changes

F8_4: Is willing to make changes

To find the average score for Factor 8: add the average scores for the following 4 survey questions together, then divide by 4: Survey questions (11+17+23+38) 4

Factor 9 items: Production Emphasis

F9_1: Keeps the work moving at a rapid pace

F9_2: Pushes for increased production

F9_3: Drives hard when there is a job to be done

F9_4: Urges the group to beat its previous record

F9_5: Keeps the group working to capacity

To find the average score for Factor 9: add the average scores for the following 5 survey questions together, then divide by 5: Survey questions (18+24+39+45+50) 5

Factor 10 items: Predictive Accuracy

F10_1: Seems able to predict what is coming next

F10_2: Things usually turn out as he/she predicts

F10_3: Is accurate in predicting the trend of events

F10_4: Anticipates problems and plans for them

To find the average score for Factor 10: add the average scores for the following 4 survey questions together, then divide by 4: Survey questions (12+25+28+46) 4

Factor 11 items: Integration

F11_1: Keeps the group working together as a team

F11_2: Sees to it that the work of the group is coordinated

F11_3: Helps group members settle their differences

To find the average score for Factor 11: add the average scores for the following 3 survey questions together, then divide by 3: Survey questions (7+32+40) 3

Factor 12 items: Superior Orientation

F12_1: Gets along well with the people above him/her

F12_2: His/her superiors act favorably on most of his/her suggestions

F12_3: Gets his/her superiors to act for the welfare of the group members

F12_4: His/her word carries weight with superiors

F12_5: Gets what he/she asks for from his/her superiors

To find the average score for Factor 12: add the average scores for the following 5 survey questions together, then divide by 4: Survey questions (3+19+29+33+41)5

Factor 13 items: Sustainability Orientation

F13_1: My ideal leader prioritizes gender equality in the workplace

F13_2: My ideal leader conducts many environmental CSR practices

F13_3: My ideal leader conducts many ethical CSR practices

F13_4: My ideal leader has a policy on equal opportunities among the employees

**F13_5: My ideal leader has the strongest focus on*

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Profit</i>	<i>both profit and environmental issues</i>		<i>environmental issues</i>	

To find the average score for Factor 13: add the average scores for the following 5 survey questions together, then divide by 5: Survey questions (51+52+53+54+55) 5

7. CONCLUSIONS

This article has aimed to introduce the theoretical underpinnings of the FEELS project that contribute to the empirical field research study literature and methodology concerning societal, cultural and individual value priority effects upon explicit preferred leader behaviour and sustainability orientations of employed business people. An objective of the research project is to produce a shorter, more reliable survey for use across cultures. Studies in the project indicate an influence on factor structure seemingly due to the overarching analytic cognition or holistic cognition nature of a society. The practical implications of the project are to identify and measure preferred leader behavior dimensions that are similar and different across national and sub-national cultures. Such information can be used to develop global leaders and to educate and train managerial leaders for success in multiple countries. A conclusion is that the FEELS can be employed to prepare, educate, and develop expatriates and local managers for international assignments.

Furthermore, we retain its scholarly scope encompassing follower-centric studies of leadership inspired by the original LBDQ projects from Ohio State University started 8 decades ago. This survey instrument can be administered by both private and public organizations, contributing to greater effectiveness in project management and business operations. Leadership processes are clearly found in all aspects of life, in both private, public and not-for-profit institutions and can be better understood and improved within and across cultures using the FEELS instrument. This newly developed, shorter instrument can lead to better response rates and easier applicability in organizational settings. Finally, it is hoped that our transparency in survey instrument application and syntax coding and our call for new country collaborators will lead to new global research collaborations. Please join us.

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**PROJECT BENEFIT CO-CREATION IN THE ICELANDIC FISHERIES
SECTOR WITH STAKEHOLDER INVOLVEMENT AND INTEGRATION
OF SUSTAINABLE DEVELOPMENT**

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ABSTRACT

The research goal includes developing, contributing, and facilitating deeper understanding and knowledge of how projects are constructed in the Icelandic fisheries sector while examining the development of their sustainability, addressing how projects co-create benefits for stakeholders, and identifying the factors that support project co-creation. The project management framework does not place enough emphasis on the three pillars of sustainability, which also apply to initiatives in the maritime sector. There is a scarcity of data and literature on how project managers think about sustainability in their daily operations. A qualitative study was conducted to collect data through twelve semi-standardized interviews with individuals working in nine companies. The interviewees of the study work as project managers, human resource managers, and managing

directors within the Icelandic fisheries sector. Projects are examined in terms of how they co-create benefits for stakeholders and highlight the aspects of projects that support sustainable development in the fisheries sector. What's more, this study contributes to further knowledge regarding the relationship between sustainability and project management. The benefits for stakeholders include implementing change, increased profitability and flexibility, benefits of operating in a small market, the usefulness of peer-reviewed articles and increased co-operation. This research also suggests that using stakeholder engagement mapping as a guide, project stakeholders should be clearly identified from the start of a project. The findings of this study can help project managers define the three pillars of sustainability in projects within the fisheries sector and the co-creation of various benefits across the project life-cycle. The utility of using communication mapping in interviews and asking interviewees to locate stakeholders is clear, as is using a theoretical model and putting the main results from interviews in the same model. The results of this study can lead to project managers better defining all aspects of sustainability at the beginning of projects and following it as a goal until the delivery of the project. This study also indicates that the stakeholders of projects need to be clearly defined at the beginning, using stakeholder communication mapping as a tool. The relevance of this study is that it can be to the advantage not only of companies in the Icelandic fisheries sector but for all those industries that consider sustainability in their projects and operations.

***Key words:* Project Management, Sustainable development, Icelandic fisheries sector, Stakeholder mapping.**

1. INTRODUCTION

There have been changes in project management in recent years and changes in how the flow of information is managed during a project's lifetime. Projects carried out within organizations need to consider much more than just maximizing profits, as the pursuit of sustainable development plays a large part in many organizations' daily operations (Larson and Gray, 2018). This has been driven by increased recognition of the need for greater Corporate Social Responsibility and multi-scale initiatives such as the United Nations' Sustainable Development Goals (Bailey et al., 2018; Camilleri, 2017). Usually, the benefits of a project emerge after the project ends. Still, a project's benefits may emerge during the lifetime of a project, which is called the project life-cycle (Project Management Institute, 2017).

According to Kohl (2016), sustainability considers the long-term and shorter-term environmental, social, and economic impacts that arise from organizations' decisions and actions. The concept of sustainable development emerged via the Brundtland Report (World Commission on Environment and Development, 1987), where the focus is on progressing the values of sustainability (Luengo-Valderrey et al., 2020). It is appealing to numerous stakeholders when organizations implement sustainability into their daily operations and find new solutions through experimentation (Camilleri, 2017). There are many challenges associated with sustainability and, in addition, increasing pressure on organizations to pursue and adapt their business policies and processes that follow the systematic changes of sustainable development (Bocken et al., 2015; World Business Council for Sustainable Development, 2010). Iceland is an island state, the 19th largest of 25 major marine capture production producers globally in 2018 (FAO, 2020). Icelandic fisheries have demonstrated that it is possible to preserve marine life and at the same time be at the forefront when it comes to technology and innovation in the fisheries sector (Einarsson and Óladóttir, 2020).

It has become increasingly important for management to consider the three sustainability pillars and the challenges that follow. The organization seeks new ways and opportunities to increase and create value for stakeholders (Kohl, 2016).

Business models of companies often place great emphasis on economic expansion for customers and the companies themselves. For organizations to support sustainability, social and environmental goals must also be examined in order to adapt to the interests of stakeholders and thus deliver sustainability in their operation (Bocken et al., 2015). Stakeholder co-creation is a collective mechanism in which several interdependent external stakeholders influence a company's innovation process (Kazadi et al., 2016; Keeys and Huemann, 2017). There have been various studies on environmental issues, particularly stock sustainability, climate change impact on species distributions, the externalities of fuel consumption in ships (Campana et al., 2020; Helgason et al., 2020; Saviolidis et al., 2020), and fuel intensity in Icelandic fisheries (Byrne et al., 2021). Extensive research has been conducted on economic sustainability issues, e.g., profits, investment, and innovation in Icelandic fisheries (i.e., Árnason and Agnarsson, 2005; Gunnlaugsson et al., 2020; Þorsteinsson, 2017). The Icelandic quota system has helped the fisheries management system itself, whereas transferable quotas are the basis for Iceland's sustainable fishing (Kokorsch and Benediktsson, 2018).

There is inadequate coverage of project management research in journal articles and dissertations from business schools (Davis, 2014). Furthermore, the project management framework does not focus enough on sustainability's three pillars (Armenia et al., 2019; Kuchta and Mrzyglocka Chojnacka, 2020; Labuschagne and Brent, 2005), which applies to projects within the marine industry as well. There is a lack of information and literature about how project managers view sustainability in their day-to-day operations (Silvius et al., 2017). Social science may add to

the knowledge base for fishery management in various ways (Barclay et al., 2017). Sustainable development is more critical now than before (Blewitt, 2014). Therefore, it is essential to understand the processes that emerge between the environmental, economic, and social dimensions of sustainable fisheries development (Urquhart et al., 2014). It has also been discussed that the methods and tools for connecting the three pillar dimensions are not present (Singh and Keitsch, 2019). For sustainability to achieve the desired results, all three pillars must be considered equally: the social, economic, and environmental aspects of sustainability (Govindan et al., 2020). In addition, social equity is often disregarded in fisheries' management as the focus is more on biological, economic, political, and environmental factors (Pascoe et al., 2014). The above-mentioned represents a multilevel gap in the literature, calling for an interdisciplinary view that integrates disciplines such as project management, sustainability, and fisheries management.

To address the research problem mentioned in the gap in the literature, the associated research question is proposed: *How do projects co-create benefits with stakeholders, reflecting integration of sustainable development in the Icelandic fisheries sector?*

Sustainability is a fundamental factor for the prosperity of a project and no less for stakeholders. Stakeholders are identified as a person who is associated with an organization, community or a project and hence has obligations and a stake in its success (Cambridge Dictionary, n.d.). They demand that social, economic, and environmentally friendly steps are taken into consideration during the lifetime of a project. Projects are catalysts for improvement, resulting in increased operational efficiency (Michaelides et al., 2014). Co-creation emerges from the shared partnerships that appear between organizations and their stakeholders (Schultz and Hatch, 2016). Stakeholder benefits are a measurable gain from a project that is considered profitable (Sopko and Demaria, 2013). The research goal includes developing, contributing, and facilitating a deeper understanding

and knowledge of how projects are constructed in the Icelandic fisheries sector while examining the development of sustainability, addressing how projects co-create benefits for stakeholders, and illuminating the factors that support project cocreation.

The presentation of the material in the article is as follows, first sustainable development is conceptualised, next the value creation of projects is examined, the life-cycle stages of projects are defined, an inquiry into benefits of projects and stakeholders are analyzed, and sustainable fisheries in Iceland are explored. Followed by the methodology used in the study, the main results of the interviews are presented and finally a discussion is had where limitations and suggestions for further research are reviewed.

2. UNDERSTANDING SUSTAINABLE DEVELOPMENT

Recognizing limits and thresholds, as well as their potential to continue over time, is the foundation of sustainability (Ben-Eli, 2018). Although these concepts are closely related, they are different. Hereafter, focus will be on sustainable development. In short, sustainable development is about continuous development that leads to economic and social benefits without undermining the natural resource base, a reconciliation which leaves sufficient resources for future generations to obtain the same benefits (Blewitt, 2014; Fernández-Sánchez and Rodríguez-López, 2010) that result in delivering greater human well-being (Costanza et al., 2016). The history of looking for ways of utilizing nature's resources in a sustainable way is fairly short and has been persistent since the 1960s (Eikeset et al., 2018). However, it is possible to trace a publication to the year 1713 when Hans Carl von Carlowitz published *Sylvicultura oeconomica*, where he used the term 'sustainable' in connection with timber shortfall (Silvius et al., 2017). In 1987, The Brundtland Commission published a report entitled *Our Common Future* with the opening, "A global agenda for change,"

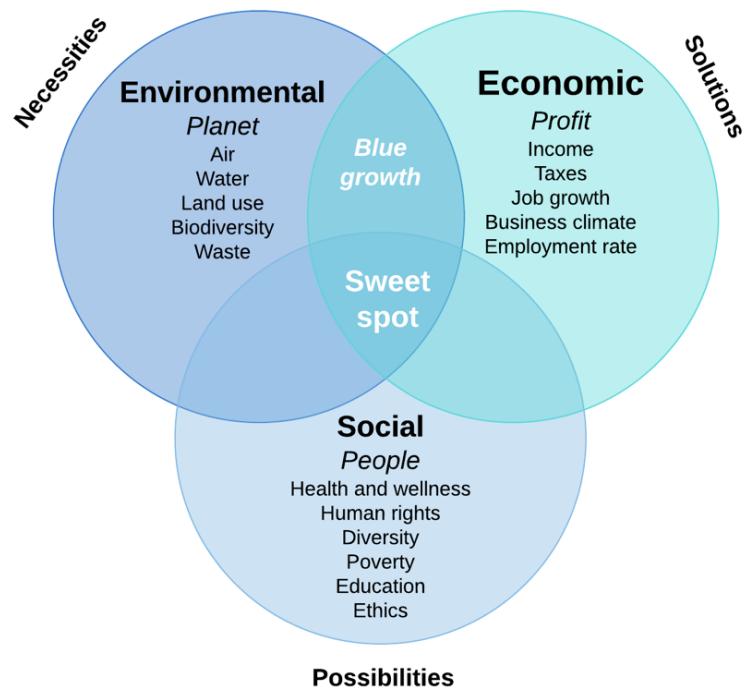
which defined sustainable development (World Commission on Environment and Development, 1987, p. 1). The report raised awareness of sustainable development worldwide, and it was the beginning of the road to sustainability in the wake of natural disasters and accidents caused by human error in the years before the report was published (FAO, 2020; Kohl, 2016). In 1991, the FAO developed an ideology for responsible fishing in its nineteenth session, which was created due to concerns about overfishing and unsustainable fishing methods that could harm the future of fish stocks (FAO, 2020). During the 3rd to the 14th of June, 1992, the United Nations held a conference in Rio de Janeiro called the Earth Summit that focused on increasing the shared responsibility of all member states to ensure that future generations could live in harmony with nature. The report and the conference were based on the Stockholm Declaration of the United Nations Conference on the Human Environment that had been affirmed in June of 1972 (Kohl, 2016; Linser and Lier, 2020). After a few more milestone-setting conferences, the UN Sustainable Development Goals (SDG) were approved in September of 2015 by all representatives of the UN member states, the aim of which was to achieve all the goals by 2030. The SDG are seventeen in total and aim to give everyone equal opportunities, promote increased sustainability, contribute to protecting the planet and deliver sustainable economic well-being (Cook and Davíðsdóttir, 2021). Sustainable development is essential as the nature capital has been depleted over time as if it were infinite (Blewitt, 2014; Coztanza, 2014; Silvius et al., 2017).

To understand the complexity of sustainable development it is necessary to look at which dimensions form sustainable development as a whole and look at those separately. The three pillars portray people, planet, and profit as can be seen in Figure 1, where all three pillars meet in the middle, which is where sustainable development is created through synergy, harmonization, and

reconciliation (Boonstra et al., 2018; Kohl, 2016; Luengo-Valderrey et al., 2020; Singh and Keitsch, 2019).

FIGURE 1

The triple bottom line and the Venn diagram model of sustainable development



Source: Based on Boonstra et al., 2018; Kohl, 2016; Luengo-Valderrey et al., 2020, Author's representation

A company's sustainable strategy is complex, and it takes into account the challenges that companies have to face with regard to the three pillars of sustainable development. Figure 1 shows a combination of the triple helix model and the triple bottom line showing the main subcategories regarding the three interconnected pillars of sustainability. The triple bottom line is a tool “for assessing, reporting or communicating the impact of human actions on nature” (Silvius et al., 2017, p. 1135).

The term Blue growth is used for economic growth in the fisheries sector that comes after the utilization of the ocean's resources while minimizing the misuse of the maritime ecosystem.

Overfishing, decomposition, and marine pollution are considered when trying to maximize profits (Boonstra et al., 2018; Eikeset et al., 2018). Blue growth has been the OECD's primary mission for sustainable development concerning the oceans (OECD, 2016). Blue growth is therefore located between the environmental and economic pillars in Figure 1. Using the triple bottom line, it is possible to strengthen the connection between the academic community, which is represented in the social aspect of the model, and industry and thus creating knowledge that can be used to move forward regarding sustainable development (Luengo-Valderrey et al., 2020).

To achieve sustainable development, as Figure 1 shows, the social pillar needs to be integrated. Social sustainability relates to social justice, equity, fairness, society as a whole, human well-being, freedom, culture, and the needs of employees and stakeholders of projects (Abidin and Pasquire, 2007; Boonstra et al., 2018). Social sustainability, according to Fernández-Sánchez and Rodríguez-López (2010), is classified in culture, accessibility, participation, security, public utility, and social integration. What characterizes economic sustainability is when resources are managed and used efficiently to increase profitability. Resources in this context can be human resources, materials, financial, costs, technical requirements, bureaucracy, social economy, and heritage (Fernández-Sánchez and Rodríguez-López, 2010). Environmental sustainability creates awareness of the limits that nature sets to the activities of people on the utilization of natural resources. By harvesting natural resources in an efficient and responsible manner irreversible impacts on the environment can be prevented (Abidin and Pasquire, 2007). The aspects that fall under environmental sustainability are soil, water, atmosphere, biodiversity, resources, and energy (Fernández-Sánchez and Rodríguez-López, 2010).

2.1 Projects as means for value creation

Project management uses projects to achieve goals based on various pre-defined factors and delivering outcomes based on quality, time, and cost (Project Management Institute, 2017). By creating a balance between these three elements stakeholders' benefits are maximized (Armenia et al., 2019). Project management has been in place over time despite the fact that projects were not defined as projects at that time. Examples of significant projects are the Egyptian pyramids that are part of the seven wonders of the world and were built several thousand years before Christ (Möller, 2019). The article by Jugdev and Müller (2005) reviews the history of project management, which first emerged as an ideology in the 1970s, focusing on technology and tools for solving tasks, such as work breakdown structures. Project management had become a discipline and a profession in the 1980s and began to look at risk management, cost and schedule control, teamwork, and other factors still known in project management to this day. In the 1990s the focus was set on human resources and leadership skills. Literature nowadays focuses on all aspects of project management, including stakeholders of projects and the success of project management (Jugdev and Müller, 2005). Atkinson (1999) came up with the Iron triangle concept with three aspects of projects: time, cost, and scope. A project's scope is intended as the result of the project and what it should deliver (Larson and Gray, 2018). Project management has evolved over the years and has evolved based on time, cost, and scope (Silvius, 2017). Projects today are defined as steps to change, whether they are small or large, as they have the potential to change the environment in which they are created but are also affected by their environment (Armenia et al., 2019; Möller, 2019). There has been an increased emphasis on working on projects in collaboration with stakeholders, keeping them satisfied, nurturing their needs, and meeting their expectations (Jugdev and Müller, 2005). If the scope of a project is poorly defined, it can affect the result and overall

performance of the project (Larson and Gray, 2018). Projects use resources in order to achieve specific performance that affects economic, social, and environmental factors, which can yield benefits that often occur after a project is completed (Kuchta and Mrzyglocka-Chojnacka, 2020). A project's success is about increasing effectiveness based on the goal that was intended to be achieved and what the project delivers (Armenia et al., 2019).

There are different approaches to project management for example the Agile method. In the 12 principles behind the Agile Manifesto, one of the principles mentioned that “Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely” (The Agile Alliance, n.d.). Project management is essential to enable companies to see sustainable economic development in their operations (Larson and Gray, 2018). Organizations that use project management in their day-to-day operations are more likely to have a competitive advantage when adapting their operations and policies to sustainable development (Kohl, 2016). The individual parts of a project are identified in the project life-cycle.

2.2 The Seven-step Project Life-cycle

Project management has evolved to consider stakeholders and project success in terms of the project life-cycle (Davis, 2014). The project life-cycle is coming up with, developing, and implementing a new concept (Marcelino-Sábaba et al., 2015). The first stages in a project are the foundation for the project to prosper (Buttrick, 2003). Often the success and outcomes of projects are only evaluated and measured at the end of the project lifecycle (Jugdev and Müller, 2005). There are different types of project life-cycle with various steps, ranging from four to seven steps, this study uses the seven-step life-cycle shown in Figure 2.

FIGURE 2

The seven-step project life-cycle



Source: adapted from Buttrick, 2000; Labuschagne, 2005, Author's representation

In the proposal, which is the first step, the idea outline of a project is presented. This process constitutes the basis of the project. The second step is evaluating the existing proposal where it is assessed based on the scope, time, and cost of the project in question, whether the project is suitable for the organization, and whether it is in line with its policy. In the second step, whether the project intersects with other projects within the organization is also examined (Buttrick, 2000; Labuschagne, 2005). Once a project has been selected, its definition needs to be stated. A well-defined definition of projects improves the long-term sustainability of projects and their outcomes (Kuchta and Mrzyglocka-Chojnacka, 2020). The third step, definition, is characterized by assessing the risk of the project, which examines what risks may accompany the project and how the risk factor can be prevented or reduced (Buttrick, 2000; Labuschagne, 2005). The project's deliverables, outcomes, objectives, and performance are defined, among the description of the tasks the project consists of, done with a work breakdown structure. Stakeholders are also identified and analyzed in the third step (Kuchta and Mrzyglocka-Chojnacka, 2020). The development is the fourth stage in the seven-step life-cycle. Here the project is worked on through design, development of the project, structure, and creativity. The validation step is where the project is tested and examined as to whether it meets the objectives set at the outset of its design. In the handover stage, the project is handed over to those who will use the project, such as specific departments within

the organization, individuals and customers, for example. In the final step, lessons are learned from the project; this is a thorough follow-up, and whether benefits have been created from the project is examined (Buttrick, 2000).

2.3 Benefits of projects

Benefits overemphasize where the project aims and how the benefits fit into a sustainable business strategy that must be identified, evaluated, and effectively handled to deliver their intended purpose (Kohl, 2016; Sopko and Demaria, 2013). The standard approach to achieving benefits has been linear planning, which links the organization's agenda and business goals at the project's outset (Keeyes and Huemann, 2017). Focusing on project benefits allows for more substantial project resources (Sopko and Demaria, 2013). Benefits realization is when projects are considered suitable for the organization and are selected based on various competencies. The projects selected are shaped to organizational needs by optimizing their alignment, and thus benefits are created (Müller et al., 2019). In order to capture benefits, it is essential to use the proper measurements as the metrics of benefits can be complex and vary from project to project (Sopko and Demaria, 2013).

Benefits co-creation has gained traction in various areas, including identity, culture, and creativity research (Schultz and Hatch, 2016). Keeyes and Huemann (2017) consider several factors that encourage the benefits co-creation process: Determining core areas of interaction for building trust with openness through interventions that accommodate stakeholder norms and activities. Senior leadership engagement to lead cross-functional collaboration, direct vision, and cross boundaries through initiative, organizational, and broader sustainable development contexts. Co-creation emerges from the shared partnerships between organizations and their stakeholders

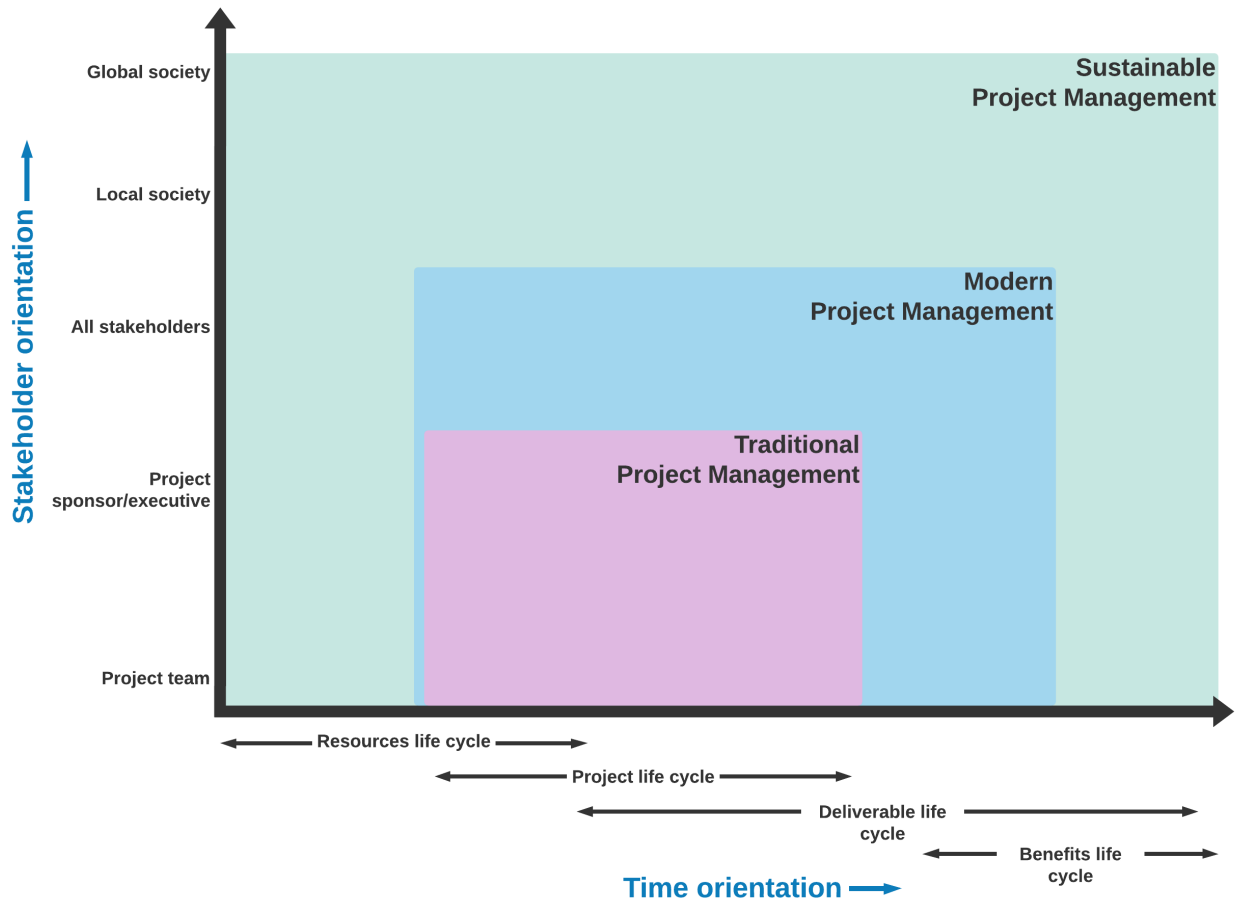
(Schultz and Hatch, 2016). Benefits from a stakeholder perspective are the measurable gains from a project that are considered profitable (Sopko and Demaria, 2013). For benefits to be created for stakeholders and an organization two conditions must be met. The first is that there is clear communication between the two parties, and the second is that full transparency goes in both directions (Schultz and Hatch, 2016). Organizational skills allow businesses to better leverage their capital and gain a competitive advantage (Kazadi et al., 2016). Organizations describe a systematic way to deliver natural, social, and economic benefits to the enterprise by including sustainability as a necessary and calculated aspect of project management (Michaelides et al., 2014). Sustainability must be accepted and acknowledged by senior management and incorporated in any organization's project for businesses to achieve the most significant benefits (Project Management Institute, 2011). According to Keeys and Huemann (2017) p. 1204, project sustainable benefits co-creation is interpreted as:

A strategy of collaborative activities incorporating adaptation, inclusive engagement, social learning, and accommodating values of diverse and multiple perspectives among project and external stakeholders to contribute to the forming of project [sustainable development] benefits as part of an emergent, planned, or transformative (constructed) process.

Figure 3 shows the enlarged scope of sustainable project management in the context of sustainability and stakeholder orientation.

FIGURE 3

The enlarged scope of sustainable project management



Source: Silvius et al., 2017, Author's reproduction

Figure 3 focuses on the enlarged scope of sustainable project management and is presented to locate the range of this research in a larger context. Figure 3 shows the different dimensions of project management and the factors that need to be considered regarding stakeholder orientation and the life-cycle related to sustainable project management. Figure 3 can be seen as a visualization of the co-creation of benefits and the spillover effects of sustainable project management for stakeholders and time orientation. Time orientation shows the axis where the life cycles interact. The time orientation axis shows the project life cycle extends to ‘future generations’ (Silvius et

al., 2017). The different life cycles will be briefly discussed below, and the main factors shown in Figure 3 will be explained.

There are various project life-cycle methods presented in the literature (Labuschagne and Brent, 2005). In Figure 3, four types of life cycles are illustrated. The resource life-cycle consists of reclamation, transport, and processing (Silvius et al., 2017). The seven-step project-life cycle has been defined above. The deliverable life-cycle consists of design, construction, start-up, maintenance, and decommissioning, while the benefits life-cycle includes production, use, and disposal (Silvius et al., 2017).

Project management has been tied to the philosophy of sustainability, which plays an essential part in the realization of more ethical corporate practices (Silvius et al., 2017). Consideration of sustainability necessitates a change in traditional project management scope from time, expense, and efficiency to focus on social, environmental, and economic effects (Silvius and Schipper, 2014). Sustainability entails a transition in the modern project management paradigm; from predictability and controllability to versatility, uncertainty, and potential (Silvius and Schipper, 2014).

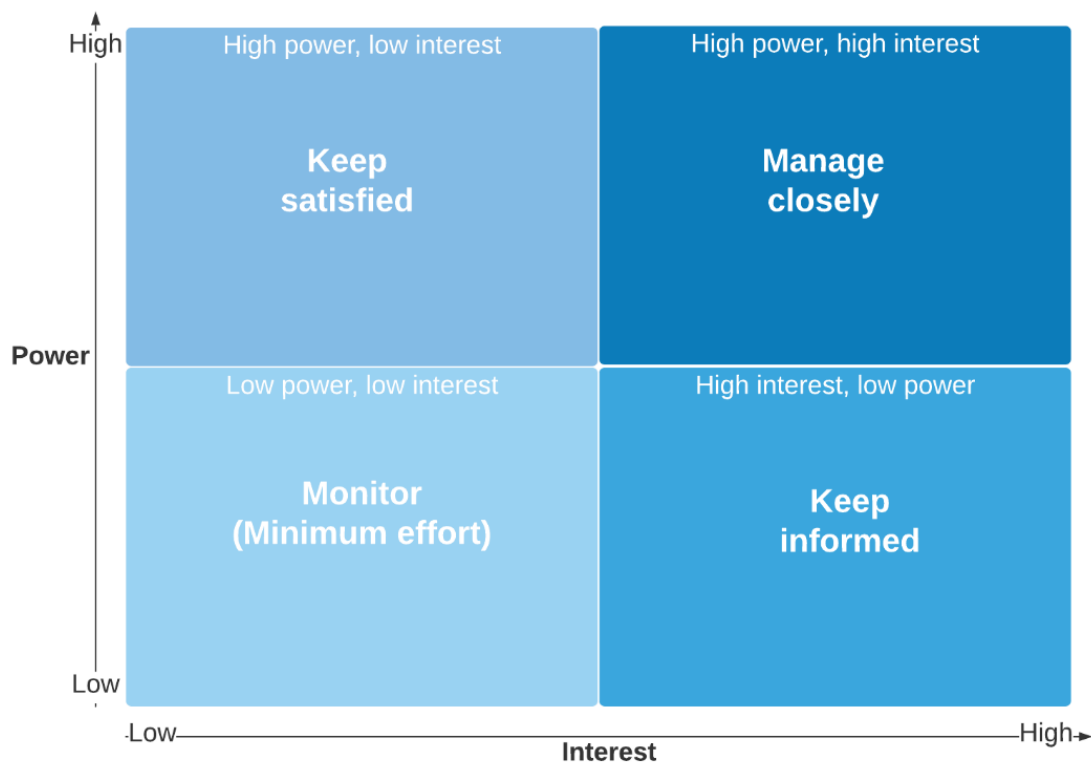
2.4 Stakeholders involvement in project management

In order to decide how to achieve the project's goals and objectives, it is vital to develop a common understanding among stakeholders with differing interests and expectations (Bradley, 2010). Eskerod et al. (2015) listed four critical reasons why stakeholders are essential for projects and how they can impact projects. Projects must be funded, stakeholders build the criteria for evaluating project's success, stakeholders provide support for projects, and lastly, projects can affect stakeholders. Stakeholder satisfaction with a project can be crucial when looking at the

success of a project, but it is worth noting that stakeholders may have a different view of success (Armenia et al., 2019). Stakeholders often play a significant role in project decision-making as the scope is usually developed by the project manager, customer, and stakeholders in question (Larson and Gray, 2018). How much stakeholders have access to information varies, as does how much power they have when it comes to projects, as shown in Figure 4:

FIGURE 4

Stakeholder communication mapping



Source: Based on Larson and Gray, 2018, Author's reproduction

Stakeholder communication mapping is used as a tool for prioritizing which stakeholders should be able to access certain information about projects (Larson and Gray, 2018). Figure 4 shows four main categories where stakeholders may be located on the map. Stakeholder communication mapping is a valuable tool to see where stakeholders stand regarding disclosure.

Still, it is a tool that does not automatically show value creation for sustainability (Bocken, 2015); instead it enables companies to locate project stakeholders. The axis in Figure 4 shows interest and power, which indicates how involved stakeholders are in the project. The power and interest aspects of the map can be divided into four main categories: keep satisfied, manage closely, monitor, and keep informed. Based on how much power the stakeholder has on a project, it is positioned accordingly and is also based on interest. Presumably, those with high power and interest are the ones most likely to receive the co-benefits. Thus, each stakeholder is classified into one of the four categories shown in Figure 4.

Davis (2014) identified the frequently mentioned stakeholders in the literature, listing 32 stakeholder categories, wherein project managers were the most commonly mentioned with 31 references. The other stakeholders also mentioned, with more than ten references, the project team, clients, contractors, users, customers, project sponsors. The stakeholders who had the fewest references are top management, organizations, line managers, project leaders, team members, the public, and the environment. The stakeholder groups vary depending on the projects and how they can affect the project, and the projects can have different effects on each stakeholder.

In the definition step of the project life-cycle it is essential to identify the stakeholders and analyze the role of each stakeholder individually, whether it be a group or an individual (Kuchta and Mrzyglocka-Chojnacka, 2020). The three factors that project managers consider during the project are time, cost, and quality, as previously mentioned. It is also important to note the concept of sustainability when conducting a project, e.g. whether it increases the transparency and liability of stakeholders (Armenia et al., 2019). There is a strong emphasis on value creation in many business models that are not suitable for sustainable development as it is mainly focused on the

economic pillar. In order to build a sustainable organization, the three pillars need to be integrated and balanced to support stakeholder needs (Bocken et al., 2015).

2.5 Sustainable Fisheries in Iceland

The fishing industry is a substantial sector that encompasses many methods of catching various marine products (Hannesson, 2021) that are renewable resources (Einarsson, 2016). Fisheries are about harvesting and enterprise (Charles et al., 2016). According to the Government of Iceland (n.d.), environmental management of fisheries is defined as research, protection, and management of the utilization of fish stocks and other living resources of the sea and the seabed and the management of areas where the resources are exploitable. The share of the fisheries sector in the gross domestic product (GDP) has fluctuated significantly over the past two decades in Iceland. Due to the sustainable utilization of fish stocks, growth in the fisheries sector is restricted. Therefore, it is natural for the share of the fisheries sector in GDP to shrink as activity in other industries increase, especially due to the rise of tourism (Radarinn, n.d.). The export value of fresh produce has increased by 133% since the turn of the century, despite a 16% decline in exported quantities (Íslandsbanki, 2019).

The fisheries in Iceland represent an interesting model in today's global fisheries scene (Minelgaite, et al., 2018). The Icelandic fisheries have been described as sector "in strong competition with foreign companies, and in order to gain an advantage companies need to be progressive, and they must maximize the value of common resources" (Óladóttir and Haraldsdóttir, 2020, p. 16). It is well known in the fisheries sector that sustainability places certain constraints on the growth of the sector's resources, as it is not possible to increase the catch limit in any way without depleting fish stocks (Elvarsson et al., 2020; Þorsteinsson et al., 2019). The

goal of sustainable fishing is to ensure that future generations have access to the rich fishing ground now and in the future (Gunnlaugsson et al., 2020; Þorsteinsson, 2017). The Icelandic government has set goals for its fisheries management system, which include promoting conservation and productive use of Icelandic fishing banks' exploitable marine stocks and ensuring permanent employment and settlement throughout the region (Ministry of Fisheries and Agriculture, 2006; Sigurðardóttir et al., 2014).

Certifications are tools used in the fisheries sector that exhibit its obligation to sustainable fisheries (Bailey et al., 2018). Iceland's fisheries industry has established its national sustainability scheme, combining sustainability and country of origin (Kvalvik et al., 2014). Icelandic Sustainable Fisheries (ISF) certifies Icelandic fishing gear and fish populations. ISF seeks approval under the Marine Stewardship Council (MSC) standard. This autonomous and certified certification body assesses and excludes fisheries off the Iceland coast that meet the MSC standard's criteria (Icelandic Sustainable Fisheries, n. d.). In contrast, Icelandic Responsible Fisheries (IRF) provides a competitive and exclusive approach to the need for third-party sustainability certification in the Icelandic sector (Kvalvik et al., 2014). Seafood certifications communicate a concern about resource sustainability, low environmental impact, environmentally responsible fisheries, and aquaculture processing practices (Bailey et al., 2018).

In recent years, investments in the fisheries sector have supported and encouraged the environment of innovative companies (Þorsteinsson et al., 2019). The world economy is facing massive societal changes as a result of technological advances. Such changes have accompanied mankind from the beginning, and they always present great challenges and opportunities. The high-tech industry is a major support industry in the fisheries sector in Iceland. Technological development results in better utilization of catches and more usable products made from the raw

material that was not used before there was an increase in access to markets and organization of utilizing the resource (Þorsteinsson, 2017).

According to Armenia et al. (2019) pg. 2, the relationship between projects and sustainability is obvious, as “projects are based on temporary endeavors that, consuming resources, deliver beneficial objectives. Sustainability defines criteria for proper use of resources and for the evaluation of outputs in terms of economic, social, and environmental impacts.” Similarly, Silvius et al. (2017) state that the relationship has become broader during the last ten years. Once sustainability has been incorporated into the company’s strategy, it is easier to see the company’s development by creating the benefits that have a significant impact on the three pillars of sustainable development (Kohl, 2016). According to Bocken et al. (2015), sustainable thinking is characterized as a perspective in which business is seen as a positive power that contributes to society and reduces impacts on the climate while still creating a benefit. Benefits realization is when projects are selected based on various competencies. Projects are then shaped to organizational needs by optimizing their alignment, and thus benefits are created (Müller et al., 2019). There is a difference between projects that are completed with the techniques of sustainable development and those that are not carried out with that movement in mind (Larson and Gray, 2018). Corporate social responsibility (CSR) internalizes the benefits and drawbacks that business has on society (Bocken et al., 2015). Projects carried out in a work environment where sustainable development has been implemented can affect the company’s operations, for example regarding stakeholders and governance (Kohl, 2016). Therefore, stakeholders’ needs must be fulfilled to some extent for a project to succeed, even though the method for balancing the three pillars differ in connection with project form (Kuchta and Mrzyglocka-Chojnacka, 2020). Several methods,

such as stakeholder maps and networks, have been established for conducting stakeholder analysis (Bocken et al., 2015).

Sustainable development has a broad impact within organizational units, such as organization, process, and the design of benefits (Keyees and Huemann, 2017). According to Asche et al. (2018), it is possible to improve the triple bottom line in fisheries with a management system that considers the three pillars as it tends to be crucial to achieving a fishery's maximum potential. With increased investment and innovation in the fisheries sector, emphasis is placed on maximizing the value and utilization of marine catch while working towards sustainability (Þorsteinsson, 2017). According to the research of Kuchta and Mrzyglocka-Chojnacka (2020), there is a direct relationship between sustainability and project success. Technological advancements result in improved use of catches and more accessible goods produced from previously unusable raw materials, as well as expanded access to markets and resource organization (Þorsteinsson, 2017), which contributes to increased sustainability in the Icelandic fisheries sector.

3. RESEARCH METHODOLOGY

In order to answer the research question it was decided to contact individuals who work in the fisheries sector in Iceland and its support sectors. The sample consists of twelve interviewees. Most participants act as project managers (Table 1). Project managers are at the centre of projects and have great influence and are responsible for project decision-making (Silvius et al., 2017). The Icelandic fisheries sector does not only consist of fishing and processing, so it was decided to interview individuals who work in so-called support sectors due to the need to service fisheries companies. This was done to cover the diversity of the Icelandic fishing industry. The emails sent

to participants in fishing and processing companies have certifications from Icelandic Sustainable Fisheries (ISF) or Icelandic Responsible Fisheries (IRF). Companies in the high-tech industry in the fisheries sector were examined and two responses were received from two companies where the interviewees or others pointed out the next interviewee.

3.1 Interviewees

The total of twelve semi-structured interviews were conducted with individuals working in the fisheries and support sectors. Twelve interviews is a sufficient number of interviews when examining a relatively similar group (Aguinis and Solarino, 2019), and these were considered a good sample to answer the research question as theoretical saturation was reached. Saturation in interviews is what is sought in grounded theory research, and the number of interviews is estimated on that basis (Corbin and Strauss, 2015).

Table 1 shows the number given to the company where each interviewee works. The interviewee's letter was given to ensure anonymity, gender, job position, the company size, date when the interview was conducted, length of each interview and total words transcribed. As shown in Table 1, each interview time ranged from a minimum of 17:24 minutes to a maximum of 46:15 minutes. The total interview length was 5 hours and 49 minutes. The number of words transcribed was 48,802 words.

TABLE 1

Participants in the research

Interview number	Interviewee	Gender	Job position	Company number	Company size	Date of interview	Interview length	Words transcribed
1	A	Female	Project manager	1	Medium sized	24.02.2021	00:29:27	4.165
2	B	Female	Project manager	2	Large enterprise	25.02.2021	00:29:02	4.661
3	C	Female	Human resources/ Project manager	3	Large enterprise	01.03.2021	00:27:15	4.476
4	D	Male	Sales and project manager	1	Medium sized	12.03.2021	00:26:36	5.650
5	E	Male	Project manager	4	Large enterprise	24.03.2021	00:46:15	5.313
6	F	Male	Project manager	5	Large enterprise	24.03.2021	00:22:14	2.400
7	G	Male	CEO	6	Micro-sized	25.03.2021	00:31:27	3.478
8	H	Male	Project manager	7	Large enterprise	26.03.2021	00:28:29	4.475
9	I	Male	Project manager	2	Large enterprise	30.03.2021	00:26:25	3.860
10	J	Male	Sales and project manager	7	Large enterprise	21.04.2021	00:38:37	4.573
11	K	Male	CEO/Project manager	8	Micro-sized	21.04.2021	00:28:25	3.644
12	L	Male	Senior Manager	9	Large enterprise	26.04.2021	00:17:24	2.107

The company size is classified according to the number of employees working at each company compared to a standard in Iceland. Criteria for company size vary by country (Joe et al., 2013). Based on size classification of the European Union, companies with less than ten employees are classified as micro-enterprises, companies with 10-49 employees are considered small companies and companies with employees in the range of 50-250 are considered medium-sized (Samtök Atvinnulífsins, 2017; Sigurjónsson, 2012). Large enterprises are companies that have more than 250 employees at work.

3.2 Data collection

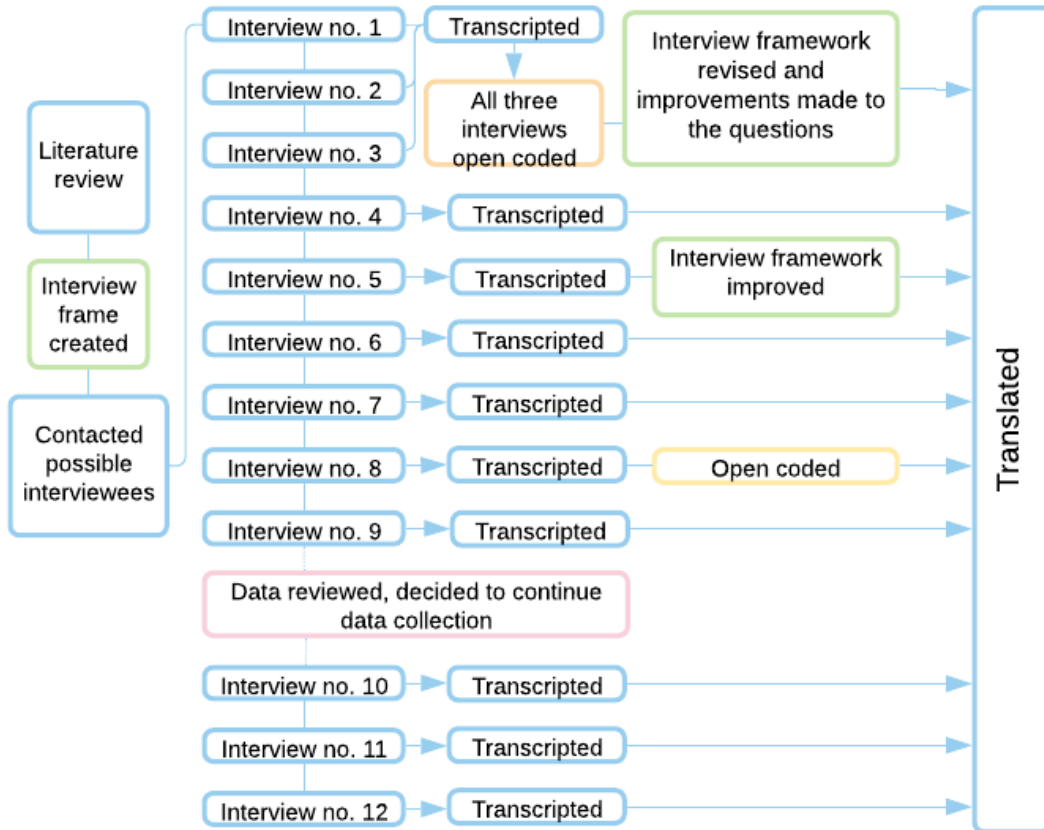
Data in this study were collected through interviews and other documents were collected and analysed in order to respond to the research question (Merriam, 2009). Data collection for this

study was done through twelve qualitative interviews. The process that was used to gather data in the study will be reviewed in this section.

Figure 5 shows the process used for data collection conducted in this study. First, a literature review was carried out to see where the research gap was regarding previous research on the subject. An interview frame was worked on and potential interviewees were contacted. The next step was to take interviews, and the first three interviews were taken at relatively short intervals. They were transcribed, open coded, and it was decided to make changes to the interview framework. After interview number five, it was decided to rearrange the questions so that questions related to sustainability were placed below the semi-structured questions. This was done to make it easier to use them as probing questions if the interviewee mentioned something about sustainability in the context of the question that had been asked before so that there would be better flow in the interview as a whole. It was decided to open code interview number 8 with interviewee H, as there was a certain variety in that interview regarding sustainability in the fisheries sector. After interview number 9 the data were reviewed, and it was decided to continue collecting data until saturation of the data was achieved. Interview number 12, with interviewee L, was the shortest of the twelve, and it was considered that a certain saturation in the data was reached after the interview.

FIGURE 5

Data collection process



3.3 Data analysis

Corbin and Strauss (2015) were used as an inspiration for the data analysis process. The following interviews were used in open coding as interviewee A focused on internal processes in the supporting industry, interviewee B focused on internal processes and sustainability in operations in fishing and processing, interviewee C focused on human resources and other internal aspects of fishing and processing, and finally interviewee H who dealt with complex projects in a complex work environment in supporting industry. The size of the companies was also taken into account to get diversity. The interviews that were open coded, as two of the companies are considered large

enterprises, one is medium-sized, and one is micro-sized. Table 2 shows how data from an interview with interviewee B was open coded, then grouped into a category and theme.

TABLE 1

Sample of open coding with interviewee B

Data	Open coding	Category	Theme
<i>And we want to show that we fish responsibly, and we want to be known for that.</i>	Responsible fisheries	<i>Sustainability in operations</i>	Progressing towards sustainable development
<i>As we know, we are in an industry that is not particularly environmentally friendly in nature: all the ships use oil.</i>	Environmentally un-friendly industry	<i>Sustainability in operations</i>	
<i>But if we find ways to make the business more environmentally friendly, then we do it.</i>	More environmentally friendly solutions	<i>Sustainability in operations</i>	

Source: Interview with Interviewee B.

Table 2 shows an example of the open coding process and how different open codes form a category together, and what theme that category classifies as. A total of 583 words or phrases were retrieved from open coding and placed in alphabetical order in each theme, and repeated words were deleted to simplify data processing. After the repeated words had been deleted, the number of open codes was 401. The words were placed in alphabetical order to reduce traceability, where words or phrases were taken from each interview individually in the order in which they appeared.

The first theme that emerged was *Stakeholder engagement in projects*, which has the subcategories *Internal stakeholders* (50 codes) and *External stakeholders* (26 codes). The next theme that emerged in the data analysis is *Procedural life-cycle orientation*, with the subcategories *Synergy made with projects* (115 codes) and *Benefits of projects for stakeholders* (49 codes). The third and final theme is *Progressing towards sustainable development*, which contains the

categories *Evaluating progress and performance* (61 codes) and *Sustainability in operations* (100 codes).

The main questions interviewees were asked in order to answer the research question are: 'Can you tell me about the main projects you overlook?', 'Can you tell me how the project process is in general?', 'Can you tell me how the company defines a project as successful?', 'Can you tell me what the main benefits are from projects?', and 'Can you tell me about the main stakeholders of the projects you manage?'.

4. FINDINGS

Interviews discussed projects and how they are conducted within the fisheries sector in Iceland and an attempt was made to shed light on the themes that led to the results of the study. Three themes emerged during the data collection with six sub-categories (two in each). The first theme is 'Stakeholder engagement in projects', which examines the stakeholders mentioned in interviews, both internal stakeholders and external stakeholders. The second theme, 'Procedural life-cycle orientation', examines the synergistic effects that arise during the seven-step project life-cycle and the benefits that are created by projects for stakeholders. The theme 'Progressing towards sustainable development' examines how organizations evaluate progress and performance in operations and the aspects of sustainability that are considered in operations.

4.1 Diverse stakeholder involvement in projects

The first theme that emerged in the study is Stakeholder engagement in projects. The categories that emerged were Internal stakeholders and External stakeholders. Table 3 shows the stakeholders mentioned by interviewees. The stakeholders marked in black in Table 3 are the stakeholders who

are related to the interviewees' projects and are also placed in stakeholder communication mapping (Figure 5). The stakeholders marked with yellow in Table 3 are the stakeholders mentioned by the interviewees in connection with the activities of organizations as a whole from their point of view. Table 2 shows that the most common stakeholders in the interviewees' projects are internal stakeholders, who are employees. The main stakeholders mentioned by the interviewees in the interview were customers, especially in connection with the activities of companies in general.

TABLE 3

Stakeholders mentioned in interviews

	Employees	Customers	Process owners	The general public/ The society	Shareholders	Interest groups	Politics/ Local authorities	Senior management	Suppliers	Industry
A	x	x	x							
B	x	x			x					
C	x	x		x						
D	x	x		x	x					
E	x					x	x		x	
F	x				x				x	
G		x								x
H	x						x	x	x	
I									x	
J	x	x					x	x		x
K				x	x	x	x			x
L		x								x

4.1.1 Internal stakeholders

4.1.1.1 Employees

The main stakeholders in the projects that interviewee A is working on are employees. Interviewee

A said that it was possible to look at improvement projects like a spider web because everything was intertwined. The company's internal processes yield results for the company's customers and other stakeholders when looking at the bigger picture. Interviewee A also mentioned process owners as stakeholders, as they are responsible and owners of the processes, and their benefit consists of improving the processes. Interviewee D, working in the same company as interviewee A but in a different department, makes stakeholder analyses when he receives projects and studies how important each individual is for the progress of projects. He agrees that the employees are a massive stakeholder for the projects he works on and collaborates with other project managers and sales managers in the company.

Interviewee B said the employees are her main stakeholders as she tries to make daily work easier for those who work in the office. Interviewee B also mentioned that employees are stakeholders because if the fish is not caught or the fish cannot be sold, interviewee B's job is of little value. Catching the fish is a prerequisite for all the jobs the company has to offer. Based on criteria, interviewee C measures employee satisfaction and said, "*you are not working on anything if you do not measure it.*" In the opinion of interviewee C, the employees are a significant stakeholder in her projects and put a lot of effort into keeping the employees satisfied and preventing problems among the employees. Interviewee C considers projects related to human resources to be "*eternal projects.*"

In connection with his projects, interviewee E mentioned that "*employees are what we have, and you just always give employees 100%, always, no matter what it is*" when he talked about stakeholders and said it is necessary to keep employees satisfied in projects. He also mentioned the need to monitor staff and manage them effectively, which refers to employees in production. In contrast, interviewee H, who oversees projects in high-tech companies, said that

employees are an extensive stakeholder in the projects and mentioned that the projects are not run on micro-management. Employees work according to specific processes and are trusted for their work contribution. Interviewee H also mentioned that although the company is a high-tech company, human communication between employees is most important when it comes to large projects. He notes there are many different groups of employees with deep knowledge who come together, and that communication is what makes projects work. Similarly, interviewee J, also working at the same company as interviewee H, mentioned many stakeholders involved in big projects, mainly within the company. For example, there are technical managers, managing directors, production managers and employees with deep knowledge. Interviewee J commented:

Many people and experts are involved in these projects; all kinds of product groups that have specific products and identities that are put into the solutions. Some of the experts are team leaders, so there are many involved in this.

Interviewee F said that a goal had been set in a particular project concerning increased emphasis on the working conditions of fish processing employees beyond what was required by the labour inspectorate. Interviewee F also mentioned that, in general, the company operates in *“a traditional environment, that is regarding laws and regulations, and that we are demanding; not only do we have to meet our requirements and the requirements of domestic workers, but also the requirements of buyers.”*

4.1.1.2 Customers

Regarding customers as stakeholders, interviewee A said their processes related to service are very important. They are doing everything from the customer’s point of view and pointed out that the

same applies to the sale of projects. It is vital to the customer that the projects are performed well, whether it is software or internal processes. Interviewee A added that customers are not interested in the company's internal processes but are interested in the outcome. Interviewee B had a similar point of view and explained that customers are stakeholders. Even though she is working with the company's internal processes, she talked about how the processes *"often affect the client in the end, and we are always doing it all based on them."* Interviewee B pointed out that to produce a quality product, the company's internal processes must be in order. Customers of high-tech companies are domestic and foreign, as interviewees D and H stated. Interviewee J said that his main projects are sales to customers in Iceland who need equipment and tools that the company has to offer. Interviewee J's job is to find the solutions for the customer that suit him and to introduce the customer to the solutions the company has to offer and to see what they need. Interviewee J also said that the consumer of the final product knows little about the company's operations and their part in the value chain. There is certainly added value for the customer with interviewee J's projects and job to sell products that make the final product more valuable as it is what the ever-changing market is calling for. Interviewee J explained, *"the market is seeing with technology that you can request certain products that could not be requested before."* The same applies to fishing and processing companies. The primary market location is abroad, and interviewee C said that fresh fish, salt and frozen all go to one place. The stock of salted fish for company number 3 is located abroad to bring the product to the customer as soon as possible. The most extensive customer group is located abroad. In a similar manner, interviewee E said that company number 4's main customers were foreign.

4.1.1.3 Senior management and shareholders

Interviewee H talked about the need to keep senior management of the company happy with the projects that are conducted in company number 7. Interviewee J, who works for the same company, agreed. Interviewee F stated that companies' stakeholders are usually shareholders but said nothing about it explicitly concerning company number 5. Interviewee D noted that the owners of company number 1 are a broad group of investors, and it is to their advantage for the company to prosper. Interviewee B talked about the shareholders as being perhaps the most prominent stakeholders in company number 2 and added that:

The owners do not want to own the company if we do not sell the fish, so the employees are an extensive stakeholder because we are the ones who produce the product and bring it to market, so we have big interests to protect.

Interviewee K said that the shareholders have the right to use certificates that his projects obtain. As a result, those companies may send the product out of the country that are MSC certified or sustainably certified. Interviewee K added that without being a member of these certificates, the companies do not have the same right and a clear benefit. Interviewee K said shareholders are the companies that are making an effort to operate within the rules of how sustainability is conducted. Interviewee K described his communication with shareholders regarding certification projects as *“that it is collecting data, analyzing data, and connecting people, and in general might just be making sure there is a movement on things, so nothing stops.”*

4.1.1.4 Suppliers and service providers

As the environment for fish processing companies is complex, there are many types of suppliers and service providers that project managers need to communicate with. Interviewee F said that all suppliers and service providers are stakeholders of projects. Interviewee E listed several suppliers and other services for his projects, for example, computer system outsourcing, auditors and lawyers. Interviewee E also mentioned the energy companies as suppliers for company number 4 as a whole, whether it was oil for the ships or land power plants, and suppliers of cardboard and plastic that the company uses in packaging.

Interviewee H talked about managing subcontractors and other companies in projects that can be cross-border projects as well as domestic. Interviewee E said that for the whole operation of company number 4, there must be co-operation between both domestic and foreign parties in installation and construction for fish processing, i.e. the construction of houses, high-tech processing lines and also the carriers with whom they work closely when it comes to exporting fish. Interviewee I talked about the company doing most of its business with domestic suppliers regarding interviewee I's projects, both with other importers of spare parts and mechanics. Interviewee I pointed out that the company trades with suppliers who can respond quickly to their needs. The suppliers need to be strong to guarantee the security of supply and that suppliers can be relied on to meet their flexible requirements.

4.1.2 External shareholders

4.1.2.1 Society

Projects in the fishing industry are often carried out in close collaboration with the company's local community. Interviewee C explained that company number 3 was in close contact with the municipality in which it works due to grants and that it creates jobs for the individuals who live there. She pointed out that they are visible in the community in which they operate. Interviewee C also emphasized that the fishing industry is aware of the need to increase visibility because ordinary citizens do not see all the operations behind the closed doors of fishing companies. It would be a clear benefit for everyone to increase visibility in the fisheries sector.

Interviewee D said that he did not think the community was very interested in the activity of company number 1, but that it was still a stakeholder and added that the company is in close contact with the community as it is trying to be environmentally friendly and has a policy regarding waste and energy consumption. Interviewee H talked about working closely with communities and society and how they can help them take the next step into the fourth industrial revolution in becoming self-sufficient. Interviewee H also talked about the fact that external influences in society affect the company and what the market is calling for at any given time, especially abroad.

4.1.2.2 Local authorities and politics

Interviewee H mentioned the government, both here in Iceland and abroad, when it comes to technological development. Interviewee H said that *“we are working on the forefront of technological development, so we are pushing the limit, we must get approval and goodwill from countries to be allowed to enter the market with new equipment and tools.”* Interviewee J talked

about the need for the company and its products to meet specific requirements set by public institutions, and added, *“first the equipment is manufactured, but it is not allowed to be manufactured until they have received a particular certification.”* Interviewee E said politics was partly a stakeholder and mentioned that when the Russian market was closed, the company had to look elsewhere.

Interviewee K talked about being in close communication with the Icelandic government, for example, the Ministry of Industry and Innovation, the Marine Laboratory, and the Fisheries Office. Interviewee K said, *“working in Iceland is unlike anything else”* with regard to the ever-changing environment of the fishing industry, and added that there is good access to information when it comes to the fishing industry and that communication channels are short.

4.1.2.3 Interest groups and the industry

Interviewees B, E and G all mentioned Fisheries Iceland as a stakeholder. Interviewee B said that there is a great deal of co-operation between companies because of this industry association. The companies work together to build their image abroad regarding Icelandic fishing and are also in the competitive market selling their products. Interviewee G said that Fisheries Iceland is a powerful interest group supporting fisheries companies in Iceland. The industry as a whole reaps benefits when Icelandic fishing companies work together to build the image of Icelandic fishing in foreign markets.

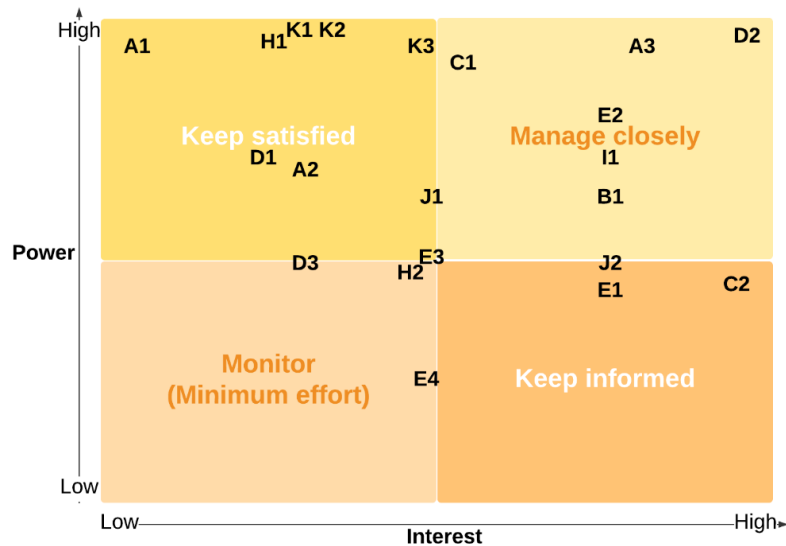
Interviewee K spoke about environmental protection organizations as a major stakeholder in their projects. Interviewee K said that he was working on a project where the goal of the project was to reduce bycatch in fishing nets of boats. He also believed that although the environment

itself is not a legal entity, there are great benefits for the environment itself from his projects. The industry experiences the benefits of sustainable fishing with the certification that G and K interviewees work to maintain.

The results of the theme will be shown visually in Figure 6 to give a clear picture of the stakeholders who have been mentioned. In the interviews, interviewees were asked to place stakeholders based on the stakeholder communication mapping regarding their projects and stakeholders are marked based on the interviewee’s perspective. It should be noted that not all interviewees placed stakeholders on the communication mapping. Some chose not to answer that question as they were not required to answer any questions they did not want to answer, or they did not consider any particular stakeholder of their projects.

FIGURE 6

Stakeholder communication mapping filled in based on the interviewee’s answers.



A1. Customers	D2. Employees	H2. Employees
A2. Employees	D3. The Society	I1. Suppliers
A3. Process owners	E1. Interest groups	J1. Customers
B1. Employees	E2. Politics	J2. Employees
C1. Employees	E3. Employees	K1. Shareholders
C2. The general public	E4. Suppliers	K2. Public institutions
D1. Shareholders	H1. Senior management	K3. Environmental interest groups

Source: Author’s representation of Figure 4 filled in with data from interviews

4.2 Procedural life cycle orientation

The second theme that emerged in the study is Procedural life-cycle orientation. The two categories that emerged were Synergy made with projects and Benefits of projects for stakeholders.

4.2.1 Synergy with projects

Interviewee B said that the projects at company number 2 were rather casual and called it “*now we do this method.*” Interviewee B said there was a certain task force that was dissolved, and therefore interviewee B was left alone and works according to her system, which she keeps on her computer. Interviewee B mentioned that she has experience in project management in another work environment where certain processes were followed, but that is not the situation at company number 2 today. A decision is made by the CEO or the board on the current projects in company number 2. Interviewee C said when a project comes up, it is listed regarding what the goal is and here who is responsible, but there is no specific process that the project goes through. Interviewee E had a variety of projects in progress and did not go through a specific process on those projects. Interviewee F did not disclose any specific process except in short that it was to secure equipment and build houses for the equipment and human resources. Interviewee G said that his main task was to maintain the company’s operations and to take care of certifications of fish products, as interviewee K does. Interviewee H handles the management of large projects in company number 7, which interviewee J talked about in the validation phase, which will be discussed in more detail in this chapter. Interviewee I said that he was in charge of daily technical matters regarding ships and that his daily task was to “*maintain the vessels*” and that there was no special project process. Interviewee I said that his main task was to keep track of the life of spare parts in ships and the

management of technical matters. Interviewee L leads a team that takes care of analysis and the process used does not follow a specific project life-cycle. Table 3 shows the process of projects for interviewee A, D, J and K. The seven-step project life-cycle from Figure 2 was used to define the process of projects.

TABLE 3

Life-cycle assessment of projects for interviewees A, D, J and K

	Proposal	Evaluation	Definition	Development	Validation	Handover	Post project review
A	Project manager receives a project	Casual conversation with employees	Defining the solution with employees	Developing the solution with employees	Solution tested by employees	Process implemented by the company	Lessons learned and implemented in other projects
D	Customer shows interest in purchasing solution	Negotiations with customer	Design phase	Production of equipment by employees	Solution tested by project manager	The equipment is handed over to the customer	Follow-up
J	Solution discussed with a customer	Experts display a solution	Bid manager collects all inputs	All inputs work together on the solution	A project manager takes over the installation	The solution installed for the customer	Follow-up
K	The need to update a certification	Communication with parties involved in the application and its scope examined	Data collection	Cooperation and communication with the parties involved in inserting documents into the application	The application is prepared using necessary documents	Certification	5 year follow-up of the project until a new start is required

4.2.2 Proposal

Interviewee A uses the DMAIC ideology (Define, Measure, Analyze, Improve and Control) for projects and explained it “*defines tasks so that you know how to measure, analyze, improve, and then control which is the more maintenance level.*” Based on the experience of interviewee A, it is human nature to want to start solving the problem immediately, but it is more difficult to get people to join the team to identify where the root of the problem is. Interviewee A gets a project on her table that has been evaluated, and then the project goes to the next step. For interviewee D,

the project starts with a customer showing interest in buying a solution for their company. Interviewee D works according to his own division of projects that he designed himself and classified projects into A, B, and C projects. Interviewee D explained:

An A project is a small project, a B project is just a medium project, and a C project is either huge, or the complexity is so great that there is a lot of product development, and then I call it a C project.

The process of projects for interviewee J begins with a meeting with a potential customer, and the customer's expectations regarding equipment are discussed. Interviewee J talked about projects in levels and explained them like this:

Projects are divided into level 1, which are simple, straightforward sales that do not have to go through all of these protocols. So level 2, then this has to go through protocols, and in level 3 it has become a more complex project, a bigger project.

Interviewees D and J both work on similar sales projects of high-tech equipment for the fisheries industry. While in interviewee K's projects, the projects start with the decision to apply for certification for a specific fish species. This may be because the five-year lifespan of the certification certificate has expired.

4.2.3 Evaluation

Interviewee A begins by talking to individuals involved in the project without going into a formal analysis immediately. Interviewee A considers it important to get information and get people to join the team in order to evaluate the scope of the team regarding the project. Interviewee A considers it a powerful step in each project to get individuals within the team to speak based on their

knowledge and emphasizes “they know their job the best.” In comparison, the next step for interviewee D is negotiating with customers and finding out which solution suits their company regarding their goals. This correlates with interviewee J’s next step after the meeting with the customer, which is to sit down with experts who design the solution with the equipment and tools that are suitable for the fish processing that suits the customer’s vision. The evaluation step in the projects of interviewee K is to look at what has been updated regarding the standard before starting to obtain documents that need to be present in the application.

4.2.4 Definition

Interviewee A gets the stakeholders in a workshop who are then usually employees and professionals who work within the company. The team defines how things are today and look for indications of how things could be done better. Interviewee A said it has a good effect on teamwork and explained the employees’ point of view that there is someone showing interest in their work and trying to make things better for them, which would be interviewee A in this context. Interviewee A added that this is a very powerful step to take and said that all individuals are different, but in her experience, this has worked well. Building a foundation for a good team that works together to find a solution to a problem is essential in interviewee’s A projects. This correlates to interviewee K’s projects in this phase where the data collection begins. Interviewee K communicates with everyone involved in putting data into the application. Interviewee K places great emphasis on communication.

The design phase is the next step after the customer has talked to interviewee D and given company number 1 their requirements for what the project is supposed to deliver. It is then designed according to their idea of the customer’s future. In the definition step of projects by

interviewee J, the layouts that have been designed by experts with the clients are reviewed. Several implementations are presented to the customer who chooses the layout that suits his vision. After selecting a solution that will be designed, a bid manager will take over the project. Then all the elements needed to prepare the business solution are gathered together. There can be many factors to consider, such as delivery time and determining it in consultation with the manufacturer, and all the inputs needed to manufacture the equipment and transportation of equipment. After it has been resolved, the solution has been defined.

4.2.5 Development

Interviewee A said that when working on the solution it is an important step and considers this part to be intertwined with the previous step, which is the definition of projects. Interviewee A had an interesting point of view:

So phase 4 would be very beneficial because you are encouraging people to work with you because what I have experienced with improvement projects is that they will not be successful unless you get people with you as a team; it is generally just number 1, 2 and 3. First of all, just managers, also those who need to do the actual work - you know the experts, you know those involved in this project. I think it is a very important step.

A similar story can be told about projects by interviewee K who gets an outside agency to work with him to get the data delivered, and he talked about the Directorate of Fisheries as an example. The production phase of interviewee D's sales projects varies and can take up to 10 months for large projects. The goal of interviewee D's project is to "create solutions for customers

that improve the utilization, performance and profitability of the product being worked on, and this should be done in an open and efficient manner.”

At this stage of interviewee J’s projects all the elements begin to work together; then, the experts work on the solution within a certain time frame that has been determined in the previous step. Review meetings are used to decide on the best solution. Interviewee J said that this is an ongoing process where everyone involved in the solution needs to give their approval that the solution works. He points out that “the client never sees all these employees who do the work; here are meetings with everything related to the projects, the software, those who control the conveyor belts and all the controls.”

4.2.6 Validation

According to interviewee A, it becomes obvious if the solution to the problem is working or not in the validation phase of a project. She also states that it varies from project to project. If the solution is considered good, then it is implemented, but it may also be necessary to improve it before it is delivered.

In the validation phase, interviewee D tests the equipment himself and explained that he designs the test for equipment in the office of company number 1, goes to the customer and takes the Site acceptance test. He then makes a report based on that test, and if the customer accepts the trial results, then the project can go to the next phase. Meanwhile, in larger projects with interviewee J, it is known that technology in the form of virtual reality is used to see how the solution works without using an actual fish product to run through the system. Interviewee J explained, “those who buy the equipment, they maximize their profit and also all waste is kept to a minimum.” The solution is then accepted, and the customer signs the offer. Then another project

manager is appointed to the project who takes over the responsibility of managing the installation of the equipment until the equipment is up and running.

Interviewee K's validation phase consists of running the application based on having added and collected data to create the application for certification after having collected funds that are a big part of the project's success.

4.2.7 Handover

Interviewee A said the handover of solutions is, according to her, "a challenge" and said it is one thing to develop and create a solution, and then it is another thing to implement the solution and get people to accept, reconcile and work according to it. Based on the experience of interviewee A, she said that it is the steps before the handover phase that bring and yield the most benefits regarding her projects.

Interviewee D said that once a test of the equipment has been approved, the customer pays the final payment and Interviewee D hands over the project to the service department. Thus, the project ends. Interviewee D calls this step "the border" because then the project is completed. Interviewee D mentioned that it is a challenge to complete projects because the equipment is technical and can perform differently than the salesman has stated in the contract at the beginning of a project or other various factors that may be different from what was planned. Although the project work is process-oriented, it is challenging to standardize it. Interviewee D explained: "it's incredibly difficult to take this work and these projects and standardize it because the projects are so different."

The project manager who took over interviewee J's project ensures that the project timeline is kept and the equipment is delivered. The project manager needs to consider many factors and

ensure that all parties work together. Equipment servicers, software specialists, equipment installers, process specialists, and the customer need to be taught the system. This step can take a long time, and the processing is tested to show that the equipment is delivering what was expected and meets the customer's vision. After the equipment has been approved by the customer, there is a handover of the equipment.

In interviewee K's projects a decision on the certification standard is then made, which decides whether or not the project has complied with a standard for certification. If all the data and documents are available and the fish type is certified, the next step is a post-project review that lasts for five years at a time.

4.2.8 Post project review

Interviewee A said that no matter how the project goes, the benefit of each project is to learn a lesson from it. It is essential to implement that lesson into the next project. Interviewee A added that if the lesson is not implemented into the next project, "then it is not promising for success." Interviewee D's project is completed when the service department has taken over the process, at which point a follow-up begins on equipment that the customer has received. In the last phase of interviewee J's projects there is a follow-up and support after the project has been delivered. Meanwhile, interviewee K said that after the certification has been accepted, then begins a maintenance phase that lasts for five years, and after the five-year period is over, then the process starts over. According to what has been stated in the projects of interviewee K, this phase can be considered a post-project review as certifications are being maintained for a certain period of time before the new life of the project starts again. This process applies to all the species that are certified, and

therefore each fish species that is certified can be considered one project that forms a project portfolio consisting of seventeen projects that interviewee K is responsible for.

4.2.9 Benefits of projects for stakeholders

Interviewee L said that it is possible to achieve operational benefits by emphasizing sustainability in operations and expressed:

Companies are never going to change until the managers and owners of the companies realize that it is important so that they not only can achieve some kind of operational benefits but also that something positive is being done for the environment and society.

Interviewee A said that the main benefit of her projects was the cooperation of the parties involved, as has been stated. Interviewee B said that the main benefit of her projects would be if someone could use them within the company, and it would yield the desired results. Interviewee D talked about how the benefits of his projects are reflected in increased profitability, flexibility and additional products that company number 1 sells. Interviewee D explained the products he sells *“can do much more with the fish than could be done before, and in fact, the profitability then comes from the fact that there are fewer people needed to process more fish, increased automation.”* Interviewee E said that his projects are considered successful if it is possible to implement change for the better and it is possible to use the results of the project to *“one more step”* in the next projects. Interviewee E also said the benefits of its projects revolve around the shelf life of products. Interviewee E mentioned the benefits of peer-reviewed articles and their assistance in demonstrating important issues regarding shelf life. The benefits of the project discussed by interviewee F are set to emerge in the coming decades. Interviewee F said that even

though it is 3% beyond the budget, it does not matter when looking at the whole picture as the project creates long-term benefits.

Interviewee J said that the benefits of operating in the Icelandic market are that the market is small and the network is close-knit as there are not very many companies in this market. This means that *“the flow of information is fast and therefore innovation is fast too”*, according to interviewee J. Interviewee J added that this is a great strength for the company and the activities of those who work in servicing the fishing industry with equipment and tools. This has a similar tone to interviewee K who talked about information flow and working in the Icelandic fisheries sector; there is strong access to information, and contact channels are short. Interviewee K added that his job benefits the entire fisheries sector in Iceland. He explained:

It is the interest of the entire fishing industry in Iceland. It can be said that in a way it has become clearer that what I am doing in many ways makes it easier for the government to do its job because they have additional stakeholders who are to work for the environment, but still on behalf of the fishing industry or the industry itself, cooperation in some way, so I would say that is one of the most important things that has come out of this work.

Interviewee K said that increased cooperation is one of the most important things his work has done in recent years and that it has changed a lot since he started. Interviewee K mentioned that the cooperation with the public authorities was not so strong in the beginning, and over time his work has been successful, and he believes these are sensible projects.

4.3 Progressing towards sustainable development

4.3.1 Evaluating progress and performance

The projects of the interviewees and their results are measured in various ways. The main points that the interviewees talked about regarding progress and performance will be examined below.

Interviewee L said that there are many criteria that fisheries companies can focus on and he mentioned a few. He mentioned reducing environmental emissions, having less harmful effects on marine life, ensuring gender equality, increasing gender ratios, and focusing on business ethics.

Interviewee L also mentioned the Environmental, Social and Governance (ESG) ideology as a measure and said it *“allows the party to work much more with measurability and measures”*

regarding sustainability. Interviewee B said that company number 2 has been measuring success regarding social responsibility and feels that they are achieving successful results in that field.

Interviewee B said that her knowledge lies with the company’s social responsibility. An annual report is made at company number 2, which gives the company a clear view of how and where they stand regarding CSR. Interviewee B also mentioned the company’s financial report in connection with the scale and said it shows *“these financial benefits and what we are, what we are delivering after the year, so, yet these are perhaps the criteria that are easiest to look at.”*

Interviewee I also works for company number 2 and talked about measurements onboard ships of the ship’s equipment which is entered manually into Excel documents and other forms. Measurements of equipment are measured in hours, and interviewee I said, *“at the same time, we are building experience.”* Interviewee I explained that there is increased efficiency regarding equipment in ships; in the past, ships were at port for many days when equipment had to be replaced. Now there is more utilization of vessels, and therefore it is crucial to recognize the

lifespan of spare parts in ships, and there is a certain knowledge about how long each piece of equipment works. Interviewee I added, *“we are always basically trying to get the most out of the equipment without taking any risks.”* Interviewee I also said that by increasing the capacity of the vessels, more catch is being caught. He said the ships are large, and they have the ability to be out at sea for a long time at a time. He said that there is no real energy source except fossil fuels as it is now, but said, *“I’m pretty sure something will happen soon, there will be changes.”* Interviewee I said that increasing the capacity of the vessels goes hand in hand with increased oil consumption, but he said that more quantities of fish are being caught per unit of energy that is being used. Interviewee I added an interesting point: *“but the only problem is that with these numbers that we measure now [...] that these numbers are not too far back in time and we do not have comparative figures.”* He said that criteria and measurements are of great importance and pointed out that when oil consumption is high per kilogram of fish, the company does not control where the fish is. Interviewee I explained, *“while the people want the fish, we have to go get it where it is.”*

Meanwhile, interviewee C said that she has a system that manages the company’s projects, for example related to quality and margin, and the criteria are used for managing the company’s strategy. Interviewee C’s projects, however, are mostly associated with human resources and that a lot of effort is put into measuring employee satisfaction. Interviewee C said that it is important to use measurements within companies so that it is possible to work with what is available. She uses it as a rule of thumb that if there is no disagreement among employees, it is a sign that employee morale is higher among employees who work in fish processing. Interviewee C said that it is a challenge to create an exciting and entertaining lecture about raising acute awareness about security issues in three or more languages. Regarding the quality policy of company number 3, interviewee C said that there are many criteria involved in the operation. She commented:

A key measure related to how many customer complaints are below a certain level is measured. For policy participation, how diligent we are to complete the tasks we set ourselves. Then is product development, for example, to increase the business, then we are looking at turnover per customer, and for environmental subjects we look at carbon demand. So we try to define success broader than just actual margins, then each department has its goals

Interviewee C talked about using the proper criteria and mentioned it in connection with the fishermen's strike. She explained:

We started to record, e.g. the oil consumption reduced in the fishermen's strike, but it was not due to anything, so instead, we would rather look at carbon sequestration. That is how much CO₂ is related to the quantity we process. Because it is such a more accurate measure than any given number, the amount may fluctuate between years depending on the quota.

Interviewee E made an interesting point regarding the measurements used by company number 4. He believes that it is essential to strengthen co-operation between companies in the fisheries sector and universities. Interviewee E said that it is an excellent way to promote the Icelandic fishing industry as this can be a closed industry. He commented:

We have worked with Master's and Doctoral students, and we have chosen to go that way because then we always have the results on paper, so it will always be possible to shake the dust off, and if these are peer-reviewed articles, then it is completely valid data.

Interviewee E said that basic research enables the fishing industry as a whole to use peer-reviewed articles on food safety as an example. He mentioned one case when the use of phosphorus with salt was banned for salted fish in Europe, making the fish more likely to turn yellow. They then reviewed peer-reviewed scientific articles that demonstrated the importance of phosphorus

due to rancidity in fish. Interviewee E said that peer-reviewed academic articles are important and create opportunities to look at how things have been done in the past, and it can be used as a measurement of progress within the field of fisheries. He said that despite the fact that projects do not succeed as intended, there is a lot of usefulness in those projects. Interviewee E said, “*there are also smaller projects we have done, and the result came out well, some projects we have tried and nothing came out of it.*” Therefore, the peer-reviewed article can be used as a way to know in which direction the company is going next.

Interviewee F said that the measures of a project are mainly time, duration of the project, cost, and results based on pre-specified goals. Similarly, interviewee H said that he uses traditional factors to measure tasks, i.e., scope, time, and budget as well as quality, and also uses Keypoint indicators (KPI) in their projects. KPI is then used in connection with services regarding the customer and when he receives an answer to his query. The background of older projects is also analyzed, where what went wrong is examined, and measurements are made of what was done in the project and the root cause examined, whether the result was good or could be better. He said that a lot is put into learning from good projects and also those projects where some aspects of it could go better.

The tasks of interviewees G and K are of a similar nature. The primary measure that interviewee G talked about in his certification projects is a measure from the Global sustainable seafood initiative where the institution was measured on the basis of 150-160 requirements that must be met. That process takes one year, and the agency passed that measurement. Interviewee K also works on certification projects, and his organization was measured by the Marine Stewardship Council. Interviewee K said that the organization needs to show improvements in its position regarding the measurements that are made each year and that three factors are measured.

He explained, “*it’s based on the status of fish stocks we are certifying, then how the fishing gear affects the environment, and how fisheries management works.*”

4.3.2 Sustainability in operations

4.3.2.1 Human resources

Interviewee A said that company number 1 is working on equal pay certification. Interviewee A said that reasonable care has been taken to ensure human resources well-being and that employees have been met regarding work-life balance. Regarding human resources, interviewee B said that the working conditions of the employees have been improved and mentioned in this context less physical effort on board ships due to new technology that has been introduced. Interviewee C puts a lot of effort into making employees feel good at work. She said job satisfaction is paramount and said that company number 3 ensures that employees receive excellent and nutritious food while at work. Interviewee H talked about how in his projects he was titled as project manager and overlooks many large projects, even though he feels his job is mainly a facilitator between employees. He talked about how communication in a project is what matters and keeping employees happy. He said it is important to know how individuals in projects work and that building a good work ethic in projects makes a good foundation for project success.

4.3.2.2 Environmental impact

Interviewee A said that there is not much environmental impact caused by production in company 1. Interviewee D agreed with interlocutor A and said company number 1 tries to be as environmentally friendly as possible regarding their operations in terms of waste and oil consumption. Interviewee B mentioned reduced Freon usage in ships for company number 2. Interviewee B

notes that company number 2 wants to be at the forefront of sustainability and the circular economy and states, “we are at the forefront.” Regarding recycling, interviewee B said:

If we find any way to reuse things, then we do it; any tow wires or anything else that becomes unusable is sold. The unused foam plastic is compressed, and we send a container to sell it to a company that recycles it, and picture frames that you buy in IKEA could be from a foam plastic box from [Company number 2].

Interviewee C said that many factors need to be considered when it comes to environmental issues and sustainability, and she talked about ocean acidification as an example. She said that sustainability is fundamental to company number 3 as it focuses on the product they produce. It is mainly fished on a line that harms the environment less than other fisheries, both the seabed and less oil consumption.

Interviewee H said that sustainability is related to company number 7 based on the fourth industrial revolution and artificial intelligence. Interviewee H also said that sustainability is taken into account in every step that company 7 takes. He explained:

This is also a lot in terms of design, in the creation of equipment as said in terms of cleanliness, simpler to clean which means less material use which means better for the environment. We care a lot about how we build the equipment, how to transport it, so it will be easier to put in a container; fewer containers means less CO2 footprint.

Interviewee J spoke in the same tone as interviewee H and said that company number 7 cares about sustainability in everything it does. Interviewee J explained:

Devices and tools are built so that they last in good quality because good quality means that the machines and tools have a long lifetime, so you do not have to be making the same devices over and over again. After all, the devices last a very long time, it is very important, and all components and such are speculated on the basis of durability, based on how easy it is to clean and walk around. It all intertwines; use, how the object is used and its durability, and what we are doing to nature.

Interviewee I said that if a project or any part of a company's operation is not in accordance with sustainability, that decision must be substantiated. He mentioned that sustainability is the basis for company number 2 to operate. Interviewee K said that there are great benefits from sustainability certifications for the environment. He explained:

It can be said that if we start with benefits for the environment, then it is quite unequivocal because the certification involves looking at the stock that is being certified, what the effects are of fishing on the ecosystem as well as on the seabed and the sea area, and yes, seals and birds and other things. So it's how fisheries management works, so it's pretty clear that this kind of certification strengthens this whole system and just the sustainability system as a whole.

Interviewee B who works for company number 2 that has such a certification said "*we want to show that we fish responsibly and we want to be known for that.*"

4.3.2.3 Financial benefits

Interviewee E said that fishing is complex and needs to be profitable. He explained, "it's about making full use of products, and it's about finding other products that can give you more profit, and it just takes time because most of what we are doing is seasonal." Interviewee I said that

finances are usually at the top of the list regarding the benefits that sustainability can bring to company number 2. Interviewee I mentioned that if companies' finances are lacking, it affects sustainability's social and economic aspects. Interviewee K talked about the financial benefits for companies that engage in sustainable fishing according to a certification standard. He had an interesting point and explained that many fish products are sold to the United Kingdom. Many British small food chains have set conditions for companies to demonstrate the sustainable origin of fish products. He said that if the product is not sustainably certified, there is a particular risk that large markets will stop trading with companies. Interviewee K added that although the basic activities of his projects are environmental, the benefits of his work are financial for the companies that engage in sustainable fishing according to a certification standard.

4.3.2.4 Future vision

Interviewee A said that company number 1 is taking action regarding sustainable development and mentioned that the company has implemented the United Nations Sustainable development goals into its operations. Interviewee A added that it is possible to take things a step further. Interviewee A said that the prevailing policy in company 1 is that by 2025 the company will be "the most progressive and best company in the processing of whitefish in general."

When interviewee B was asked about the company's policy, she said that their policy is to be at the forefront, with a high-quality product, and that the products are utilized well and efficiently. Interviewee B told a story about when she started working for company number 2. She asked how much of the fish was utilized, and the person who was showing her the fish processing had "been quick to respond and said 100%". She explained, "what is not for human consumption

only goes into fishmeal” and also mentioned collagen production. Interviewee B talked about responsible fisheries and said:

As we know, we are in an industry that is not particularly environmentally friendly in nature. Vessels all run on oil and other things, but if we find ways to make our operations more environmentally friendly, then we do it, and we are now finishing preparing the last vessels so that they can be connected to electricity when they are in port.

Interviewee C said that the company is aware of its scope and carbon footprint and is taking steps to reduce it both through unnecessary pollution on land and at sea and a reduction in the use of unnecessary plastic. Regarding the future, interviewee said H *“we just work with, yes the future, just to see how we are going to feed the world in the year 2050 without it all being in shambles.”*

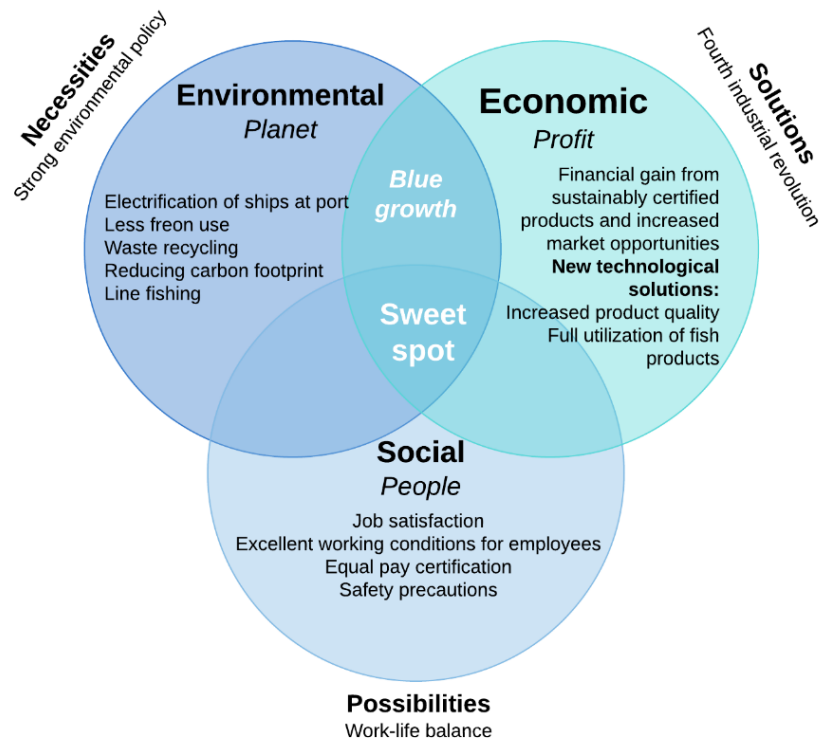
Interviewee I said that it is not far until labels regarding the sustainability of products are of significant importance. Although they are important today, they will weigh more in the near future.

Interviewee I said, *“I think people are more aware of this connection between all these factors. It is not possible to focus on one aspect.”*

To summarize what interviewees mentioned regarding sustainability in operations in the fisheries sector, Figure 7 presents the triple bottom line model and the triple helix model articulated in Figure 1, based on the data from the interviews.

FIGURE 7

The triple helix and the triple bottom line model filled out with data that emerged from interviews



Source: Based on Figure 1

Figure 7 covers the topics mentioned by the interviewees. The main factors related to human resources are job satisfaction, excellent working conditions for employees, equal pay certification, and safety precautions. Below the Social aspect are *possibilities* that are the work-life balance that promotes the elements mentioned in the social aspect. The factors that make up the Environmental impact are electrification of ships when they are at port, less Freon use in vessels, waste recycling on land and while at sea, reducing carbon footprint, and line fishing. In addition to the Environmental aspect, *the necessities* are strong environmental policy for environmental aspects to function. The Economic aspect consists of financial gain from sustainably certified products that leads to increased market opportunities, new technological solutions that promote

financial benefits in two ways. The former is improved product quality, and the latter is full utilization of fish products. In addition to the Economic aspect, the fourth industrial revolution is seen as a *solution*. As can be seen in Figure 7 the three pillars are delivered together and promote human well-being.

4.3.3 Summary of main findings

The most common stakeholders in the interviewees' projects are internal stakeholders who are employees. Everything related to employees affects the outcome when a project has been completed. Many interviewees put a lot of effort into keeping employees happy and that customers do not see what is happening behind the scenes. Not all companies had a specific life-cycle in projects or work processes, but it was characteristic of high-tech companies that there was more compliance with the project life-cycle. In interviews with interviewees A, D, J, and K, it was possible to see a specific process as is shown in Table 3. What was noticeable in Table 3 is that collaboration during the project life-cycle is the main benefit for stakeholders, both those who work on the project during the lifetime of a project and also for those who are handed over the project. Employees were referred to as stakeholders in that context, whether the employee is classified as an expert, bid manager, or general employee. There was talk of handover on projects as a challenge, as it is one thing to develop and create a solution, and then it is another thing to implement the solution and get people to accept, reconcile and work according to it. The main benefits for stakeholders are co-operation throughout the project, the use of a project after it has been developed, learning from what could be done better in other projects, using peer-reviewed articles to compare where the company is located and work processes that did not work or worked well, as well as working in the fisheries industry in Iceland where the community is close-knit and

communication channels are short. It turned out that the greatest emphasis is on environmental and economic sustainability rather than social, although there is a strong emphasis on employees' satisfaction. One of the interviewees said that economic sustainability needs to be in place to develop and do better in the area of environmental and social sustainability. The key outcomes in Figure 7 can lead to project managers better defining all aspects of sustainability at the beginning of projects and following it as a goal until the delivery of the project. It also indicates that the stakeholders of projects need to be clearly defined at the beginning, using stakeholder communication mapping as a tool. The relevance of this study is that it can be beneficial not only for companies in the Icelandic fisheries sector but for all those industries that consider sustainability in their projects and operations.

5. DISCUSSION

The research demonstrates the importance of getting people to work together in projects because that is where the most value is created for stakeholders and the benefits created at the end of the project. Still, there is less focus on the social aspect of sustainability. What was stated in the results is comparable to what has been pointed out in the literature. There is little emphasis on social sustainability compared to the environmental and economic aspects of sustainability. In fisheries management social aspects of sustainability are often overlooked in favour of biological, economic, political, and environmental factors (Pascoe et al., 2014). As the economy and business have undergone a “*transformation of consumption patterns*” (Maitre-Ekern, 2021, p. 1), its impact has previously been viewed as the root of the world's problems regarding the ecosystems, but now the economy and business are seen as an important part of the solution to the problem when it comes to sustainable development (Blewitt, 2014). The concept of Blue Growth undervalues the

importance of social sustainability (Boonstra et al., 2018). Some of the interviewees said first and foremost that the financial benefits of projects were the most important. Otherwise, the company could not pay attention to the environmental and social. Even so, the social aspect of the three pillars is often less considered when looking at the big picture and more attention is given to the environmental aspect.

How food is processed is important for sustainability in the future, technology companies in the fishing industry and the food industry are important when it comes to sustainable development. It is also worth mentioning the benefits for stakeholders as the fish processing companies process products more efficiently and it enhances productivity. New technology also augments innovation as it finds new solutions to make the best use of the product, and as a result there is more utilization of a product that is caught from an unlimited resource. The equipment is made to last a long time, and that can be seen as increased sustainability.

There was a consensus among individuals working for companies operating in fishing and fish processing that high technology was a large part of increased value creation in the Icelandic fisheries sector. With more precise technology, it is possible to make full use of the fish, and as a result a higher price is obtained for the product. It was also mentioned that what was not used for human consumption was used in fishmeal. Regarding the future for environmental issues such as electrification of ports are now at the forefront of the debate in Iceland about how to decarbonize the maritime sector. Three of the interviewees from two fishing companies talked about electrification of ships in ports, which was a development project for them. Switching to renewable materials to reduce pollution creates new value opportunities for companies in the fisheries sector. It is also essential for preserving biodiversity.

Some of the interviewees stated that they know where they are decisive regarding sustainability. They also stated that they know where improvements can be made, such as interviewees A, B and C for example. That is what sustainable development is all about. It is the journey to the goal of improved human well-being. One interviewee talked about ESG, which focuses on environmental, social, and corporate governance (ESG). According to the interviewee, ESG is seen as a better measure of sustainability as it allows businesses to assess the true long-term and societal impact of their products. According to that interviewee, CSR is becoming an outdated ideology. Harvard Business Review (2015) said the majority of CSR programs aren't strategic. They are in line with the corporate intent of the company, the interest of the company's key stakeholders, and the requirements of the communities in which it operates.

5.1 Limitations

The limitations of the study are several. First, it is worth mentioning the limited number of interviewees. A total of twelve interviews were conducted. The interviewees' expertise in sustainability is limited. Most of the interviewees had the knowledge and many years of experience in project management. In the first phase or the pre-feasibility phase of some of the projects mentioned in interviews, sustainability had often been shaped into the project when the interviewees received the projects.

It is also worth mentioning that the companies in the fishing industry in Iceland are of different sizes, and no small companies were examined, only micro-sized, medium, and large companies. Most of them were large, or six of the nine companies examined in the study.

Finally, it should be mentioned that although qualitative methodology was considered the best possible research method for researching the matter, there are limitations that come with drawing conclusions only from interviews in such a large industry. The location of companies is important because priorities may differ greatly between the city and rural locations. The study only covers seven companies in the south, one in the north, and one in the east of Iceland.

5.2 Future research

The research results examined who the main stakeholders are in the Icelandic fisheries sector, where benefits appear in the lifetime of projects, benefit co-creation for stakeholders, the main benefits of projects, evaluation of progress and performance, and sustainability in operations within the Icelandic fisheries sector. With that in mind, it would be interesting to look at each pillar individually within the fisheries sector. The first proposed research examines leadership performance concerning the social aspect of sustainable development. What has emerged in this study is that projects are diverse within the fisheries sector, as it is miscellaneous, and the complexity of projects varies. Therefore, it would be informative to look at the development of project management in the fisheries sector and using the Delphi method to look at the possibilities for project management for the future. Increased consumer demand for product and service information could be a basis for a study on benefit co-creation for stakeholders regarding traceability of marine products.

6. CONCLUSION

In order to answer the research question, it was important to identify the stakeholders mentioned in the interviews. Employees, customers, process owners, shareholders, senior management, and

Project Benefit Co-Creation in the Icelandic Fisheries Sector with Stakeholder Involvement and Integration of Sustainable Development

suppliers were identified as internal stakeholders in this study as they can have a direct effect on projects and their outcomes. The general public, society, interest groups, local governments, and the fishing industry are all examples of external stakeholders that may be affected by projects. According to Keeys and Huemann (2017), inclusive participation, social learning, and values of different and multiple viewpoints among project participants are all part of a collaborative strategy for sustainable development. As part of an emergent cycle, external stakeholders contribute to the creation of project sustainable development benefits. These are all aspects that the interviewees talked about, that is, to get people to take part in projects, learn from previous projects and take lessons learned to the next project, and take into account the viewpoints of many stakeholders. The research provides insight into the relationship between the sustainable development pillars in the Icelandic fisheries sector and the emphases within the three pillars. As long as the stakeholders work together towards a goal through clear communication, projects co-create benefits for stakeholders. With regard to employees, they are encouraged to engage in projects—increased business value for stakeholders and reduced impact on the environment with new technology. New technology also promotes increased efficiency, education, and utilization of catches. There is also a reduced impact on the environment with regard to the individual transferable quota system and certified fisheries. Certified fisheries create benefits for stakeholders as it brings competitive advantage and opens opportunities for products to enter new markets. When it comes to adapting their activities and strategies to sustainable growth, organizations that use project management in their day-to-day operations are more likely to have a competitive advantage. In all the interviews, factors related to the three pillars were discussed and therefore it can be said that sustainability is implemented in projects in the fisheries sector based on this study. However, the aspects of sustainable development can be better defined in project definition. It supports Marcelino-Sábaba

et al. (2015) that project management is seldom mentioned directly as present frameworks for project management as it does not explicitly address the triple bottom line of sustainable development.

In line with the research question most interviewees talked about employees as a stakeholder, and communication is critical when it comes to projects. The main benefits from the interviewees' perspective for stakeholders are when stakeholders work together towards a goal. The benefits of co-creation are therefore created through solid communication and people working together effectively. There is a possibility that stakeholder analysis may be deficient at the beginning of projects. It is important to know who the stakeholders of companies are, but no less so are the stakeholders of individual projects. Although there is less emphasis on the social aspect, it is not completely disregarded. There is just less emphasis on those aspects regarding sustainable development. The criteria for projects are different, but this study shows that criteria are important when it comes to sustainability in the fisheries sector. Whether the measure is in academic articles or data in Microsoft Excel, it is important to have reliable data to be able to compare and see results regarding corporate sustainability. Sustainable development is a journey, and although many things are well done, there is always room for improvement. What could be done to increase the visibility of sustainable development in the project is to link each project to the pillars they are supposed to create benefits within. The project and its goals have then been expanded, and the definition of the project has become more apparent. It increases transparency, benefits co-creation, and attracts stakeholders.

This study provides information regarding how projects are managed in different parts of the Icelandic fisheries sector. The results of this study can lead to project managers better defining all aspects of sustainability at the beginning of projects and following it as a goal until the delivery

Project Benefit Co-Creation in the Icelandic Fisheries Sector with Stakeholder Involvement and Integration of Sustainable Development

of the project. This study also indicates that the stakeholders of projects need to be clearly defined at the beginning using stakeholder communication mapping as a tool. The relevance of this study is that it can benefit not only for companies in the Icelandic fisheries sector but for all those industries that consider sustainability in their projects and operations.

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**A VECTOR AUTOREGRESSION ANALYSIS ON THE GEOECONOMIC
PROGNOSIS OF THE CHINA-CENTRAL ASIA ECONOMIC
PARTNERSHIP**

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ABSTRACT

Vector Autoregression (VAR) is a stochastic process that captures the linear interdependencies among multiple time series, and it has become a vital instrument in macroeconomics research. The trade partnership of China and Central Asia establishes a key geoeconomic transactional hub for the Belt and Road Initiatives (BRI). As China presses on with its economic vision of the BRI, its immediate geographic neighbor faces a stagnant and somewhat spiraling economic behavior. This paper uses the analysis of the VAR to assess if the geoeconomic prognosis of Central Asia is significant for a plausible economic partnership with China. To establish the premise, the analysis looked at three economic indicators of the M2 money supply, government expenditure, and national exports as variables to determine the outcome of the geoeconomic prognosis. The findings were significant to show that the results were not in favour of Central Asia, despite efforts made to streamline with the vision of the BRI, but it does not deliver the level of economic confidence for a near term multilateral economic partnership.

Key words: Belt and Road Initiatives, China-Central Asia, Economic Partnership, Geoeconomic Prognosis, Vector Autoregression

1. INTRODUCTION

Economic recessions, financial meltdowns, and commodity crises are shocks and fears that the world is trying hard to predict just to avoid catastrophe (Edward Hill, 2011). For a globalized world with intertwined protagonists, an impact on one, creates tsunamis of effects. Just in the first 2 decades of the millennium alone, the global economy has and had experienced multiple instabilities that rocked and sank countries years into recovery just to face another one. It is already a burden for developed nations to stand firm and face the wrath from a crumbling and distorted economy, it is just unbearable for developing countries, especially for countries that only rely on commodities, what more for underdeveloped countries. Of all the crises experienced, there has never been a proper root cause, there has never been a proper preventive action, there has never been a proper corrective action, and there has never been a proper solution.

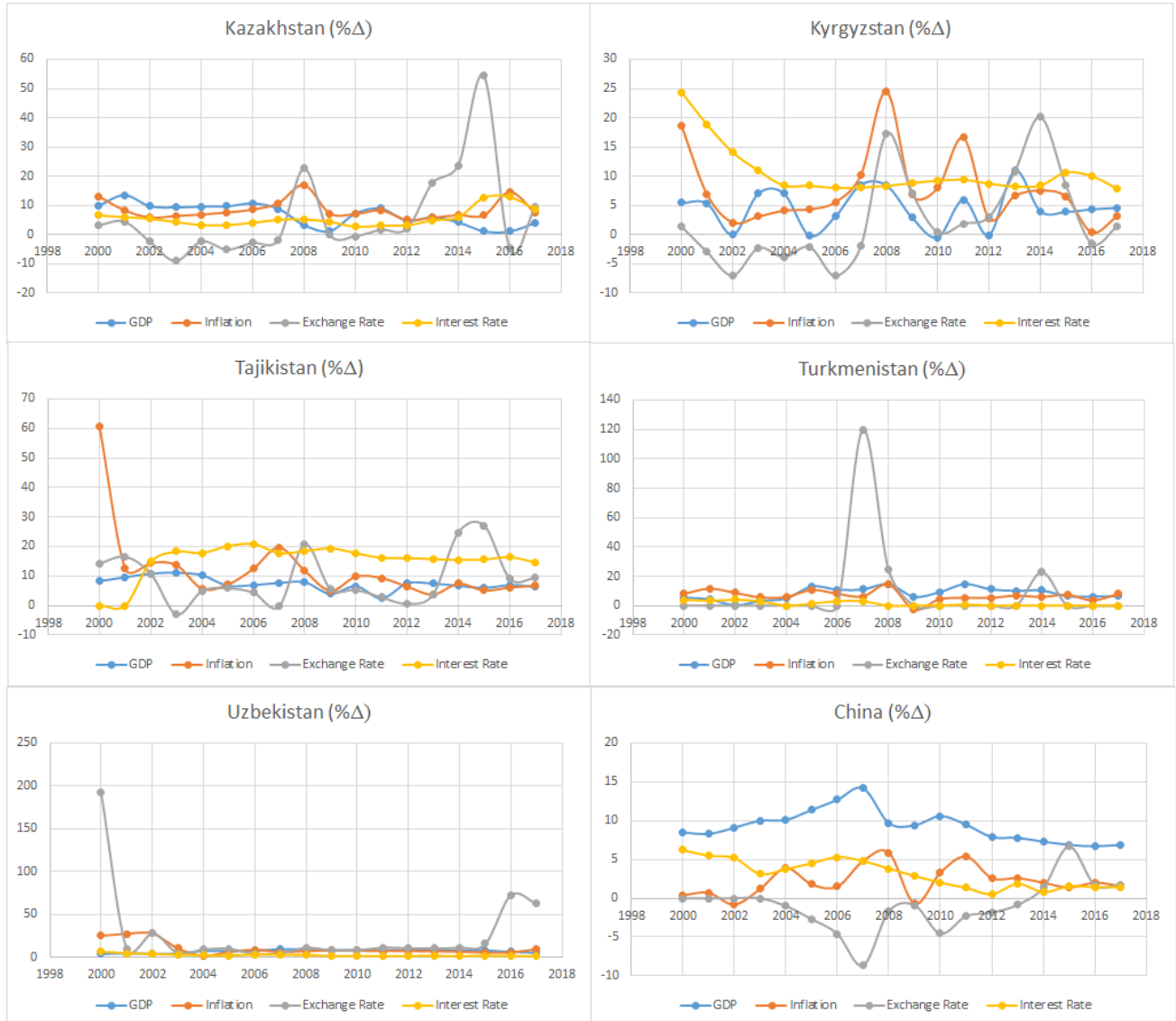
There has only been variations of newer crises. Many would argue, challenge, and dispute these allegations but such catastrophic occurrences never seem to come to an end, and the world is always on its toes and on a lookout in predicting the next crisis. There are only hypotheses made for the next economic crisis and extensive forecasts are generated looking for stochastic and spurious trends in hopes that the hypotheses are to be rejected or accepted (Liu, 2018). Economic trending and forecasting are also used in establishing potential growth and prospects. It helps to sustain, secure, and grow areas in the economy where need be. Forecasting activities are a daily affair be it by a citizen who worries and predicts for a better tomorrow, to governments ensuring the security of a better and progressive tomorrow for the country.

The simplest form to understand the need for an economic forecast is to assess at present the sufficiency of resources that will last into the days, months, years, and decades to come. Economic forecasts for developing countries are very important for determining the changes in their respective national policies (Gurtner, 2010). If an economy is really expected to grow, then inflation may pick up and the central bank may need to raise interest rates. If an economy is likely to shrink, then the central bank may force the need of quantitative easing. As an example, if an economy is monitoring the movement of its interest rates, changes and effect of the change can only be realized upon 18 months. Therefore, when the changes to the interest rates are made, central banks are trying to set the optimal rates for the future economic situation.

Any form a judgement was to be made from static graphs are a matter of perspective and deduction. It is also to note that disposal and availability to data is pivotal to take in the actual situation on the ground. Economic data responds to political notion, hence making geoeconomics and geopolitics inclusive to each other. Taking a closer look into the narratives of China – Central Asia, Figure 1 shows the volatility of Central Asia in terms of its GDP, Inflation, Exchange Rate, and Interest Rate. The data presented are 18 years historical transitions undergone by each of the six countries. Notice the volatile fluctuations of the Exchange Rates.

FIGURE 1

GDP, Inflation, Exchange Rate, and Interest Rate



Source: US Department of the Treasury

Notice the aggressive Exchange Rate movements do not coincide with the economic growth for the Central Asian countries.

2. MACROECONOMICS CORRELATIONS AND FORECASTS

Fundamental economic theories backed by numerous empirical evidence have indeed established the relationship between GDP, Inflation, Exchange Rate, and Interest Rate. These economic indicators do exist in relations to positive or adverse movements (Thanh Tung Hoanga, 2020), depending on the economic landscape and the economic condition of analysis. From a theoretical perspective, the table below shows the correlations. This is only a matter of perspective and may not be accurate in the event of actual economic testing and its various analyses. Some economists may argue that this is an idealistic notion of the economy but acknowledges the existence of the relationships.

TABLE 1

Theoretical Correlations of Economic Indicators.

Economic Relationships	Theoretical Principles
GDP and Inflation	Low Inflation, High GDP
GDP and Exchange Rate	High Exchange Rate, High GDP
GDP and Interest Rates	Low Interest Rate, High GDP
Inflation and Exchange Rate	High Inflation, Low Exchange Rate
Inflation and Interest Rate	High Inflation, Low Interest Rates
Exchange Rate and Interest Rate	High Interest Rate, High Exchange Rate

To quantify and qualify the proper definition of “*high*” and “*low*” is subjective to the understanding, the reality, the annual changes, the movement, and the trajectory of the economy. It is also relatively bias to the matter of opinion. This is substantial because, when Table 1 is referenced to Figure 1, there is no ideal match and it only suggests that there are no correlations between the four economic indicators. However, these four are the cause and effect to other economic indicators such as the Balance of Trade that relies on their “*mood swings*”. The relationship between the Gross Domestic Product (GDP) and Balance of Payments (BOP),

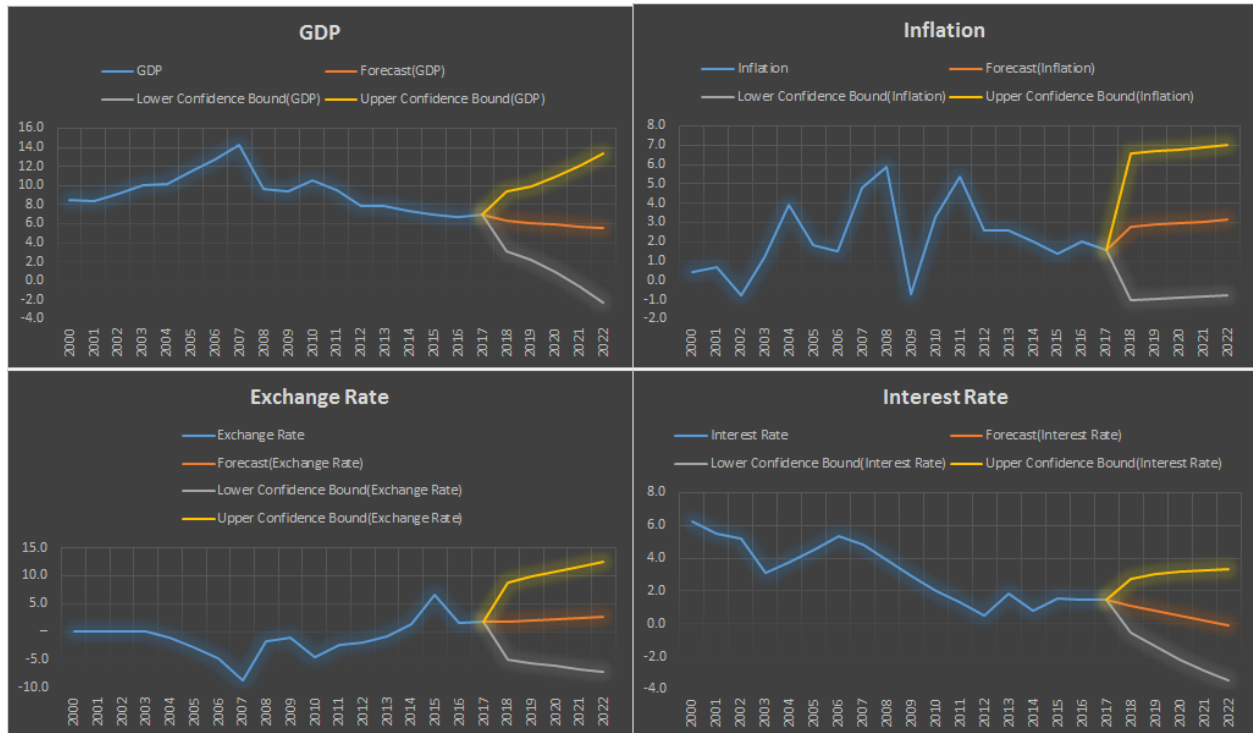
includes the effects of the Inflation, Exchange Rate, and Interest Rate (Syeda Azra Batool, 2015). A nation's Balance of Payments interacts with nearly all its key macroeconomic variables, and the word "*interacts*" in this context means that the BOP affects and is affected by such key macroeconomic factors. A country's Balance of Payment can have a significant impact on the level of its exchange rate and vice versa.

Looking back to Figure 1, the aggressive movement of the Exchange Rate was simply to stimulate the economy in the short run. This is the reason, when observed closely, the swing of the exchange rates in the Central Asian countries only occurred in two periods, 2007-2008 (global credit crunch), and 2014-2015 (global oil price crash). This was not done deliberately; it was deliberately done to stay afloat. To understand the prospective of these four macroeconomic indicators, a Simple Moving Average, SMA analysis was carried out to observe the trend to then assess the potential impact of the result based on the directional movement of these indicators. The analysis was for the projected period from 2018-2022. The results as follows:

1. China

FIGURE 1

China's Macroeconomic Five Years Forecast



Source: Own illustration

The three major economic groups in China are agriculture, production manufacturing, and services. The latter two generates about 39% and 50% respectively to the overall GDP. Signs of a slowing economy is expected for China with rising inflation. This could be due to the decline in manufacturing outputs caused by a slight downward demand and new employment behaviour movement from the secondary sector to services. Many low-tech manufacturing jobs are becoming less of an interest as the country is moving on with high-tech manufacturing (Daly, 2011) (Lei Feng, 2018). But as China finds its grounded footing into innovation, production, and high-end services, and until it finds a way to make it cheaper for the world, it still relies a lot on its secondary

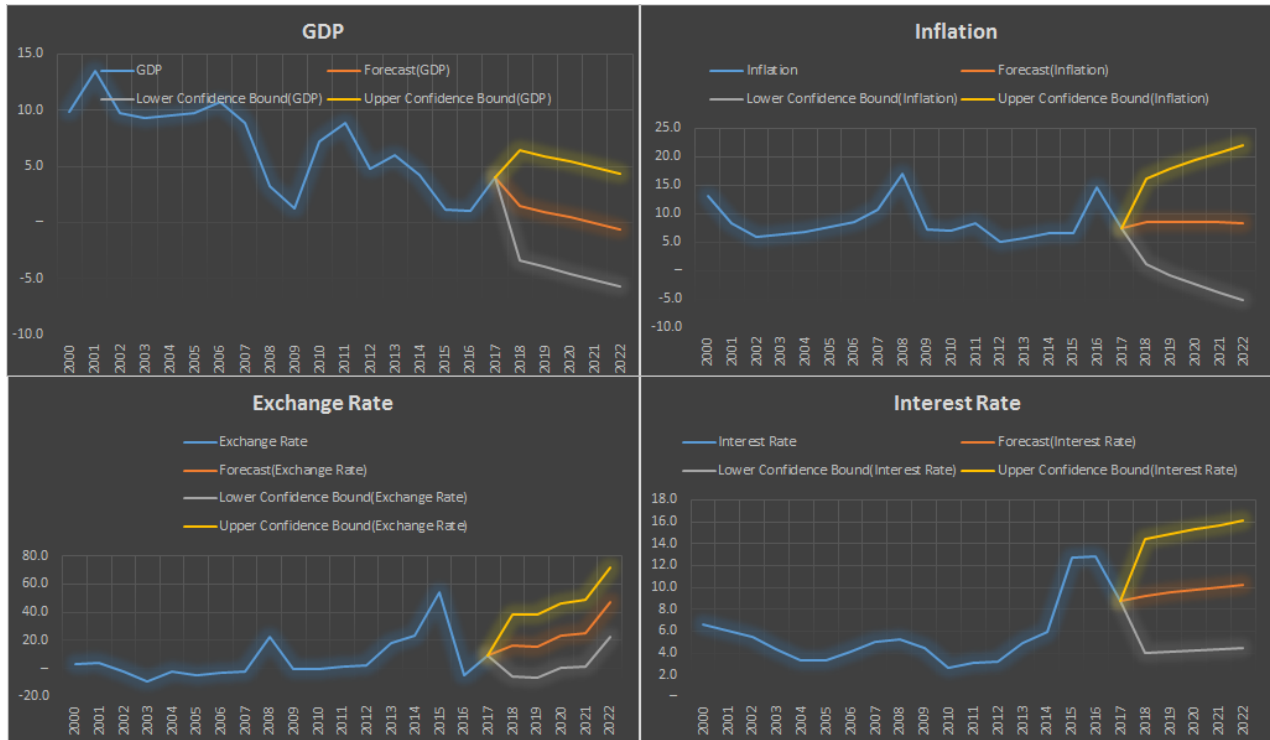
sector. The decline in GDP also spells out issues with China relying a little more on international trade, especially with imports to fill up the voids of the shortages in lost manufacturing outputs.

The rise in inflation signals that the country may be doing it deliberately as it shifts into a new economic realm. The slight incline in the exchange rate supports the notion that China wants to make its economy desirable to continue its exports as it re-strategizes the economy. The drop in interest rates may encourage borrowing and spending in the domestic markets, but a sceptic Chinese consumer market will be hard to convince on the dropping GDP causing marginal propensity to consume to decline to then just to encourage and increase in certain for deposits allowing cumulative investments to take place. The additional increase in savings will then in turn generate a positive money supply of M1 and M2 that will stimulate the economy again. The low interest rate may not entice the appetite of foreign investments returns, but it would be enough for foreign borrowings as the BRI expands further on into China achieving its “*Made in China*” goal by 2025.

2. Kazakhstan

FIGURE 3

Kazakhstan's Macroeconomic Five Years Forecast



Source: Own illustration

The rising interest rates in Kazakhstan signals its readiness to embrace an open market to accept foreign investments to help boost its economy. The sharp drop in GDP is not very encouraging when inflation is maintained with no adjustments signs to help stimulate growth. The loss in GDP signals the overall drop in oil production that may be due to global oil pricing. This commodity driven country is pushing its exchange rate to climb to encourage trade but with it may sacrifice domestic markets activities and outputs. The next five years looks like a slippery condition for Kazakhstan as it needs to be firm in its economic policies. The uptrend interest rate will encourage foreign investments in hopes to sail the country through another round of hard

economic times. With the resignation of President Nursultan Nazarbayev in the first quarter of 2019, the June 2019 snap elections was the deciding point for Kazakhstan to remain neutral with all parties and to impose changes to its Russian inherited economic policies.

With Kassym Tokayev helming the presidency post elections, the uncertainty of his economic policies and reliance was made clear and smartly enough to remain in good working relationships with the rest of the world and not focused solely on China and its support (Isaacs, 2020). Tokayev sees importance in the US trade relations and has mutual feeling and reactions towards Russia. Knowing that the BRI is indeed important to the country, it would be a grave mistake should Tokayev be inclined towards the US alone and it may create and cause mix feelings in the region. Should such take place, the development of the BRI may take a halt, and having American influences in the region of Central Asia will only heat up the Russian – Central Asia – China economic understanding that would in turn create isolations.

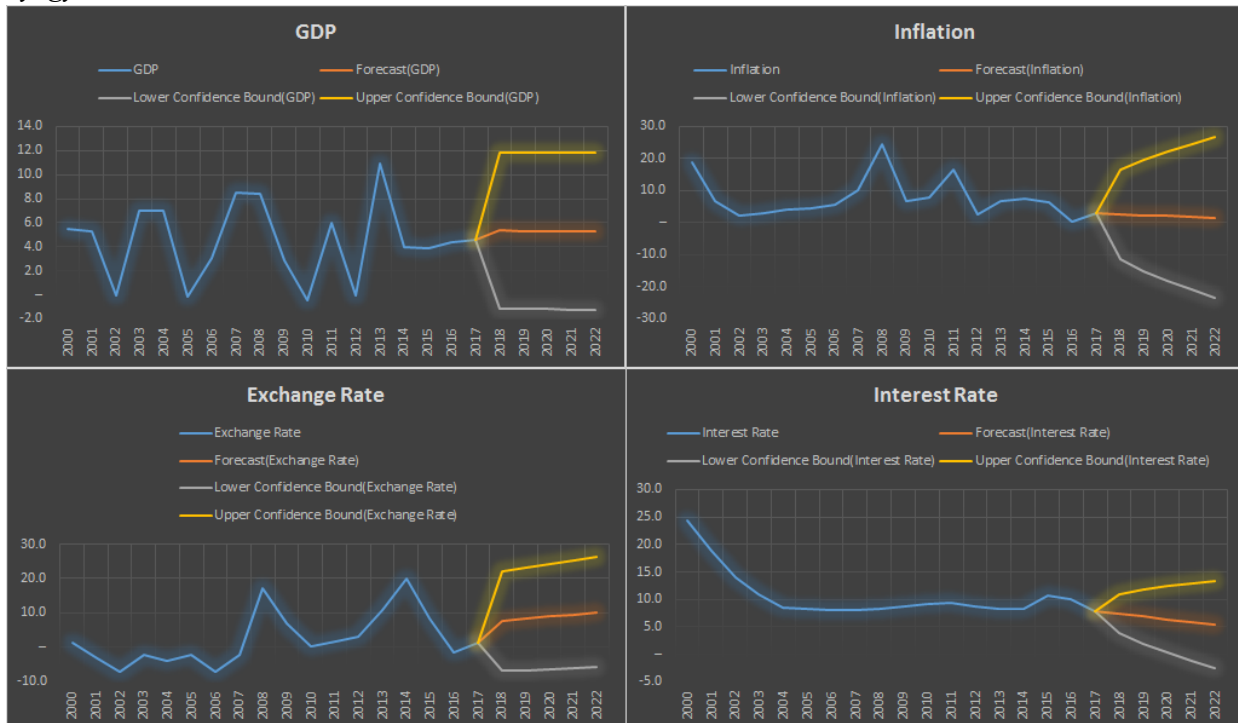
The overall GDP for five years will take a hit, but the overall economy does not wet appetite. With China and Russia being its largest trading partners, the investment that will soon flow in would then be encouraging to stimulate the country. It will only be wise for Kassym Tokayev to be more incline with China and its development but at the same time be pleasing to the US. Tokayev has been a loyal supporter of Nursultan for 25 years and he has the support from the party to run the country, but another potential candidate that will uphold Nursultan's policies would be his own daughter, Dariga Nazarbayeva. Riffs between Kassysm and Dariga have been brewing since post-elections and it has heated further after her dismissal from the Senate in May 2020 which sees him expanding his race towards power. Until the next election in 2024, the next five years will be an interesting feat in Kazakhstan in terms of its economic sustainability and stability. The decline in growth rate is nothing surprising for a developing country but economic indicators are not very

promising for Kazakhstan in becoming the region’s economic hub with a potential increase in cost of living. The next five years will see the country’s politics and economics be really tested.

3. Kyrgyzstan

FIGURE 4

Kyrgyzstan’s Macroeconomic Five Years Forecast



Source: Own illustration

The economy outlook for Kyrgyzstan is nothing but ordinary. The country is and will be trying to maintain its position to continue the drive to harvest commodities to help sustain its economy. Although there have been initiatives to upskill and educate its labour force, it will take a long time for it to see the impact in diversifying the country’s economy. The low interest rates do not welcome much foreign investments return but it helps in development cost to encourage in higher capital flow to then assist in stimulating the employment market. What is heavily needed

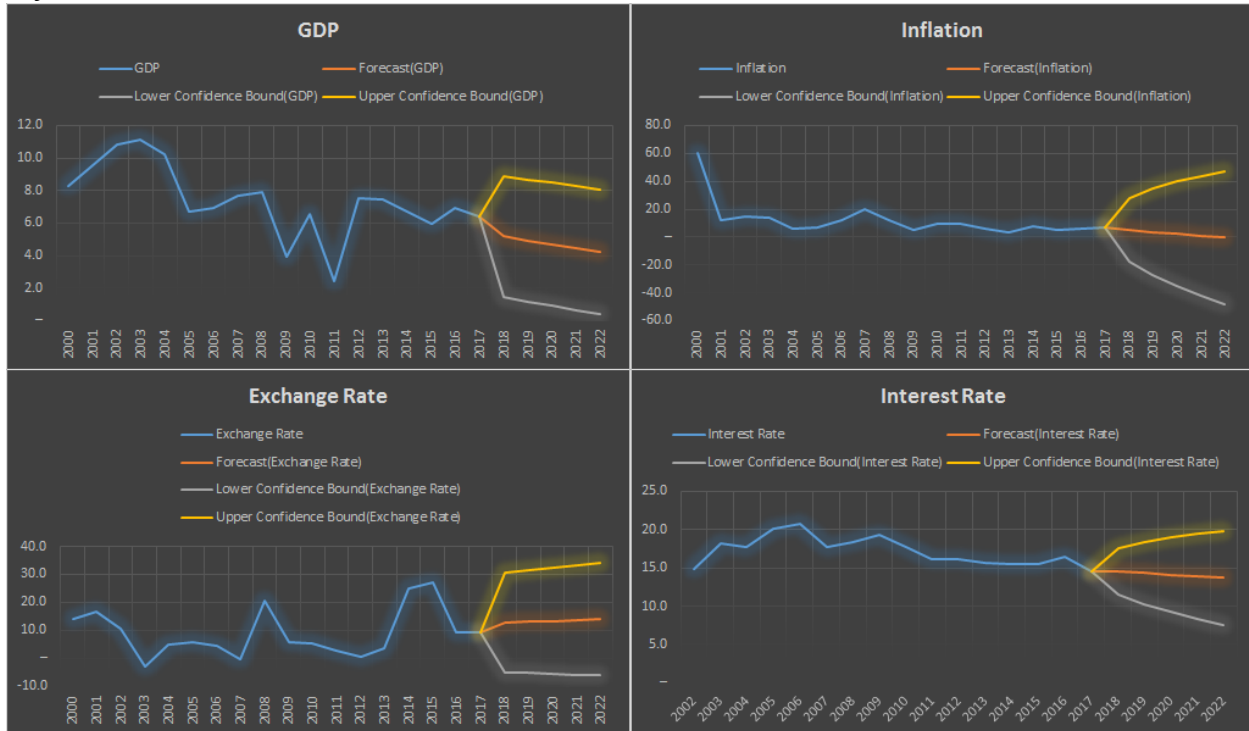
now and for the few years in Kyrgyzstan is a steady stream of wages to tickle and encourage GDP growth. The next 5 years sees the country's growth to be somewhat stagnant as though it is only trying to breathe above water. The flat line inflation shows that prices and cost of living is at status quo.

Stability in Kyrgyzstan is very important to China and investment can only be attracted when it achieves political stability and a victory in combatting corruptions (Mah, 2020). Now the interest in Kyrgyzstan is mainly driven by gold mining and its neighbouring countries within the region are interested in it. The sphere of politics is held mainly by the older generations and the younger generation of the country are feeling oppressed in ways to develop and voice what is required for the country considering it is now the second decade of the millennium. Tension in the country have risen in time with the construction of the BRI with an influx of Chinese workers entering the country to work on projects with little to none of the local people being involved. Stagnant tension and yet to be fully resolved tension with its borders of Tajikistan also impacts the country's stability. The next five years, the focus should be on grounding its fundamentals. The exchange rate that is slightly inching higher is making the country interesting to continue trading with its existing partner. It will not attract new international partners, but it needs its existing ones to sustain.

4. Tajikistan

FIGURE 5

Tajikistan's Macroeconomic Five Years Forecast



Source: Own illustration

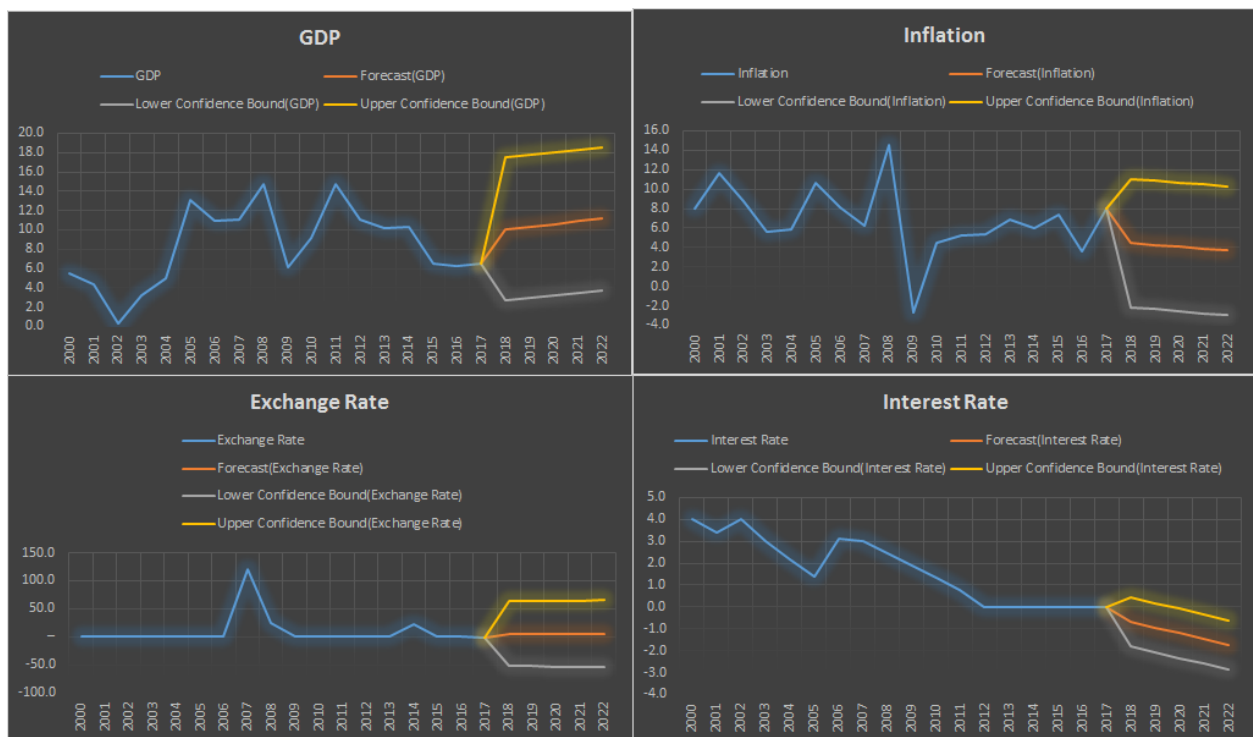
Tajikistan shares the same fate with its neighbour Kyrgyzstan. It has a similar economic sentiment, and it seems that both these countries are a mirror image of each other. The decline in GDP shows issues in the demand of its local markets. The incline of its exchange rate also does not encourage the facilitation of local spending as it may or is resulting to a high cost of living (Bondarenko, 2016). The slightly downward flat lined interest rates are to keep the investment coming in as the previous five years. It has the same pattern with its inflation. Tajikistan is trying to not rock the economy and all it wants is to maintain it until changes can be made. As reported by the Economic Complex Index, Tajikistan is a complex country to do business and it is at the 109th spot among all the countries in the world. The reliance on its commodity is the major

economic problem coupled with its politics. China and Russia remain important customers and therefore Tajikistan has no interest to make sudden and drastic changes to its economy knowing that its currency and situation can be very vulnerable to disrupt. It looks like from now until 2022, the country is at status quo. The invitation from China to Tajikistan to be more involved in the BRI is yet to be RSVPed.

5. Turkmenistan

FIGURE 6

Turkmenistan's Macroeconomic Five Years Forecast



Source: Own illustration

This oil driven country is positioning itself as a major economic player. Turkmenistan knows its strength and it is playing to that tune. The flat exchange rate makes the country strong as oil will be bought at the global price. Heavy excavation and exploration of oil and natural gas

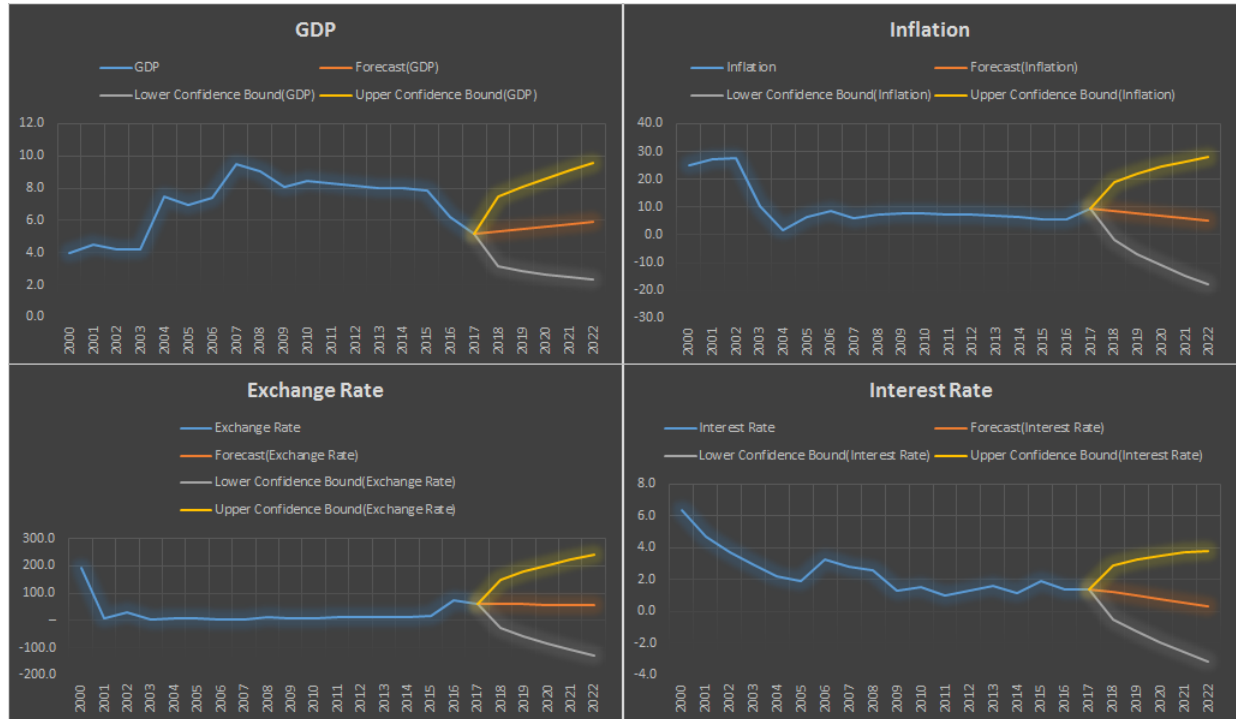
makes Turkmenistan a magnet for investments. Despite home front problems, trade partners are more than willing to support its economy. The very low interest rates help in its development cost and that in turns helps in its GDP growth. The positive projection for the next few years is impressive and with a slowing inflation, there are plenty to invest in and plenty to profit from. A higher GDP growth and a lower inflation signals good economic balance. However, all of this is possible if and only if global oil prices are not disrupted. The entire economy of Turkmenistan is on eggshells and a sudden jerk in commodity prices will just tip and turn the whole country into the opposite pole of the economic spectrum.

An economic spiral is a possibility, and it is inevitable with US being the largest producer of oil and a very low price. This has and will cause Turkmenistan to sell its commodity not in US dollars but in the trade currency of its partners. China is buying oil in Renminbi and Russia is doing business in Rubles. Therefore, Turkmenistan has no choice but to fix its exchange rate to facilitate trade. The outlook of the economy looks pleasantly steady but in fact it has a hidden story of severe vulnerability (Hanko, 2018). Not trading in US dollars will not help to strengthen its own local currency that is not tradable nor is it demanded. Turkmenistan is and will not be able to demand but it is playing and juggling its economy by its strengths. OPEC (Saudi Arabia) and Russian oil production deals (for or oppose) would keep Turkmenistan alive even if shale production drops its price.

6. Uzbekistan

FIGURE 7

Uzbekistan's Macroeconomic Five Years Forecast



Source: Own illustration

Another mirror image country of Turkmenistan. The next five years outlook seems encouraging for foreign investments as the country requires aid and assistance in terms of development. A high cost for development will not stimulate interest to grow the economy but with the interest rate on the lowering end encourages not only foreign cost to be lowered but also helps with domestic spending and borrowing. What looks like a fix exchange rate to make Uzbekistan a little more robust from shocks especially from commodities fluctuations, it is hoping that the next 3 to 5 years the economy will recover to improve as it lowers down its inflation. It is an ideal economic recipe for any developing country to make it cheap to invest with promises of good returns while

it shows an uptrend growth pattern. It also helps motivate the local markets to participate in the economy.

Low rate equates to better borrowing and spending, but Uzbekistan needs to work on its wages. Considering that the economic reliance is in commodity (Otamurodov, 2017), the tertiary activities out beats manufacturing and services. Although there are signs of change, but it will take time for it to transit fully into higher tiered industries. Cotton, precious metal, and other natural harvesting materials are the ones that drive the country. The double landlocked Uzbekistan has more than just economic stability to focus on, but the inadequate land space should and must force the country to investigate other means of productivity if it wants to see better encouraging growth in the future. For now, with China being one of its main customers, it needs the BRI development of infrastructure to push the country out and possibly away from commodities. The pattern of its growth is vitally encouraging not for the global market but rather for Uzbekistan itself to be recognized as a main economic contributor to Central Asia. It is important for them to be equal.

The growth pattern for Central Asia can be summed up as:

TABLE 2

Summary of Central Asia's Five Year Economic Trend.

Economic Indicator / Country	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
GDP	Down	Flat	Down	Up	Up
Inflation	Flat	Flat	Flat	Down	Down
Exchange Rate	Up	Up	Up	Flat	Flat
Interest Rate	Up	Down	Down	Down	Down

From Table 2, an educated guesstimate can be deduced and inferred for the entire region. Taking the average of all five countries, the next five years for Central Asia as a region will have the following economic outlook:

TABLE 3

Five Year Regional Economic Outlook Trend.

Economic Indicators				
Region	GDP	Inflation	Exchange Rate	Interest Rate
Central Asia	Down	Flat	Up	Down
China	Down	Up	Up	Down

This proves (with somewhat bias) that the Central Asia region is a keen location for international trade, but it is not as enticing for everyone to invest. The economic condition of Central Asia is somewhat like China. The geographical land mass of Central Asia is far larger than that of China (Siddiq E. B., 2020). The major difference is that China follows a strict rule of national governance, – communism. But, if Central Asia were to become heterogenous and self-governing, would parliamentary democracy work for the region? If so, then how? Because China – Central Asia looks economically similar judging from Table 3, should it then be an economic union? China is interested in the region being its direct neighbor and it serves as a way out on the BRI. For China, Central Asia is very important to realize China’s grand vision. For Russia, as former comrades, it is a region where it can buy its needed materials at an affordable cost.

Russia does not have a full interest in the region’s economics, but it wants to stamp its present as an old friend who want Central Asia to remember where it first originated from. Russia’s influence in Central Asia is purely political and China’s is economics. This causes a divide of ideology and importance for Central Asia. The over influence of China in the region threatens

Russia's position, dominance, and importance. Over influence of Russia in the region, may distort China's economic corridor into the far West (Beloglazov, 2018). At this juncture, it is very interesting to establish that the greater region of this region shared a common ideology of communism and therefore the protagonists of this greater region actually knows how each one is thinking making it impossible for one to over exert its presence and influence each other. The geoeconomics of this region is already a challenge but the geopolitics of this region is not making it any easier to assess and analyze. Although this research focuses on the viability of the China – Central Asia Economic Corridor, Russia cannot be discounted nor sidelined from this endeavor. The forecast thus far has shed light to dive deeper into what will make Central Asia a stronger and more independent region. Since it has its importance and it knows its importance, it now brings to a point for consideration, - *what role does Central Asia really play on China's economic partnership?*

3. TRADE PARTNERSHIPS

Before establishing the role of Central Asia on China's economic corridor, it would be first best to identify what are the trade activities that are currently facilitating and moving its economy. By understanding the trade patterns and trade partners, it will be easier to identify if these "*economic friends*" of Central Asia are really assisting in its growth or are they merely interested in its commodities and nothing else. Establishing this would then be clear to know the role which Central Asia plays in this mammoth infrastructure endeavor. If the region of Central Asia is labeled and seen as an economic playground to only harvest natural resources and it is a region for supplementary production for its partners' economies, then it would be very obvious that economic growth of Central Asia will always be fluctuating as forecasted in previous section. No country can survive on its own.

History has shown that garnering internal support and relying solely on domestic markets is not enough and it diminishes and strains the country's demand and supply. Only through trade can it ensure continuous inflow of investments for the development and progress of a country. Trade partnerships are established for only one reason, to trade. The exchange of goods and services has been long and as old as time. The footprints left on the ancient Silk Road are evidence that the China – Central Asia region have been trading together since then. Looking through a magnifying glass, trade partnerships across Central Asia are divided into its respective major exports and imports. Table 4 to 9 display the trading partners for the respective five Central Asian countries, including China. Data source were obtained from United Nations COMTRADE database on international trade correct to 2018.

TABLE 4

Kazakhstan's Top Ten Trading (Export-Import) Partners.

Rank	Country (Exports To)	Share (%)	Country (Imports From)	Share (%)
1	Italy	17	Russia	40
2	Switzerland	16	China	12
3	China	11	Germany	7
4	Russia	9	Ukraine	6
5	France	8	United States	5
6	Netherlands	7	Italy	3
7	Israel	3	Japan	3
8	Iran	3	Turkey	2
9	Ukraine	3	Norway	2
10	Turkey	3	France	2

TABLE 5

Kyrgyzstan's Top Ten Trading (Export-Import) Partners.

Rank	Country (Exports To)	Share (%)	Country (Imports From)	Share (%)
1	Switzerland	46	China	29
2	Russia	21	Russia	25
3	Kazakhstan	12	Kazakhstan	16
4	Uzbekistan	6	Uzbekistan	8
5	United Arab Emirates	3	United States	4
6	China	3	Ukraine	3
7	Turkey	2	South Korea	2
8	Germany	2	Netherlands	2
9	Belgium	1	Belarus	2
10	Tajikistan	1	Germany	2

TABLE 6

Tajikistan's Top Ten Trading (Export-Import) Partners.

Rank	Country (Exports To)	Share (%)	Country (Imports From)	Share (%)
1	Russia	37	Uzbekistan	29
2	Netherlands	26	Russia	16
3	Uzbekistan	14	Ukraine	13
4	Switzerland	10	Kazakhstan	13
5	Italy	3	Azerbaijan	10
6	Latvia	2	Romania	6
7	Slovakia	1	Turkmenistan	5
8	United Kingdom	1	Italy	3
9	Greece	1	Kyrgyzstan	1
10	Kazakhstan	1	Germany	1

TABLE 7

Turkmenistan's Top Ten Trading (Export-Import) Partners

Rank	Country (Exports To)	Share (%)	Country (Imports From)	Share (%)
1	Russia	42	Russia	15
2	Italy	16	Turkey	15
3	Iran	10	Ukraine	13
4	Turkey	8	United Arab Emirates	10
5	Ukraine	7	Japan	9
6	Switzerland	4	Iran	5
7	United Arab Emirates	3	France	5
8	Cyprus	2	United States	4
9	Afghanistan	2	Belarus	3
10	Azerbaijan	2	Germany	3

TABLE 8

Uzbekistan's Top Ten Trading (Export-Import) Partners.

Rank	Country (Exports To)	Share (%)	Country (Imports From)	Share (%)
1	Switzerland	39	China	24
2	China	16	Russia	23
3	Russia	11	Kazakhstan	11
4	Kazakhstan	10	South Korea	10
5	Turkey	9	Turkey	6
6	Kyrgyzstan	2	Germany	6
7	Tajikistan	2	Kyrgyzstan	1
8	Ukraine	1	Tajikistan	1
9	India	1	Turkmenistan	1
10	Indonesia	1	Afghanistan	1

TABLE 9

China's Top Ten Trading (Export-Import) Partners.

Rank	Country (Exports To)	Share (%)	Country (Imports From)	Share (%)
1	United States	19	Japan	16
2	Hong Kong	14	South Korea	11
3	Japan	9	United States	9
4	South Korea	6	China	8
5	Germany	4	Germany	6
6	Netherlands	3	Saudi Arabia	4
7	United Kingdom	3	Malaysia	4
8	Russia	3	Brazil	3
9	Singapore	2	Thailand	3
10	India	2	Russia	3

China's trade balance experienced a shift to \$32.67 billion surplus in March 2019 from a \$5.79 billion deficit in March 2018 and beating market estimates of a \$7.05 billion surplus. Exports increased to 14.2%, while imports dropped 7.6%. Considering the first three months of 2019, the trade surplus widened sharply to \$76.33 billion from \$44.73 billion in the same period of 2018. The trade patterns over ten years have been significantly rising for China as illustrated in Figure 7 and 8. Kazakhstan also experienced healthy trade surpluses for ten years and recorded a trade surplus of \$2.33 billion in February of 2019. The trade balance of Kazakhstan averaged \$1.5 billion from 1998 until 2019, with the highest at \$6.77 billion in the second quarter of June 2011 and the lowest of -\$22.10 million in the fourth quarter of 1998.

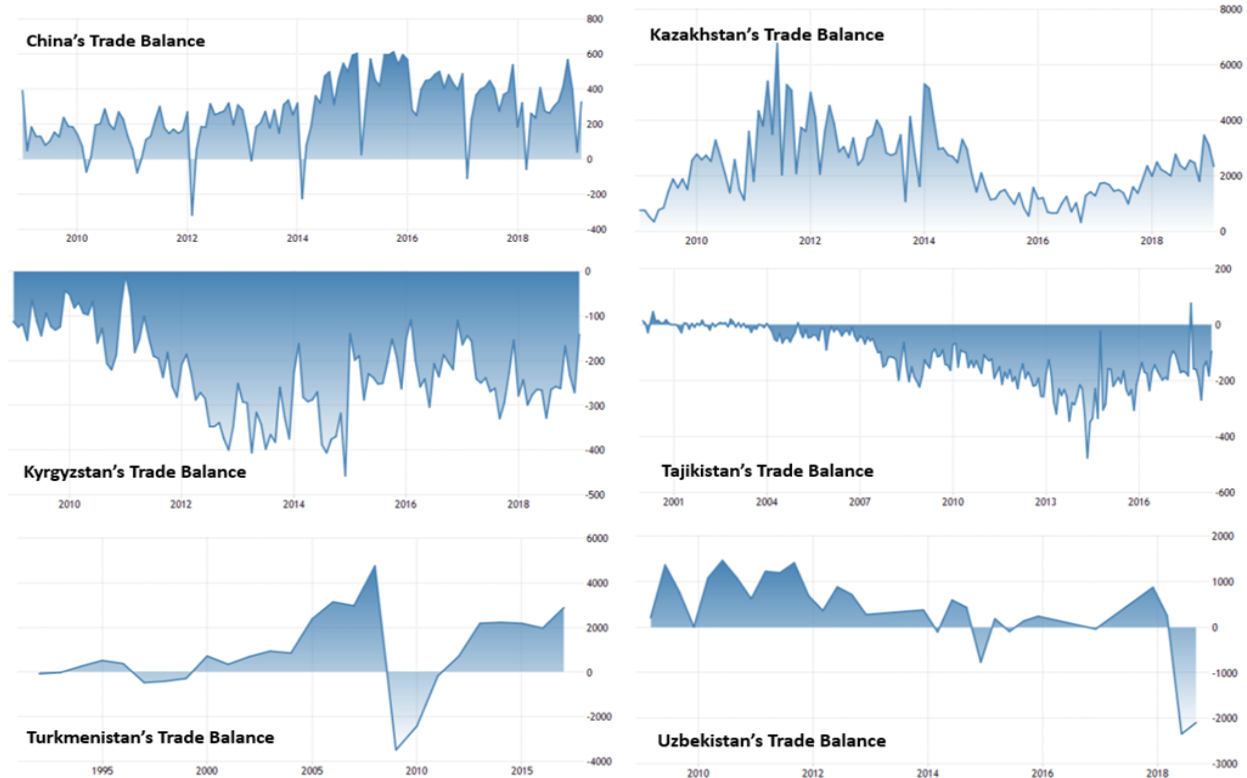
Kyrgyzstan's has however been on a trade deficit for the period of 2008-2018. The country's trade tried to narrow the deficit in 2019 to \$141 million in February from \$242.7 million in the same month of 2018. With rising exports of 12.8% to \$143 million while imports falling 23%, \$284 million aided with the narrowing exercise. Trade balance in Kyrgyzstan averaged -\$107 million from 1993 to 2019 with an all-time high of \$31.40 million in the third quarter of 2000 and a record low of -\$458.11 million in December of 2014. In Tajikistan, a trade deficit of \$94.60

million was recorded in May of 2018. Trade balance averaged -\$112.26 million from 2000 until 2018. The highest the country had experienced was in September 2017 with \$77.10 million and the lowest of -\$477 million in mid of 2014.

The oil and gas rich nation of Turkmenistan showed a trade surplus of \$2.88 billion in 2017 with an average \$874.39 million from 1992 to 2017, reaching a high of \$4.75 billion in 2008 and a low of -\$3.49 billion in 2009. The double landlocked Uzbekistan had a trade deficit of \$2.1 billion in the third quarter of 2018 and averaging out a \$502.24 million from 2000 until 2018. The country reached its highest ever of \$2.01 billion in the third quarter of 2008 and its lowest of -\$2.35 billion in the second quarter of 2018. The trade patterns of Central Asia are as illustrated below:

FIGURE 8

Central Asia's 2008-2018 Trade Balance



Source: Trading Economics

Central Asia has proven to be an economically convoluted region. Evidence from the initial pilot study (Saeed, 2019) has displayed that it is not possible for the region to be a collective entity. Further along in (Siddiq E. B., 2021), the national accounts assessments were clear to show that there are fundamental problems that need to be fixed. It is ideal for developing countries to undergo or to reflect negative readings on the indicators but some indicators for Central Asia requires upmost attention to stabilize the country and region. Following this, the (Balan, 2020) was dedicated to study the efficiency of its economic sectors that could become the catalyst of growth. The preliminary forecast made on the five countries are desirable for any nation to implement just to stimulate and encourage investments and development to take place.

But in the context of its trade balance, given that the data showed historical outlays of the countries, indicators to stimulate growth does not coincide nor comply in assisting the individual countries to be economically stable. Knowing that these are 100% commodity driven economies, and it is a region that is highly sought after by potential trading partners, yet there are no clear paths for Central Asia to establish its economic dominance. International trade, as a major factor of openness, has made an increasingly significant contribution to economic growth. China's international trade has experienced rapid expansion together with its dramatic economic growth which has made the country to target the world as its market. This cannot be said fairly for Central Asia, given its potential.

Although Kazakhstan has evidence of a healthy trade openness but to be labelled as desirable and to become a targeted market, it has yet to prove it. In a chicken-and-egg situation, it is hard to decide which comes or takes precedence first, trade or economic growth. Do GDP affect trade, or do trade affect GDP? Assuming that it is the latter and GDP is the by-product from multiple trade activities which includes domestic and foreign investments, and domestic and

foreign demands, then to understand and to secure it the future (in a way of hedging), these five nations of Central Asia will need and have to be certain of what the future has installed. A proper prognosis is needed to stamp it economic relevance. In doing so, it will assist Central Asia to change (if need be) its economic policies and alter its already implemented economic strategies because the crux of the matter still needs to be answered on how the China – Central Asia economic corridor will be fully materialized if there are no distinct economic repositioning propositions (Fulton, 2016).

What this paper does not intend to conclude, is that for this partnership to be on a pretext of a bilateral engagement where Central Asia is treated no more than just a passage-through for China to gain reach and access into the far West. To quantify and qualify the future relevance of Central Asia's economy to the world, a Vector Autoregression (VAR) was used to forecast the economic potential of Central Asia. In this case the paper's interest was to verify Central Asia's economic prognosis with regards in becoming China's strategic partner on the Belt and Road Initiative. The Vector Autoregression approach for this analysis will give rise to the necessary changes that must happen to help reshape the region. The VAR analysis test the following hypothesis in order to establish a premise for the research objective and to answer the research question.

Research Objective	Determine the geoeconomic prognosis of Central Asia.
Research Question	Does the forecast of Central Asia's economy hold up to the partnership?

H0: If the geoeconomic prognosis of Central Asia is significant then the economic corridor and the partnership with China would be plausible.

H1: If the geoeconomic prognosis of Central Asia is insignificant then the economic corridor and partnership with China would not be plausible

4. FINDINGS

To establish an economic prognosis for Central Asia and for the partnership, the attention for this assessment was to look and assess how monetary policy indicators and fiscal policy indicators shape and affect the country's exports. Exports generates income into a country which increases the exporting nation's GDP. This also helps in balancing and maintaining a good and healthy current account. At this juncture of the paper, according to the statistics produced by the Asian Development Bank 2018 report, Central Asia was in an economic quicksand. Smaller countries of the like of Vietnam, Singapore, Belgium, and Ireland (to name a few) has exports larger than its GDP. Country's that takes part in extensive international trade will have a combined value of all their imports and exports exceed the country's GDP.

This is very possible as imports are subtracted from GDP calculation leaving export trade values to be higher than 100%. The four nations of Central Asia that are deemed to be small can emulate the likes of the aforementioned nations. Exports that are diversified and have greater reliance towards services tends to benefit a country in many folds. Growing export sales provide revenues and profits for businesses operating in Central Asia which can then feed through to an increase in capital investments spending through the accelerator effect. Higher investment increases a country's productive capacity which then increases the potential for exports. Exports are a crucial function of international trade where goods produced are shipped out for future trade, as the trade of such goods adds to the producing nation's gross output.

In terms of monetary policy, an expansionary monetary policy increases the money supply in an economy. The increase in the money supply is mirrored by an equal increase in nominal GDP output. In addition, the increase in the money supply will lead to an increase in consumer spending. Adding money to the economy usually effectively lowers interest rates, causing money to be more available for business expansion and consumer spending and spurring economic growth. This helps in the buying, selling, and making of goods for exports purposes. At times of recession monetary policy involves the adoption of some monetary tools which tend to increase the money supply and lower interest rates so as to stimulate aggregate demand in the economy, on the other hand, at times of inflation, monetary policy seeks to contract the aggregate spending.

The usual goals of monetary policy are to achieve or maintain full employment, to achieve or maintain a high rate of economic growth, and to stabilize prices and wages. This in return ensures a steady stream of exports productivities. In theory, an increase in net exports directly affects the investment-saving, IS curve, because planned expenditure increases at every real interest rate. This is assuming that the goods market is in equilibrium and the aggregate output increases shifting the IS curve to the right. Monetary policy plays a stabilizing role in influencing economic growth through several channels. It also influences expectations about the future direction of economic activity and inflation, thus affecting the prices of goods, asset prices, exchange rates as well as consumption and investment that has a direct affect to exports.

Fiscal policy affects aggregate demand through changes in government spending and taxation. It also impacts business expansion, net exports, employment, the cost of debt and the relative cost of consumption versus saving - all of which directly or indirectly impacts the aggregate demand. The net export effect reduces the effectiveness of fiscal policy. When an expansionary fiscal policy is implemented, net exports usually decline which decreases aggregate

output. When a contractionary fiscal policy is implemented, net exports will usually increase. Typically, fiscal policy is said to affect GDP by affecting the aggregate demand and when the government changes its fiscal policy, it changes how much money is in circulation and how much people have. For example, if it lowers taxes and increases government spending, it causes people to have more money.

The two main tools of fiscal policy are taxes and spending. Taxes influence the economy by determining how much money the government must spend in certain areas and how much money individuals should spend. For example, if the government is trying to spur spending among consumers, it can decrease taxes. Taxes on imports will have an adverse effect on exports. But government spending is important. A government should consider a fiscal expansion only after reviewing the negative consequences of this policy. The objective of fiscal policy is to maintain the condition of full employment, economic stability and to stabilize the rate of growth. A balance is required. Putting monetary and fiscal policy together in balancing an economy is the greatest task, risk, and balancing act for any government, country, and trading partner.

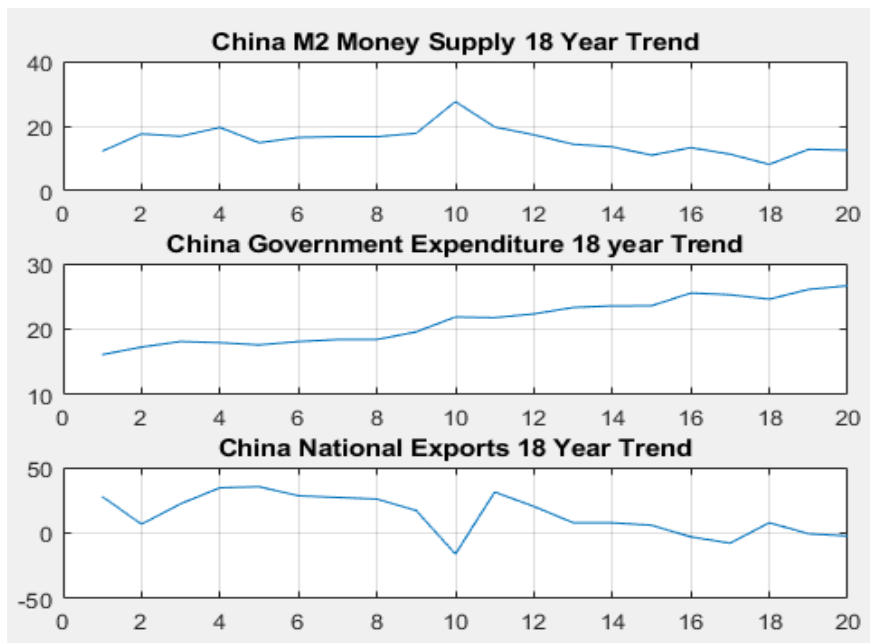
The reciprocity can be friendly or otherwise. Too much of one and too little of the other creates problems. Having the right balance is also not advisable as countries are tied together in globalization. Being in an economic bloc makes it harder for any government as its formulation and implemented actions has an equal and opposite reaction. Central Asia is very vulnerable to global shocks and as explained in (Siddiq E. B., 2021) and (Balan, 2020), its economic standings and efficiencies require major overhauls. Either fiscal policy or monetary policy could be used to close output gaps, and from the studies of economics and econometrics, a country's government are not bounded to have one or the other working at the same time. A combination of these policies can be used to restore and boost the economy and its needed outputs. Perhaps what is even more

intriguing is the possibility that these policies and actions are not necessary to be in sync or be coordinated. Forcing a coherent relationship would result in the fiscal policy and monetary policy working against each other. This is where a government's intelligence is tested. Fiscal policies can be used to influence exports, and monetary policies can be used to mitigate export challenges. For Central Asia, this would be an uphill battle. A Vector Autoregression was taken to assess the M2 money supply, government expenditure, and exports for each of the countries. This proceeding section contains the workflow of the VAR model and analysis for the 6 nations using 3 times series data of M2, Government Expenditure, and National Exports for the period of 2000 – 2019. The datafile used for the analysis contained time series obtained from the Asian Development Bank and was corroborated with the statistics obtained from the World Bank database in a tabular array. The assessment findings for each country are discussed as follows:

1. China

FIGURE 9

China's Macro Trend

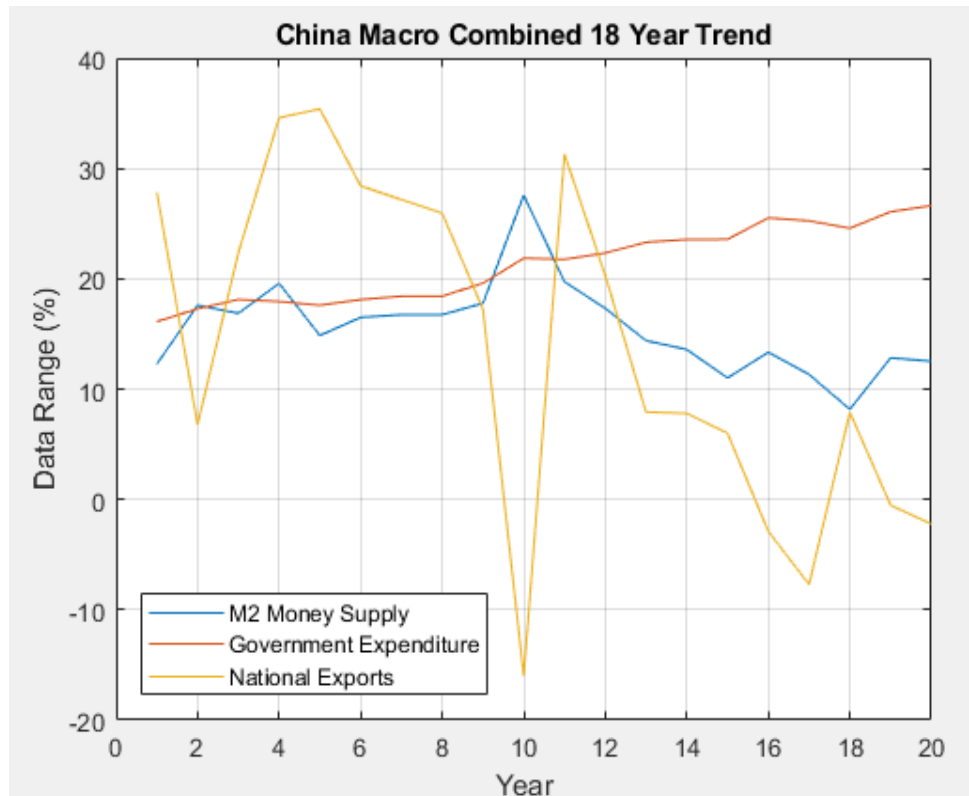


Source: Generated via MATLAB

M2 appears to be on a horizontal linear projection across the period. The period of the global financial crisis in 2008 – 2009, saw a small incline in the monetary circulation with a peak in 2010, and then it tapered downwards (steep line) and flatten out until 2019. The Chinese exports had a mirror image of the M2 from 2000 until 2010 and then it followed the trajectory of the M2. Coincident of a correlation, but then the overall exports dropped. While M2 and Exports were moving to the tune of global shifts, the overall 2 decades of government expenditure has been experiencing and growing exponentially. This suggests that during a slowdown, the Chinese government continued its consumptions to mobilize and steer the national economy. The combined macro graphs and its trends are displayed in Figure 10.

FIGURE 10

China's Combined Macro Trend

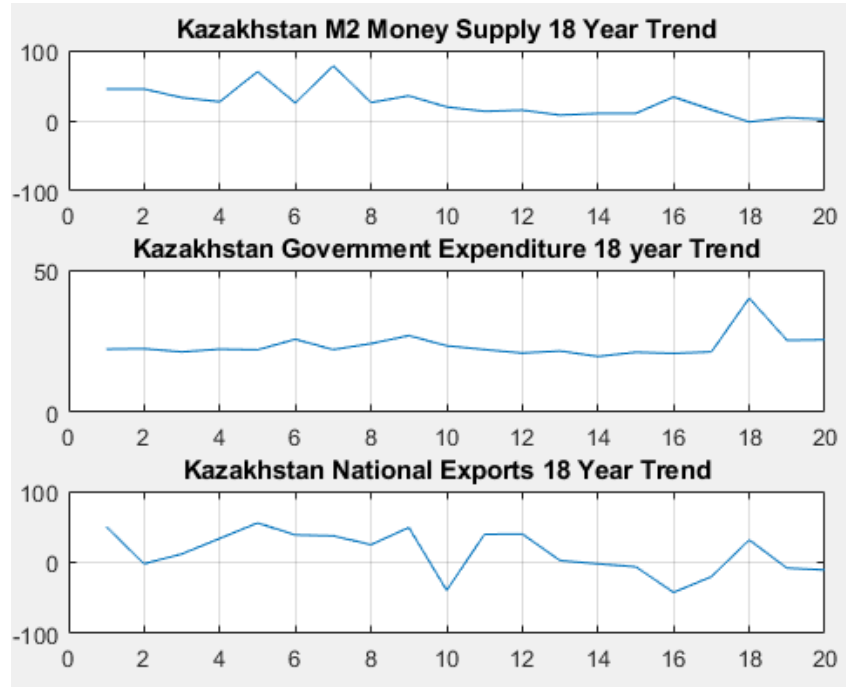


Source: Generated via MATLAB

2. Kazakhstan

FIGURE 11

Kazakhstan's Macro Trend

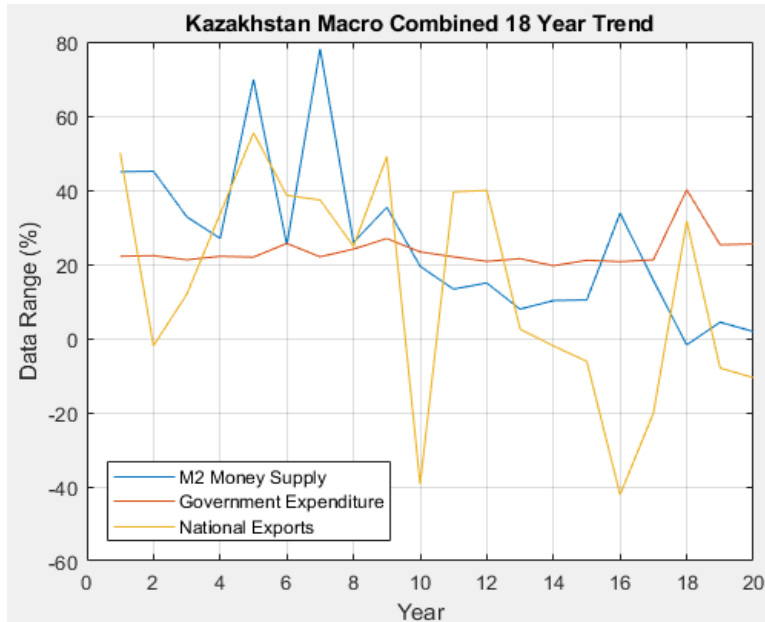


Source: Generated via MATLAB

Exports has been volatile given that the global price shifts have always been an adverse sign for Kazakhstan's economy growth. Its sole reliance on commodities has not helped the country in any way to propel forward. From the trends, it is easy to describe that the country under President Nursultan Nazarbayev has been remaining afloat just above recessions to keep the country breathing. This notion is backed by the two decades of flat line government expenditure and a downward sliding M2 that is impacted by exchange rate and high inflations. This is a country that was and still is meeting its ends functionally. Overspending with low commodity prices could and has cause a negative spiral. The economic policies of Kazakhstan need a revamp to propel the country. The combined macro graphs and its trends are displayed in Figure 12.

FIGURE 12

Kazakhstan's Combined Macro Trend

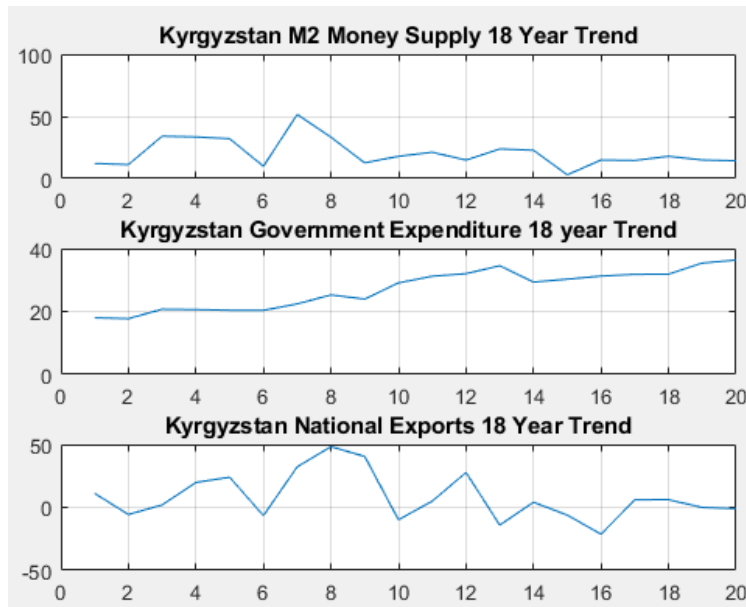


Source: Generated via MATLAB

3. Kyrgyzstan

FIGURE 13

Kyrgyzstan's Macro Trend

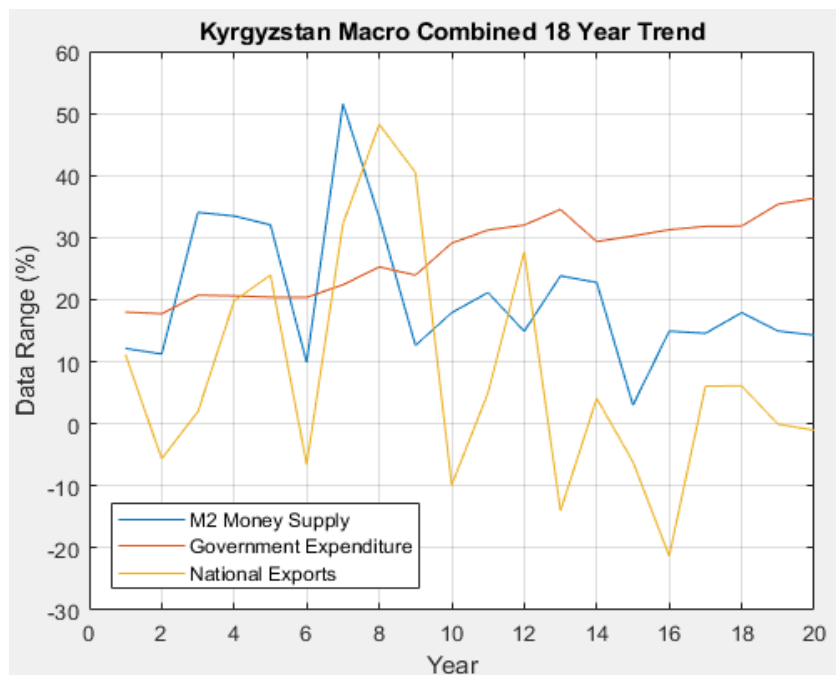


Source: Generated via MATLAB

With the overall period of exports being unpredictable and inconsistent, the government expenditure in Kyrgyzstan was forcefully carried out to resuscitate the country through various stimulus. The expenditure exponential trend for a poor country was drastic and it was not supported by the total monetary in circulation. A weak flow of M2 coupled with a floating exchange rate and high inflation made it near impossible for Kyrgyzstan to think about economic development and growth. Pressing internal conflicts and diversion faced by all the country's past presidents since Askar Akayev, Kurmanbek Bakiyev, and Almazbek Atambayev had somehow synonymously pressed forth on expenditure and to keep on it. The overall M2 circulation trends and export trends for the past twenty years has been flat and on an averaged low. The policy to spend money and incur debt has not help the country positively but instead created an economic hole that needs immediate patching. The combined macro graphs and its trends are displayed in Figure 14.

FIGURE 14

Kyrgyzstan's Combined Macro Trend

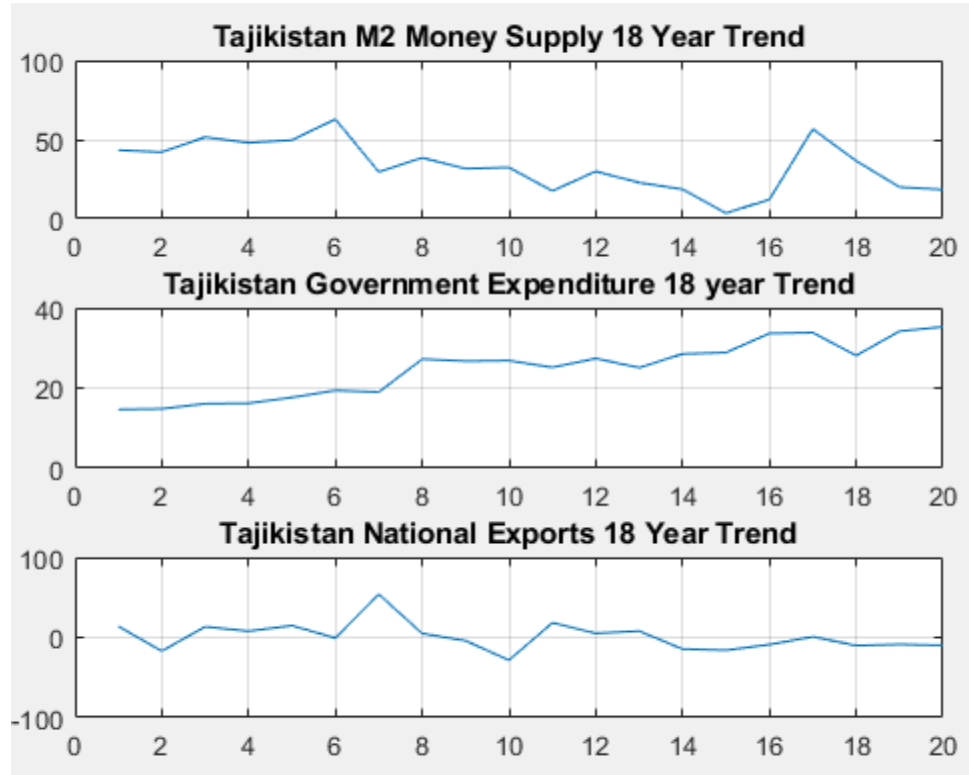


Source: Generated via MATLAB

4. Tajikistan

FIGURE 15

Tajikistan's Macro Trend



Source: Generated via MATLAB

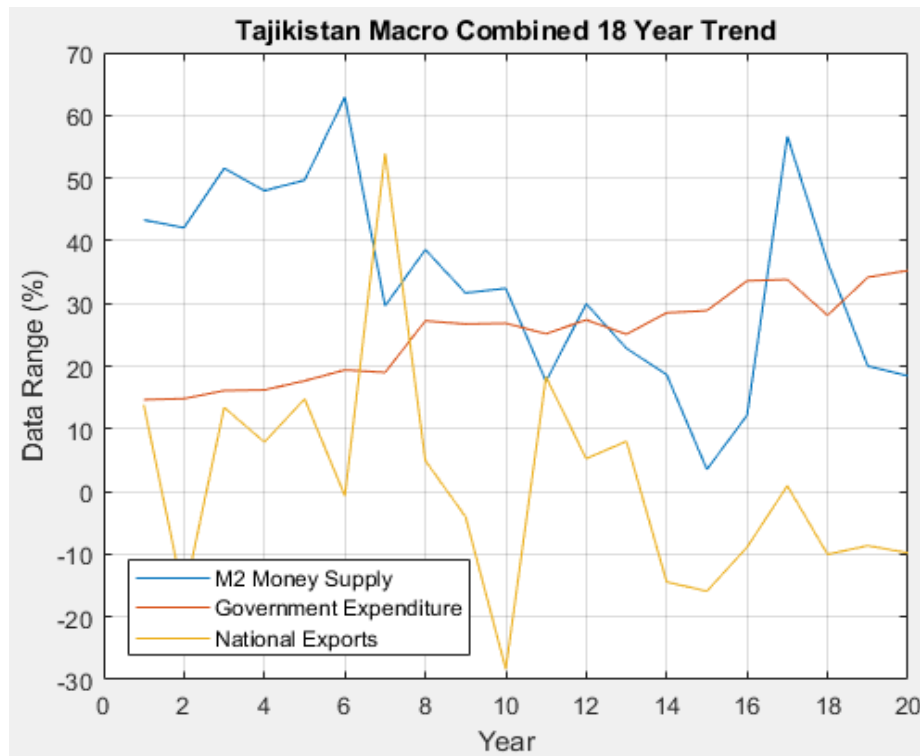
With Emomali Rahmon at the helm of Tajikistan's government since independence, the country's economy is nearly an image of Kyrgyzstan. A declining trend of M2 circulation, a rising trend of government expenditure, and a flat lined export signalled that Tajikistan had no means for economic change. Its internal political tiffs and crackdowns are major factors that left the country in a dire state. There are no positive correlations with these macro indicators but they somehow correlate negatively on the impact; the more money the government spends through either in the forms of stimulus, from its reserves, or from its revenue, the country's economy tends to move on a downward pattern. There has been no change of policies nor any form of revamp measures taken

over twenty years, and this is impacting the country's hope to see some form of possible growth.

The combined macro graphs and its trends are displayed in Figure 16.

FIGURE 16

Tajikistan's Combined Macro Trend

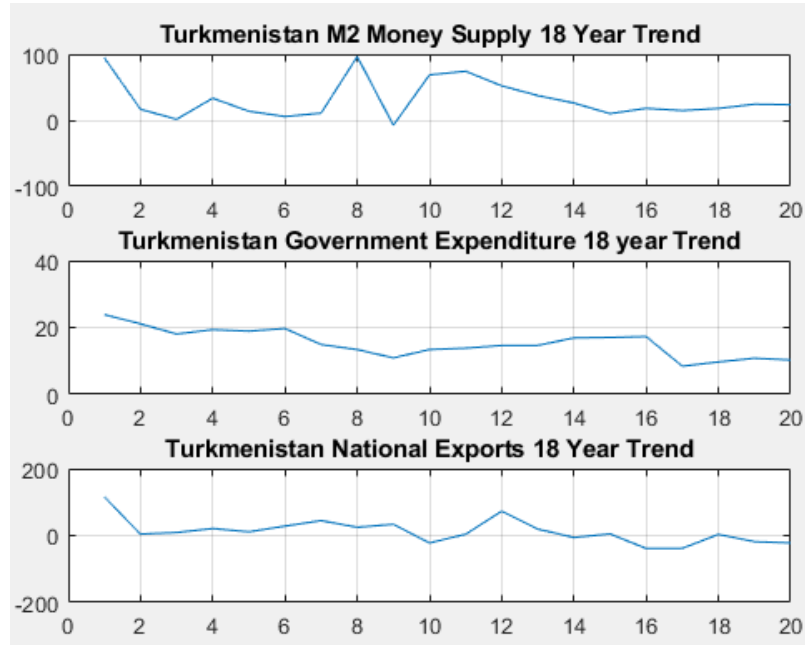


Source: Generated via MATLAB

5. Turkmenistan

FIGURE 17

Turkmenistan's Macro Trend

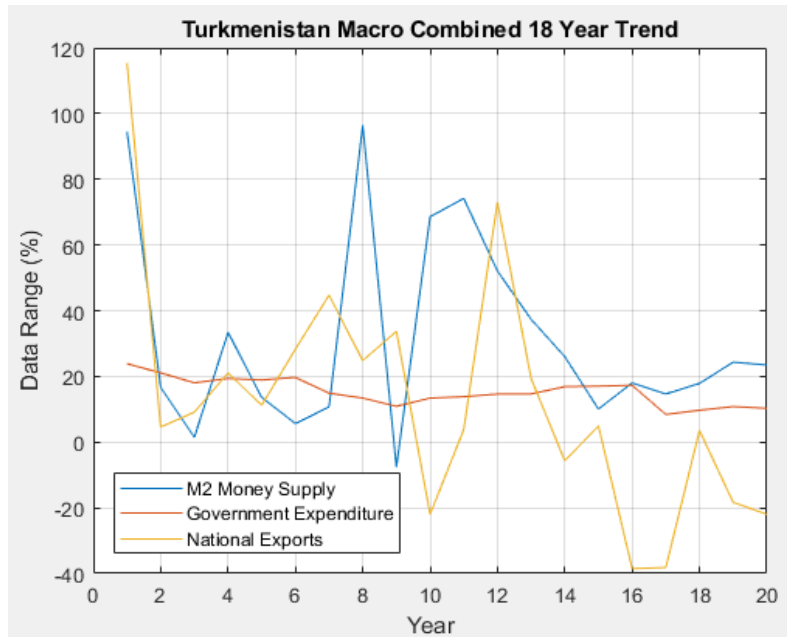


Source: Generated via MATLAB

Demand for oil and gas and the continuous production supply and purchases has kept Turkmenistan “rich and prosperous”. The M2 macro trends flat out twice in 2011 and in 2015 and maintained the same throughout until 2019 after experiencing a rise in 2009. Government expenditure throughout the period had no significant change and remained on a low for the last two decades. Ironically, exports showed a flat line trend considering the continuous commodity demands. The government of Saparmurat Niyazov had its fair share of economic growth until his demise in 2006 and likewise for Gurbanguly Berdimuhamedow in the initial periods of 2008 to 2010, and from 2010 onwards, it has been shaky, – for a lack of a better word. The World Bank reports that the country’s GDP has seen an annual change of 6.5% in 2017 and the GDP trend line is flat and remained “constant” since 2005, very similar to Tajikistan and Uzbekistan. The combined macro graphs and its trends are displayed in Figure 18.

FIGURE 18

Turkmenistan's Combined Macro Trend

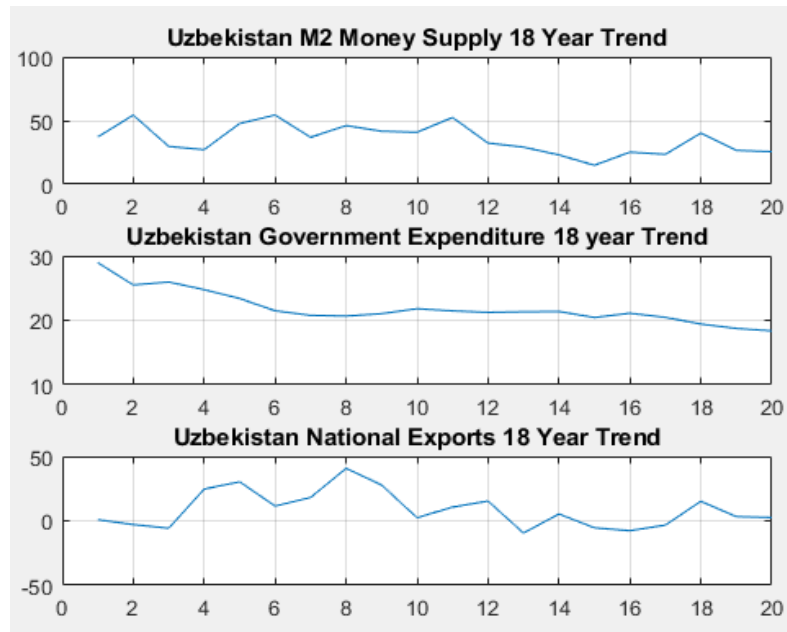


Source: Generated via MATLAB

6. Uzbekistan

FIGURE 19

Uzbekistan's Macro Trend

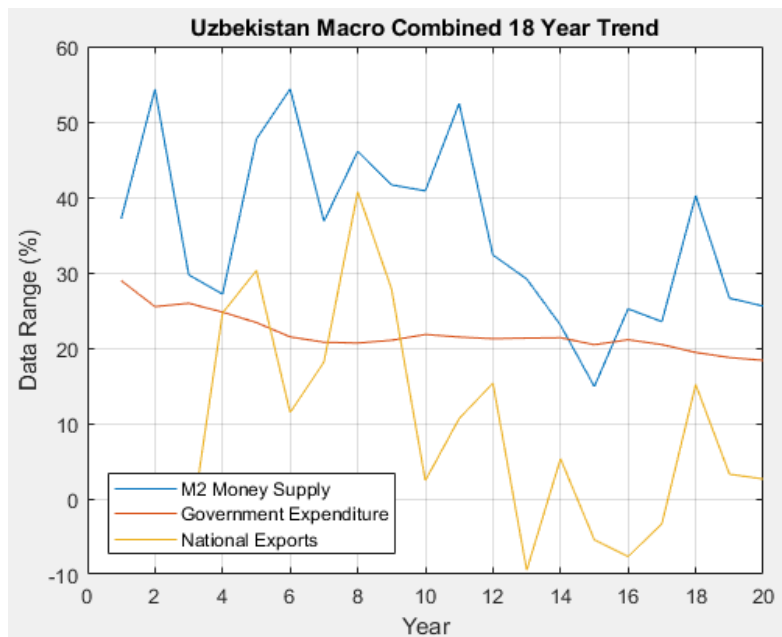


Source: Generated via MATLAB

Islam Karimov ruled with an iron fist. The economy of Uzbekistan under his hard-authoritarian state since 1991 until his demise in 2016 made it difficult for Shavkat Mirziyoyev to turn it around and was forced to maintain status quo. The economic movement of the country had been slow and its outward reliance towards remittances has somewhat handicapped the country economically. The M2 trend has been on a low and dipping with its untradeable currency and with its floating rates. Government expenditure has been dropping at a constant rate and continuous since 2001. The country's exports are erratic given the hopes on commodities. The macro indicators have not been encouraging nor has it helped in any way to stimulate possible growth. Stimulus had been introduced to keep the country afloat but with its erratic rates, it makes it unpredictable for the government to self-sustain. The combined macro graphs clearly show a downward trend of its economy. The combined macro graphs and its trends are displayed in Figure 20.

FIGURE 20

Uzbekistan's Combined Macro Trend



Source: Generated via MATLAB

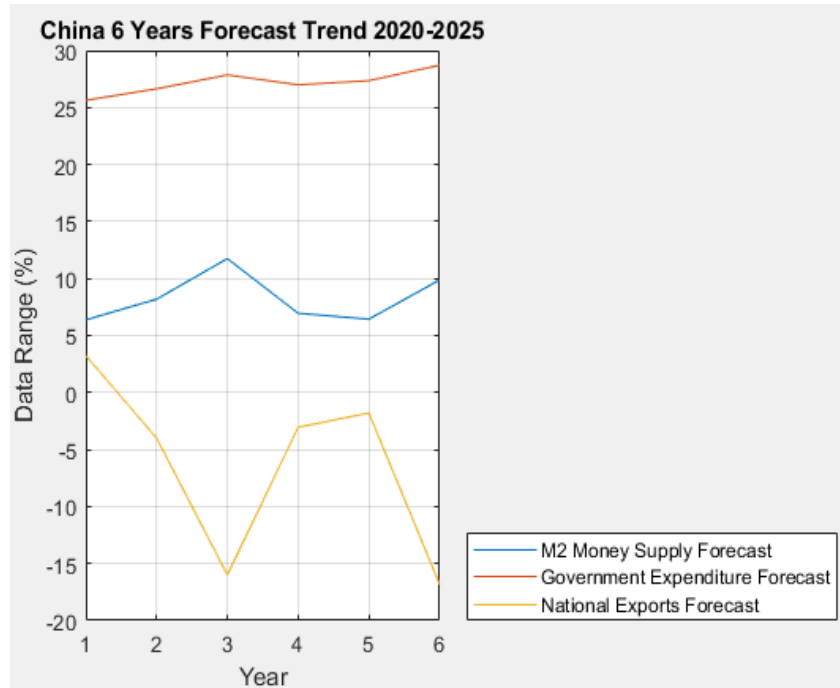
5. GEOECONOMIC PROGNOSIS AND CONCLUSION

The next six years (2020 – 2025), the forecast indicates and predicts that the Chinese M2 and Government Expenditure will continue to see an upward trend. Exports, however, will decline steadily over the next three years before rising and dropping off in 2025. The export trend pattern will take on similar movements as it was since 2000. This also indicates that China might constantly speed up and slow down its economy to its best interest. As the country inches its way towards a major national milestone in 2025, China would need to be comfortable in its “*new normal*” economic growth. This is also in the assumption that the existing trade war with the United States will go on regardless whether it is a democratic or a republican president (*democrat Joe Biden won the 2020 elections*).

The M2 suggests that more domestic expenditure will prevail to keep the local economic momentum and the upward Government Expenditure suggests that China will continue its efforts on the Belt and Road and investments outside of the country. With this, household and government consumptions will peak and fall with the changes that will occur in the next six years. The export trend is also an indicator of the expectation and anticipation of global shifts. China is already the largest economy in Purchasing Power Parity, PPP terms since 2014 and by 2025, it will be the largest global economy force orchestrating the tunes and melodies of the world.

FIGURE 21

China's Six Year Macro Forecast



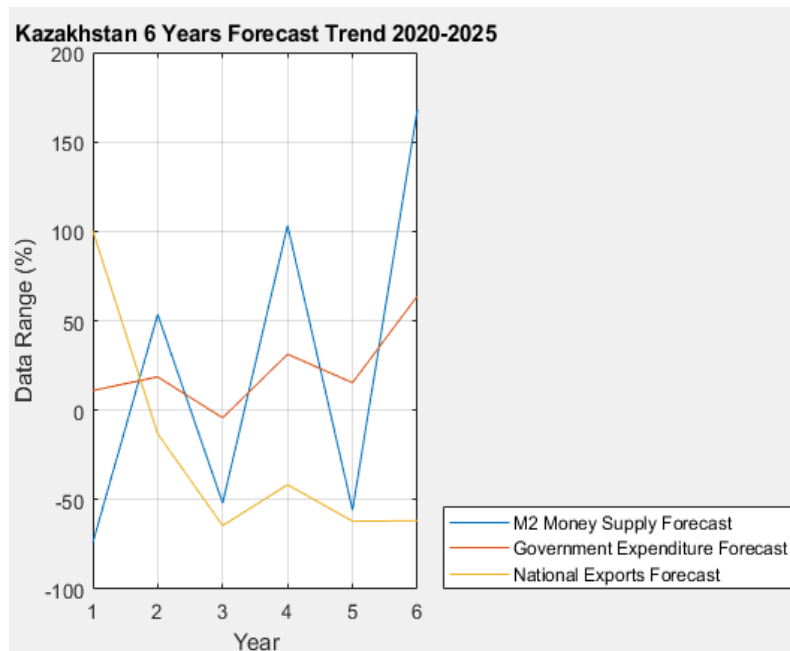
Source: Generated via MATLAB

Kazakhstan's forecast seems to be on a survival mode. The downward trending exports are suggesting that global commodity prices are not in favour of developing countries. The triple peaks in the government expenditure looks sluggish with the erratic spikes in M2 and it only suggest that its exchange rate and currency valuation come into question. Trade will be impacted, and this will cause a dynamic change in the way local Kazakhs to consume. M2 movements can be eased off with a fine balancing act of a slightly higher inflation rate and a lower exchange rate to boost up trade balance. Should the country undergo as per the forecast, then local consumptions will be suppressed to a point that the revenues collected will be insufficient and at least three stimulus packages will be injected to artificially stir and steer the economy. Such a forecast will be in favour of trading partners who will take advantage of the resources at its lowest price point.

This is indeed a worrying forecast, but it is not new to Kazakhstan. Similar patterns have been encountered since independence. However, with the new government now at the helm, the country needs to move up and away from stocked commodities, commodity-based manufacturing, and commodity-based services. It is not the economy structure that the country should embark on for the next decade. Judging from the forecast, Kazakhstan would first need to bridge and narrow these indicators to an acceptable status quo for it to give space to grow and develop other arms of the economy.

FIGURE 22

Kazakhstan's Six Year Macro Forecast



Source: Generated via MATLAB

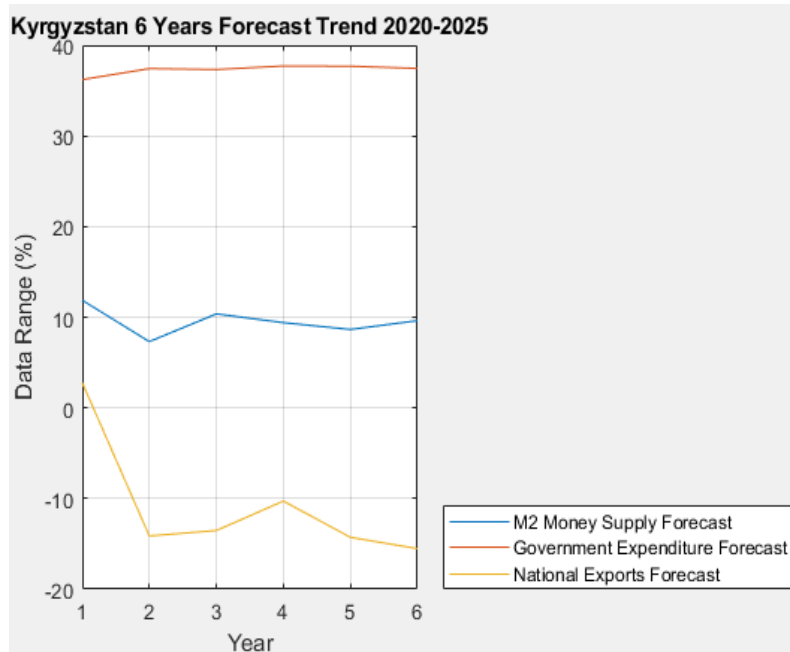
It is a bleak six years to come for Kyrgyzstan. The exports trend is like Kazakhstan and China, while the M2 money supply circulation is adjusting to flatten out. The government expenditure will remain constant for the whole period indicating that nothing phenomenal will happen in the country. The country's government will do its best to ensure small changes takes

place to augment the economy. This is in a way a good thing for Kyrgyzstan as it can give focus and spend its energy and efforts to cultivate and develop its young population into strong economic resources. Trading partners will continue doing business with the country and the country will continue receiving assistance from ADB and the World Bank. A slow-to-no growth economy for six years is enough to revamp the needed policies and structures for the next coming five years of 2026 – 2030.

Kyrgyzstan will require stabilizing its internal political differences, rely less year-on-year on external stimulus and assistance, and work towards improving its economic procedures that would facilitate and encourage businesses and investments. For the government to reduce its expenditure burden, it must lower its rate and slowly increase it in time while absorbing global shocks that would incur a large stimulus injection. It is a weak economy but nevertheless an important one for the region. The currency will remain weak but adopting a fix rate pegged to the Yuan would then give and bring investment confidence. As exports rises in year two, three, and four, its national reserves would need to grow. By year three, the country should consider inflow capital controls to strengthen the Som to encourage domestic spending.

FIGURE 23

Kyrgyzstan's Six Year Macro Forecast



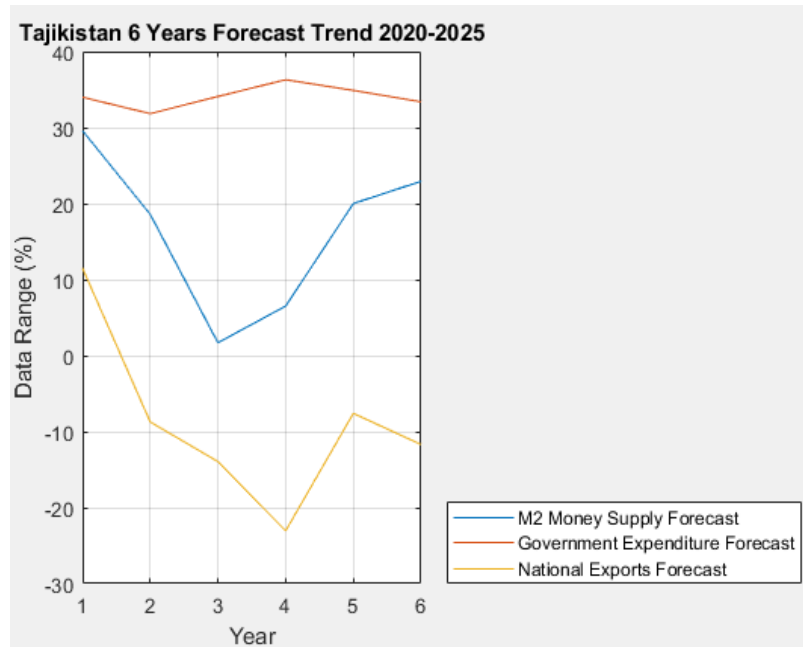
Source: Generated via MATLAB

For many years, Tajikistan in many ways had mirrored Kyrgyzstan. For the coming future, the government will be trying hard to sustain its economy as the country's exports declines steeply for the next four years. While being under the radar of the World Bank's IDA, Tajikistan would need to juggle its rates to help consumptions strive. The deep fall and a sharp rise of the M2 suggests that the country will fluctuate with inflation caused by a stimulus injection. This is not a healthy sign as the economy is not backed by its exports. The country will take a hard hit with potential global shocks and recovery will be slow. The fall and rise of M2 and the falling government expenditure in year five suggests that rates are uncontrollable, and the government needs to control any form of economic manipulations especially in the economic sectors pertaining to natural resources. Exports recovery will not compensate for the loss in the currency. Tajikistan will rely a lot on external support and assistance with hopes on providing it people with the right

tools and work for the country to pull through its economic slump. Multiple recessions will be experienced stemming from high unemployment with high inflation. It is very likely that Tajikistan will call on for international help starting with its Central Asian neighbours to assist the country.

FIGURE 24

Tajikistan's Six Year Macro Forecast



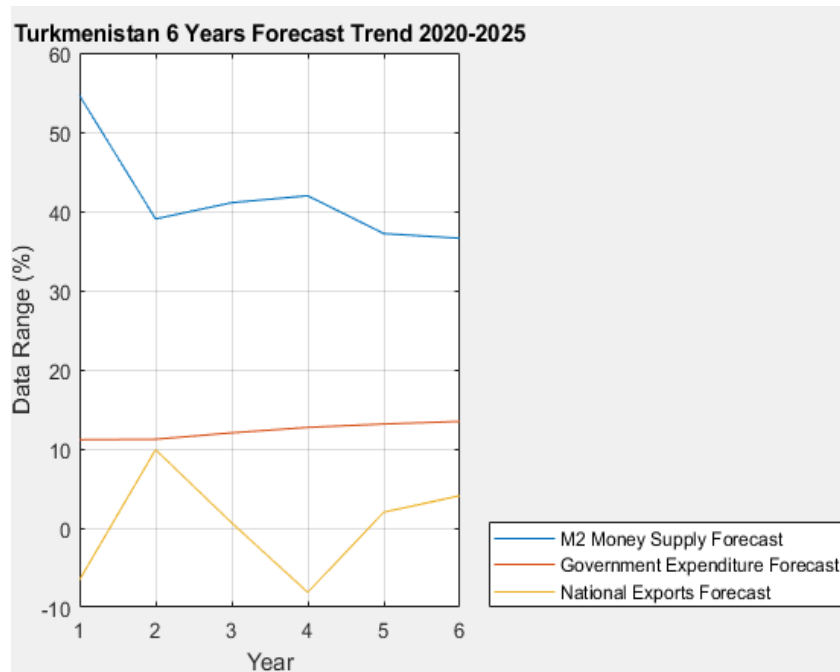
Source: Generated via MATLAB

Nothing significant is expected for Turkmenistan. The country will remain as it is and will continue to trade its natural resources. It will remain as the go-to country for natural gas. With extensive TAPI gas pipelines due to complete and be in operations, the inflow of capital will continue until severe damages are done towards global prices are experienced. No economic adjustments to policies and structures. Inflation, interest, and exchange rates will remain fluctuating causing very little interest in new foreign investments. The manner of governance will also remain, and the government continues to spend steadily from its revenue. M2 money supply will decline and taper off as flat over the next few years suggesting a rise in inflation. It is not a

significant economy to look out to if Turkmenistan continues to isolate itself. For the country to transform, it needs to be an active participant with global entities and be involved with the development that is taking shape within and around Central Asia. The country's positive neutrality may not seem to be working for the betterment of its people and its economy. A step out of this and into the SCO would propel the country into becoming a more stable one.

FIGURE 25

Turkmenistan's Six Year Macro Forecast



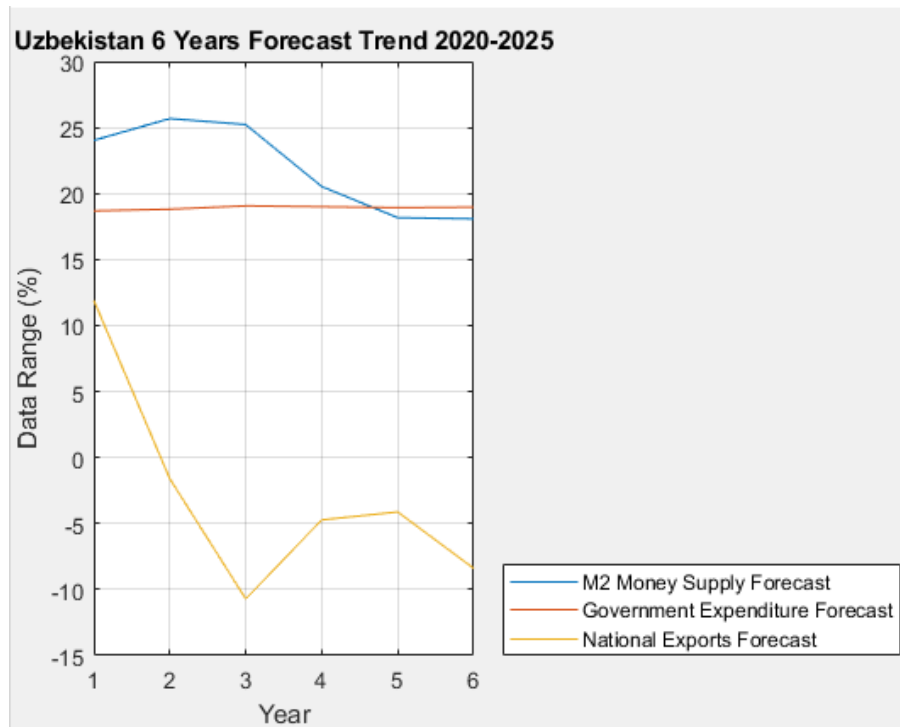
Source: Generated via MATLAB

It is going to be an economic downturn for Uzbekistan. Policies will be tightened up to adequately sail through the next six years. Reforms will take shape and controls are imposed to strengthen the Som. Rates will be monitored closely as Uzbekistan shifts from a floating rate to a fixed one. Exports will be hard on the country and the government will be cautious in spending. M2 circulation will be reduced to curb inflations. This is an economy that will strenuously readjust itself. The last round of "economic suffering" with its reliance on remittances left a deep wound to

the country and this time round the suffering will be dealt with internally. Being one of the main suppliers of commodities, production will be reduced which will in turn slow down the economy but with the carefully managed M2, Uzbekistan may just come up on top to propel forward. External trade partnerships will continue to thrive and a low interest rates will encourage new possibilities for growth. Structural reforms are to be expected over the period, but the country needs to find ways to shift its economy towards skills- and service-based not driven by commodities. The point of M2 and Government Expenditure intercept in year five would be the ideal point for Uzbekistan to set anew in terms of its economic reforms and policy changes. It could be the turning point for the country and its 30 odd million population to become the region's driving force on the BRI and for the overall development of Central Asia.

FIGURE 26

Uzbekistan's Six Year Macro Forecast



Source: Generated via MATLAB

From the possible and plausible outcomes of the analysis carried out, the economic prognosis of Central Asia and China has been determined fulfilling the paper's objective, and with it the assessment in this paper had also answered the paper's question pertaining to Central Asia's economic significance in becoming China's partner. In general, the results were not in favor for Central Asia, however, there has been concerted efforts made to make this economic partnership work. Although these efforts streamline with the vision and mission of the BRI, it does not deliver a level of economic confidence for bilateral and multilateral collaborations. It has been said in many parts of this research that China has its interest in the region and have already begun investing long term in Central Asia even before the BRI. By this fact, it makes this entire assessment non-sensical. However, as China presses deeper into long term investments in all other sectors and not only on petroleum, the assessment made in this paper stands valid to accept the alternate hypothesis. In the years to come in factoring uncertainties, Central Asia is not economically robust to withstand any known-unknown shocks and shifts, making the region heavily more reliable towards China. With Central Asia being in such an economic predicament, current scenario, and future forecast, it is an advantage to China but the over reliance by the Stan countries would have a long-term adverse impact on itself.

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GENDER GAP IN LABOUR FORCE AND ECONOMIC EMPOWERMENT DISRUPTION THROUGH PANDEMIC

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ABSTRACT

As per the data released recently by the Centre for Monitoring Indian Economy (CMIE), the estimated average employment for January 2019 to March 2020 was 403 million, which declined to 282 million in April 2020 and recovered subsequently to reach 393 million by August 2020. In India, female labour force participation is abysmally poor and has declined over the years, despite a rise in education. The causes for this are complex and, aside from objective factors, include a whole variety of social and cultural aspects. One of the factors causing this is the social mentality of women becoming homemakers. Furthermore, the scarcity of schooling and work-oriented

courses, the lack of mobility and sexism in the workplace have been deterrents to women's access to the public workspace. Therefore, initiatives that aim to fix this void need to be holistic. Legislation alone is not enough, and to close this gap, all stakeholders should join hands. The article attempts to analyse facets of gender gap in labour force participation and economic empowerment disruption through Pandemic.

Key words: Empowerment, Finance, Gender Equality and Gender Sensitivity.

1. INTRODUCTION

The corresponding numbers are 360, 256 and 353 million for men, and 43, 26 and 39 million for women, respectively. It is recorded that male employment was 98% in August 2019 and female employment is 91%, the respective pre-pandemic average. The normalisation of WFH (work from Home), without associated changes that decrease the burden of domestic tasks and care work and an increase in paid work chances is unlikely to increase women's participation in the labour force. As the pandemic forces our economy to hit the "reset" button, paying attention to job creation with a gender equity lens is essential for India to realise its tremendous gender dividend. International Girls' Day is an international day of celebration proclaimed by the United Nations; it is sometimes referred to as Girls' Day and International Girls' Day. Progress for teenage girls has not kept pace with the realities they face today and many of these differences have been reinforced by COVID-19. Under the theme "My Voice, Our Equal Future" this year-2020, let's take the opportunity to be motivated by what teenage girls see as the shift they want, the strategies they are leading and demanding around the globe, big and small. The National Sample Survey Office's time-use survey report released last month reveals that Indian women spend nearly four hours more on unpaid work than men, with grim implications for women's workforce participation. In addition, the minimum

first step in recognising that the joint duty of men and women is parenting and childcare. The paper aims to detail the involvement of work and gender sensitivity in the Gender Equality Index-2018.

In 2017, India's Gender Inequality Index scored 0.524, placing it in the bottom 20% of ranking countries for that year. In order to hold the family together, about 65 percent of Indian men believe women should tolerate abuse, and women often deserve to be beaten. The International Men and Gender Equality Survey (IMAGES) questionnaire stated in January 2011 that 24 percent of Indian men had committed sexual harassment during their lives at some point. Women are constitutionally entitled to equal rights in India's social context, but there is a great need to raise society's awareness of gender issues so that there is no problem. Women have the right to be free from sexism, abuse and violence. Removing the barriers of an unsafe atmosphere will help women, as individuals and contributors to employment, societies, and economies, fulfil their potential. In addition, for workers who became new fathers, Zomato rolled out 26 weeks of paid paternity leave. Many private corporations, too, give paternity leave, without the prodding of legislation. If more women are not to drop out of the job grid, the post-COVID reality makes it much more important for workplaces to allow men to take more responsibilities at home. But the primary reason for encouraging more men to step up is not a utilitarian calculation. The advancement of equality has been evaluated for far too long by the number of women accommodated in productivity and performance systems. The hierarchy that devalues the function of treatment, which, despite its drudgery, is central to the messiness and sense of being human, has not been challenged. It is a hierarchy that gives rise to distant patriarchs and men who fear emotional life. For Indian men and women, paternity leave that gives them time to become fathers is a win-win for both. "As per New data released by the Centre for Disease Control and Prevention's National Centre for Health Statistics surveying nearly 32,000 adults and 6,800

children across more than 33,000 households reveals that in 2019 women were more likely to experience symptoms of depression and anxiety than men, and more likely to receive counselling or therapy, or take prescription medication, to promote their mental health” (Khatri, Tina 2020).

TABLE 1

Status of Country wise Gap to reach Gender Equality

Country	Men	Gap to reach Gender Equality
Sweden	44.70	5.30
Norway	43.90	6.10
US	43.40	6.60
France	38.90	11.10
UK	36.10	13.90
China	28.40	21.60
Ghana	23.60	26.40
India	9.50	40.50
Pakistan	8.90	41.10

Source: NSO Time Use Survey 2019; Care Work and Care Jobs for the future of decent work (ILO)

On average, women accounted for 39 per cent of the population worldwide during 2019-20, but holding just 28 per cent of managerial roles. In the two areas with the lowest number of women in managerial roles, Northern Africa and Western Asia, and Central and Southern Asia, women barely achieved less than half the global average of 13 percent of such positions.

TABLE 2

Workforce Worldwide as regards to Women in Managerial Positions

Particulars	Percentage
WORLD	27.89%
LatAm & Caribbean	39.00%
Australia and NZ	38.06%
Europe & N America	37.75%
E & SE Asia	32.10%
Sub- Saharan Africa	30.06%
Oceania*	27.38%
C & Southern Asia	13.23%
N Africa & W Asia	11.75%

Lat-Am. Latin America Na Northern. E Eastern SE South-eastern C Central W: Western.
 “Excluding Australia and New Zealand Data refer to women under categories CEOs, senior officials and legislators, administrative and commercial managers and production and specialised services managers”. (Source: “UN Department of Economic and Social Affairs”)

TABLE 3

Women Law Makers in Lower Houses

Rank	Country	Percentage of Women in Lower/single Houses	Number
1	Rwanda	63	49
2	Cuba	53.2	322
3	Bolivia	53.1	69
4	Mexico	48.2	241
5	Grenada	48.7	7
38	UK	32.2	209
75	US	23.5	102
96	Pakistan	20.2	69

Source: “World Economic Forum, Global Gender Gap Report 2018”

In western countries, the growth of women's political advancement over the past decade has reversed somewhat. (a) Chancellor Angela Merkel of Germany is the largest female head of government serving in Germany. (b) As her preferred heir, 'Annegret Kramp-Karrenbauer.' (c) Nancy Pelosi has become the most influential woman in American politics, and President Trump's de facto opposition leader. (d) Jacinda Ardern, New Zealand's Prime Minister, has proven that motherhood is no obstacle to the top job, becoming the second leading history to give birth while in office (**The Economic Times Magazine, 17th to 23rd, 2019**).

2. INDIA’S SUSTAINABLE GOAL AND GENDER EQUALITY: AN ASSESSMENT

As per IMF report 2017 found “that India has one of the lowest female labour force participation rates”. “At around 33 percent at the national level in 2012, India’s female labour force

participation rate is well below the global average of around 50 percent and the East Asian average of around 63 percent”. “Further, it has been on a declining trend in India, particularly since 2004-05” (Kochhar, Kalpana 2020). However, the concerns in context to inequality and injustice women face in various cultures, don’t require a league consisting only of economists and policy makers. Philosophers and literary figures world over both historically and contemporarily, have reaffirmed their interest through their characters in these overwhelming problems. From Helsinki conference the world travelled through Millennium Development Goals and reached in 2015 more comprehensive and inclusive Sustainable Development Goals (SDGs). “Goal 5 of Sustainable Development Goals 2015 aims to eliminate all forms of discrimination and violence against women in the public and private spheres and to undertake reforms to give women equal rights to economic resources and access to ownership of property”. “Descent work, equal access to education, and representation in political and economic decision-making processes are the rights women must enjoy”. “Investment in the empowerment of women results not only in making progress on Goal-5 of the Sustainable Development Goals but also in fuelling sustainable economic development”. The Government of India focussed – “Today, much of India’s development agenda is mirrored in the Sustainable Development Goals.” Moreover, as the assault on poverty is more emphasised, empowerment requires not only extended traditional development programmes, but also a new age of inclusion and empowerment, turning remote aspirations into immediate possibilities. In addition, the new bank accounts for \$180 million; direct transfer of benefits, micro-enterprises and micro-finance, building on the power of digital and mobile apps, with an emphasis on basics, accommodation, electricity, water and sanitation for all. This is not only essential for welfare, but also for human dignity. Development is intrinsically linked to

women's empowerment and starts with a massive girl-child education programme that has become the mission of every family.

The Government of India has recognised that two important ways to empower women, are;

- a) “Economic empowerment through participation in economic activities and opportunities” and,
- b) “through mitigation of educational deprivations”. The schemes chalked out and implemented broadly address these requirements and thereby endeavour to ensure that women gain equal rights, opportunities and access to resources. The first and foremost thing is their safety, security and economic empowerment. Towards that end, schemes like “Mahila Police Volunteers (MPV) envisaging engagement of Mahila Police Volunteers in States/UTs who act as a link between police and community and facilitate women in distress”; Pradhan Mantri Ujjawala Yojana for empowering women below poverty mark and protecting their health by providing LPG cylinder free of cost, Pradhan Mantri Sukanya Samridhi Yojna aims at economic empowerment of girls by opening their bank accounts and empowering their parents to save funds for their female child’s education and marriage. Beti Bachao, Beti Padhao Yojana that came into being in January 2015, drives at generating awareness and improving the efficacy of welfare services for girl child. “Further, safe motherhood intervention under National Health Mission with the objective of reducing maternal and neo-natal mortality among poor pregnant women” (Srivastav, K.K. 2020).

3. GENDER SENSITIVITY: A LONG AWAY

To ensure this, gender awareness will go a long way. Gender sensitization is the shift in behaviour in order to build gender equity with greater understanding and empathy. Not only does abuse of any form affect women's physical, emotional, sexual, and reproductive health, but it also adversely affects decisions regarding their self-esteem, ability to work, and fertility. Abuse hinders women's

inclusion in micro and macro-level growth and planning projects. Sensitive, ineffective, unethical and unacceptable justice processes and law enforcement machinery do not tackle different forms of crime (Satywan Saurabh, 2020). The National Family Health Survey indicates that 30 percent of women in India have witnessed physical abuse since the age of 15 in the 15 to 49 age range. Furthermore, the study shows that about 31 per cent of married women have witnessed their husbands' physical, sexual, or emotional abuse. Not only in the womb and infancy, but in every field of life, women are discriminated against. Women are forced to face the pressures and constraints of their everyday lives, to ensure their capacity for personal growth and independence and gender equality, to live a better and more dignified life, to make society inclusive and safe. The first step: Gender sensitization will help to dissipate certain theories that we are male. "Gender sensitization and widespread social change are needed to end gender crimes" (Satywan Saurabh, 2020) Odisha has achieved the shady variance of claiming the 3rd place in the country as far as crime against women is concerned, as per the latest report of the National Crime Records Bureau (NCRB). According to the NCRB report, for every one lakh population in Odisha, 91.3 number of crimes are committed against women while the conviction rate stands at negligible 8.3 per cent. Similarly, cybercrime has also increased by nearly 76 percent in the state in 2019 as compared to 2018, the latest data released by the national crime records bureau (NCRB) revealed. Also, according to the Odisha government's Economic Survey report 2018-19, women earn nearly 3 times less than men in the state which is a worrying trend. Women are still not considered a skilled workforce. "According to WHO estimates, less than 40 percent of women experiencing violence seek the help of any kind". "Women who ask for help go to family and friends and see very few formal institutions and systems, such as police and health services". "Less than 10 percent of those women who sought help to experience the violence appealed to the police". "The latest data

indicates that police file charge sheets in 86% of rape cases but trial courts are only able to settle 13% of pending rape cases with a reduced conviction rate of 32%". "In cases of child rape, the conviction rate is 34.2% and the pendency is 82.1%" (Satywan Saurabh, 2020).

'L'Oreal' Paris, a French cosmetics brand, has unveiled its standard intervention training programme against street harassment in India. As part of its "Stand Up" campaign, which has already been launched in various countries such as France, Spain, Italy and Mexico, the company linked up with NGO Breakthrough to provide on-the-ground training in the region. Singer Neha Bhasin will also come up with a song titled Kehnderehnde, which is against cyber bullying. The goal of the track is to highlight problems such as slut-shaming, misogyny, cyber bullying, and confining stereotypical Stan to women. One should lift his/her voice against misconduct. In addition, Laxmi bomb films a satire of sorts against outdated traditions and rituals, but due to the sheer plasticity of the plot, the attempt fails itself. The film also tries to make the noises about the transgender community politically right, as well as Hindu Muslim harmony (Deshpande, Ashwani, 2020).

The International Labour Organisation (ILO) estimates that two-third of the jobs lost globally due to COVID-19 belongs to women. The survey finds that achieving Gender Parity at work can add 28 trillion dollars or 26 percent to global GDP by 2025. India alone could add 770 billion dollars or 18 percent to its GDP by 2025 if it enabled half of its productive workforce women. Further, the OECD estimates that in Denmark and Sweden increases in women's labour force participation accounts for 0.25 to 0.40 percent points of annual growth in per capita GDP over the last four decades; to put that into dollars. The current GDP per capita in Denmark and Sweden about \$55,000 to 60000 would otherwise have been \$5000 to 6000 lowers. However, there is significant cost to countries and firms from the gaps in economic empowerment between men

and women. “The Gender gaps in labour force participation estimated by IMF; the result in income losses of 27 per cent in the Middle East and North Africa, 23 percent in south Asia, 17 percent in Latin America and the Caribbean, 15 percent in East Asia and the Pacific, 14 percent in Europe and Central Asia and 12 percent in sub-Saharan Africa”. Moreover, Society plays an important role in creating a safe environment for women. Giving birth to gender sensitive children will create a safe society. After the “Nirbhaya” incident, the UN human rights chief said against rape and violence, women in India have a "national problem" that would require a "national solution". Better policing, fast-track courts, speedy punishment of time. Needs because each can serve as one. Public places should be made safe for all. “Girls and boys should be raised in an atmosphere of freedom and a culture of mutual respect”. “It is important to implement policies that promote gender equality by ending discrimination against women in marriage, divorce and custody laws, inheritance laws, and ownership of assets”. “The focus should be on what can be done, what is currently lacking, and the constant effort to measure the results, otherwise this outrage will pass without even meaningful change” (Satywan Saurabh, 2020). “The cruelty by husband and Relatives under Section 498 A of India Penal code constituted the biggest percentage of registered crimes against women 30.9 percentage followed by Assault 21.80 percentage and Kidnapping and Abduction 17.90 parentage respectively” (Shah, Ajay, 2020).

TABLE 4

Pending Cases as per Crime in India Report-2019

Time Period	Assault	Rape	Cruelty by Husband and Relatives
Up to 6 Months	14,866	6,161	24,235
6 Months to a Year	13,646	4,994	17,976
1 Year to 3 Years	5,632	3,060	10,290
More than 3 Years	944	746	1,941

Source: Crime in India Report-2019, NCRB

TABLE 5

Crime Against women as per Crime Report in India-2019

Sl.	Crimes	Number	Percentage of all registered crime against women
1	Cruelty by Husband and Relatives	125,298	30.90
2	Assault on Women	88,367	21.80
3	Kidnapping and Abduction	72,780	17.80
4	Rape	32,033	7.90

Source: Crime Report in India-2019. NCRB

The Indian women increased their participation in paid work between April 2020 and July 2020 because the new normal of “work from home” (WFH) allowed them to combine their domestic and employment responsibilities. This sounded hopeful because women’s (in)ability to work outside the nomocratically intertwined with their predominant responsibility for domestic chores and unpaid care work. “Historically, women’s labour force participation has increased when the time cost of domestic / unpaid care work is reduced, or is shared more equally with men, or made more compatible with market work”. “National-level data reveal that the pandemic has not succeeded in shifting the need of gender gaps in paid and unpaid work”. The biggest contraction in employment was in April 2020.

The Time Use Survey- 2019 by the National Statistical office (NSO) reveals gender stereotypes continue to plague the country. Women still handle most of the unpaid domestic and caregiving work at home, both in rural and urban areas, while men continue to take up more employment and related activities outside the home. “An International Labour Organisation (ILO) report says that across the world, without exception, women perform three-fourth of the unpaid caregiving work-76.2 per cent of the total hours spent in such activity”. Men in India and Pakistan handle the least amount of unpaid caregiving work. “Across the world, women continue to bear the burden of unpaid care work”. “Women dedicate on average 3.2 times more time than men to

unpaid care work: 4 hours and 25 minutes per day, against 1 hour and 23 minutes for men, according to ILO”.

TABLE 6

Unpaid Domestic Work is done by Women

Rural + Urban	Male	Female	Person*
Most unpaid domestic work is done by women (%)	26.1	81.2	53.2
Women also spend nearly thrice the time on such work (in mins)	97	299	248
Women do most of the unpaid caregiving work (%)	14	27.6	20.7
They spend more than twice the time on caregiving (in mins)	76	134	114

***person refers to the proportion in the overall population**

Source: “NSO Time Use Survey 2019; Care Work and Care Jobs for the future of decent work (ILO)”

TABLE 7

Status of Work outside the house (Rural + Urban)

Rural + Urban	Male	Female	Person*
Employment and related activities (%)	57.3	18.4	38.2
Women lag behind learning	23.9	19.8	21.9
But socialising and communication are democratic activities (%)	91.4	91.3	91.3

***person refers to the proportion in the overall population**

Source: NSO Time Use Survey 2019; Care Work and Care Jobs for the future of decent work (ILO)

India is committed to the divergence and inclusion of women in the sharing of pavers and to putting political power in place. Their rights are safer, and gender justice is greater. But in 2010, Rajya Sabha passed the bill in parliament and state legislatures for a 33 per cent reservation for women. The Percentage of women ministers in 2014-15 (15.6%), 2015-16 (17.8%), 2016-17 (12.0%), 2017-18 (12.0%), 2018-19 (12.0%) and 2019-20 (16.05%.) respectively. Women in India are hampered by (a) low level of Education (b) lack of access to health care (c) lack of

employment and low social status, which manifest in crimes such as (a) rape (b) Female foeticide (c) dowry death and (d) domestic violence. However, as per NSO Time Use Survey 2019; Care Work and Care Jobs for the future of decent work (ILO) in both rural and urban areas, the pattern is the same – women provide most of the unpaid caregiving work (%) as in Rural (81.2 percent) and Urban (79.2 percent) respectively. The Gender equitable entrepreneurship development is the need of the recent time in realizing the true potential in India. It has been a thrilling journey, engaging with our extensive network of ground partners and friends to connect with the best women entrepreneurial talents.

4. REVIEW OF LITERATURE

Srivastav, K.K. (2020) stated that The Government of India has recognised, amid others, two important ways to empower women: Economic empowerment through participation in economic activities and opportunities and second through mitigation of educational deprivations. The commitment of India to implement the Sustainable Development Goals was spelt out through the speech and commitment made by Prime Minister of India at the UN Summit for the adoption of post 2015 Development Agenda.

Pillay, Amritha (2020) stated a report by Bain & Company Google and AWE foundation titled "Can COVID-19 be the turning point for women employees in India?" Further, "The report finds about 31 per cent women citing personal challenges; 44 per cent lack of customer order, 28 per cent supply chain disruption, 24 per cent limited access to workforce and 22 per cent responded stated about financed crunch.

Rajivlochan, Meeta.(2020) stated the 2019 Safe City Index, prepared by the Economist Intelligence Unit, ranks Mumbai and Delhi as one of the worst cities where women's safety is

concerned. The Index ranked cities on indicators of personal security, digital security and infrastructure security, among other things. All these have a multiplier effect on the position of women these can negatively affect their access to public spaces, jobs, and even how much leisure time they can spend. Indifference to concerns of women result in a difficult commute and poor childcare facilities.

5. OBJECTIVES OF THE STUDY

The study undertaken to fulfil the research objectives:

- a) To explore the India's Sustainable Goal and Gender Equality.
- b) To find the Gender Sensitivity as regards Global Gender equality Report-2019.

6. DISCUSSION OF THE PAPER AND DATA ANALYSIS

Women entrepreneurs often have to work twice as hard to be taken as seriously as their male counterparts. They usually shy away from self-promotional. Women get a disproportionate share of opinions and feedback. When women set up a business, they also try to solve for the problem of gender disparity in the workforce by hiring more women. Women entrusted to go in the "Cockroach-mode" and invoke their extraordinary surviving skills. Disruptions due to COVID-19 has hit most business in the country, including those owned by women. "Mission Shakti like Women Help Desk at all 1535 police stations of the state, dedicated Women's Help desk at all 350 Tehsils to resolve revenue-related complaints of women and deployment of women personnel at these help desks". "Besides it was also decided to have 20 per cent of women compulsorily in UP Police force for reaching out to women victims".

As per the Global Gender Gap report (2018) by World Economic Forum stated the rank as Western Europe (76), North America (73), Eastern Europe and Central Asia (71), “Latin America and the Caribbean (71), East Asia and the Pacific (68), Global Weighted Average (68), Sub-Saharan Africa (66), South Asia (66) and Middle East and North Africa (60)”. “Further, it covers all 149 countries featured in the 2018 index”. Moreover, it has been bringing out the Global Gender Gap Index since 2006. “The index provides a framework for capturing the magnitude of gender-based disparities across four thematic dimensions or sub - divisions such as (a)Economic Participation and Opportunity, (b) Educational Attainment, (c)Health and Survival, and (d) Political Empowerment”. Further, as can be seen, the gender gap is relatively small across countries when it comes to health but widens considerably when it comes to political empowerment or economic participation. However, India’s overall score has improved, whilst in two sub-categories-economic participation and health and survival-the gender gap has worsened.

TABLE 8

Gender Gaps of the leading countries in 2018-19

Country	Rank	Score
Iceland	1	0.858
Rwanda	6	0.804
South Africa	19	0.755
United States	51	0.720
Indonesia	85	0.691
Brazil	95	0.681
China	103	0.673
India	108	0.665
Saudi Arabia	141	0.590
Pakistan	148	0.550

Note: Covers all 149 countries featured in the 2018 index,

Source: The Global Gender Gap report (2018) by World Economic Forum

TABLE 9*Performance of India as regards to Global Gender Gap*

	2006		2008		
	Rank	Score	Rank	Score	Average
Global Gender Gap score	98	0.601	108	0.665	
Economic participation and opportunity	110	0.397	142	0.385	0.586
Educational attainment	102	0.819	114	0.953	0.949
Health and survival	103	0.962	147	0.940	0.955
Political empowerment	20	0.227	19	0.382	0.223
Rank out	115		149		

Note: Covers all 149 countries featured in the 2018 index

Source: The Global Gender Gap report (2018) by World Economic Forum

TABLE 10*India's Position in South Asia*

Country	Overall rank	Overall score
Bangladesh	48	0.721
Sri Lanka	100	0.676
Nepal	105	0.671
India	108	0.665
Maldives	113	0.662
Bhutan	122	0.638
Pakistan	148	0.550

Note: Covers all 149 countries featured in the 2018 index

Source: The Global Gender Gap report (2018) by World Economic Forum

TABLE 11*Rankings and Scored by each sub-Index as per Global Gender Gap Report-2018*

Economic Participation and Opportunity			Educational Attainment		
Country	Rank	Score	Country	Rank	Score
Lao PDR	1	0.915	Brazil	1	1.000
China	86	0.653	South Africa	72	0.992
Indonesia	96	0.629	China	111	0.958
India	142	0.385	India	114	0.953
Iraq	149	0.264	Chad	149	0.575

Note: Covers all 149 countries featured in the 2018 index,

Source: The Global Gender Gap report (2018) by World Economic Forum

TABLE 12

Rankings and Scored by each sub-Index as per Global Gender Gap Report-2018

Health and survival					
Country	Rank	Score	Country	Rank	Score
Brazil	1	0.980	Rwanda	4	0.539
Indonesia	79	0.974	India	19	0.382
Pakistan	145	0.946	US	98	0.125
India	147	0.940	Brazil	112	0.101
China	149	0.915	Yemen	149	0.014

Note: Covers all 149 countries featured in the 2018 index,

Source: The Global Gender Gap report (2018) by World Economic Forum

TABLE 13

Yearwise Council Ministers (women) in India

Year	Cabinet Minister	Minister of State
2014-15	23	22
2015-16	23	22
2016-17	26	49
2017-18	27	48
2018-19	25	49
2019-20	24	33

Source: NSSO and Lok Sabha Secretariat

Women entrepreneurs in India are too few in number such as the MAKERS India Report-State of Women in Tech Entrepreneurship in India, Venture Intelligence, Master card Index of Women Entrepreneurs 2019 report stated that only 7.4 per cent of businesses in India are owned by women. But things are slowly starting to change. Here's a look at the scenario for women-led firms in the Indian start-up ecosystem, the investments they attract, the sectors they focus on and more. The funding in women-founder/co-founded start-ups accounted for a very small fraction of the total investments. “The total start-up investments \$29.41 billion, funding in start-ups with at least one-woman founder \$1.69 billion and funding in start-ups with at only one-woman founder

with \$480 billion”. The Fin-tech tops the list followed by e-commerce in sector-wise focus of Women Tech Entrepreneurs such as (a) Fin-Tech companies (25.8 per cent), (b) E-commerce firms (20.2 per cent) (c) Ed-Tech (18.0 per cent), (d) Health-Tech (16.4 per cent), Media (10.20 per cent) and Food and Beverages (9.3 per cent) respectively. Moreover, the few VCs, accelerators, incubators that help women entrepreneurs such as (a) She Capital, (b) Rebalance, (c) Encubay, (d) Excellerate HER, (e) WE HUB and Womennovator. The percentage of women founded/co-founded firms in top 150 funded start-ups. 2018-19 (9.2 per cent), 2019-20 (13.7 per cent) and 2020-21 as of November 2020 (17.8 per cent). Notable Indian Unicorns with women as founder/co-founders such as (a) Divya Gokulnath, Co-founder, Byju’s, (b) Falguni Nayar, Founder, Nykaa, (c) Radhika Aggarwal, co-founder, Shopclous, and (d) Gazal Kalra, co-founder, Rivigo. “The company Up Grad’s organisational gender ratio of 30 per cent women employees in 2019, has moved up to 34 per cent so far in 2020”. “The organisations sale force is already at gender parity”. “This is higher than the combined share of women employees in 77 of the S&P BSE 100 index companies, which was at 22.51 per cent for 2019” (Pillay, Amritha 2020).

7. CONCLUSION

The pandemic of COVID-19 has changed the workplace globally, but India's new standards are especially relevant. Millions of skilled female workers have been shut out by social norms that forced women to travel to their husbands’ places or remain with family in small towns or simply be available within the home to care for elders and children. Greater versatility will give those options and the chance to work from anywhere. Generally, the world over, women enter the labour force after their education. There is usually a drop in female labour force participation when women have children, whether they go back in to work and other policies.

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**DOES HIGHER EDUCATION INSTITUTIONS PREPARE THEIR GRADUATES WITH
EMPLOYABILITY SKILLS.**

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ABSTRACT

In today's job market the graduates not only need academic knowledge and qualification but it is also important for students to gain skills that can help them adapt and enhance themselves in various jobs or industries. There has been an increasing concern in Malaysia on the quality of graduates that are produced by the higher education institutions in this country. The employers have expressed major concern on the lack of employability skills among these local graduates. The employers and graduates are turning back the blame of poor-quality graduates towards higher education institutions. These institutions should initiate the development of some basic employability skills among graduates through their courses or academic programs. The objective of this paper is to understand the role of higher education institutions has towards the development of employability skills and competencies. The data collected among fresh graduates was to identify what type of soft skills they had developed during their years of studies in their degree program. The overall findings show that higher education institution helped equip the graduates with good intrapersonal skills. The graduates also felt that the higher education institution did contribute towards the development of certain soft skills. The study found that the higher education

institutions can improve the skills and competencies of the students that can help them to gain employability and adapt into the job market.

Keywords: Higher Education Institution, Employability skills, Intrapersonal Skills

1. INTRODUCTION

In today's economy, it is no longer sufficient for the graduates to have only academic knowledge; it has been increasingly important for students to gain skills that can help them adapt and enhance themselves in various jobs or industries. Education has been the most important indicator for human capital, therefore developing countries like Malaysia has always been taking continuous effort to encourage people to improve their knowledge and skill through their education (Sieng & Yussof, 2015). There has been a continuous increase in number of the higher education institution in the country over the years. This increase was mainly contributed by the establishment of more private higher education institutions (Ministry of Education, 2015). These higher education institutions offer a wide range of tertiary education, which includes certificate, diploma, undergraduates and postgraduate's courses. The rapid growth of higher educational institutions has contributed to the increase in the number of graduates in Malaysia. However, the major concern in Malaysia that it's the prolonged unemployment among graduates from Malaysian higher education institutions. The number of unemployed graduates with bachelor's degree increased from 24.6 percent in 2011 to 26.3 percent in 2016 (Ministry of Education, 2016). The Ministry of Education, Malaysia have reported that between 30 to 40 per cent of graduates have no job after finishing university due to lack of English proficiency and insufficient skills and competencies related specifically to the job market (Omar & Rajoo, 2016). The Ministry of

Education Graduate Tracer study in 2018 shows almost 60 per cent of the graduates remain unemployed even after one year of graduation (Ministry of Education, 2018).

Higher education institutions have come under pressure to be more responsive to these changes and contribute more towards human capital development in the country. The higher education institutions in Malaysia has also endeavoured to upgrade and improve their teaching and learning experiences that equip their students with appropriate skills and competencies for the job market (Grapragasem, Krishnan, & Mansor, 2014). The challenge now is to enhance the efficiency and improve the quality of the work force to support the country's economic progress (Lee, 2017). Higher education institutions play an important role towards the development of some basic employability skills among graduates in their education courses and extra-curricular activities. The higher education institutions could help by increasing the awareness of employability skills and benefits to their students (Tymon, 2013). Therefore, this paper aims to identify to what extent does higher education institutions influence the development of generic employability skills among Malaysian graduates. The focus is on what type of soft skills were the graduates able to learn and adapt during their degree program in the local higher education institution.

2. EMPLOYABILITY SKILLS

Employability skills are transferable skills that is essential and functional. These skills can be used to enable knowledge, competencies and adapt to changes in workplace. Humberg and Velden (2017) highlighted on some of the generic employability skills that graduates are expected to have in the 21st century, they include ICT skills, problem solving and analytical skills, ability to learn, communication skills and interpersonal skills. The generic employability skills are widely

applicable across most job and grouped into three broad categories (OECD, 2001; Humberg & Velden, 2017):

- i) Inter-personal skills include teamwork and leadership capabilities which helps the interaction among human resources and increase performance in the workplace.
- ii) Intra-personal skills include motivation, ability to learn and adopt to changes, time management, problem solving skills, effective communication, and analytical skills. These skills are important for the graduates to be flexible and improve their professional expertise in the workplace.
- iii) Technological or Information, Communication and Technology (ICT) skills which looks at the graduate's capability of using and operating ICT tools and systems. These skills are important to determine whether the graduates can use technology and innovation in their work.

In Malaysia, graduates are finding it difficult to get employed because they are lacking the skills and ability to obtain and maintain their jobs. The graduates were unemployed because of their limitation on the specific soft skills which are communication/interpersonal skills, ICT/technical skills, high spirit of teamwork and specific personal attributes (Omar, 2012). The current lack of skills among the graduates impact their chances for employability and the country's ability to produce skilled human capital. There is also a concern in the quality of fresh graduates with regards to their communication skills, language proficiency, ICT skills, teamwork and the need for working experience (Omar et al., 2012). There has been a rising concern regarding the increasing unemployment rates among the graduates and the lack of the skills and competencies that matches the need of the business world. There has been intense pressure on higher education

institutions to produce graduates with academic qualification and develop the graduate's employability skills (Islam, et.al, 2013).

The focus of this research attempts to measure the employability skills among graduates from higher education institutions in Malaysia. In other words, this research aims to measure the employability skills of the graduates from higher education institutions in the country base on the following research questions.

1. Are the Malaysian graduates equipped with the generic employability skills?
2. Does higher education have a direct influence on employability skills of the graduates?
3. Is there difference in the generic employability of graduates from public and private higher education institutions?

3. METHODOLOGY

The research problem concerns graduates that have completed their tertiary education and could not find employment within six months of graduation due to lack of employability skills. The target sample of graduates will focus on graduates who have completed a bachelor's degree and in the age group of 15 to 40 years old. The samples are graduates who have completed their degree from a public or private higher education institution in Malaysia. However, most of the degree program in Malaysia take between three to five years to complete, therefore most graduates in the targeted samples of graduates will be at least 20 years old and above. The target samples where database was obtained from three different sources. The first is the list of graduates in the current year from the university placement and alumni office, second list of graduates from selected

faculty and department with the university or colleges and finally the list of graduates from student's alumni association of the respective university or colleges.

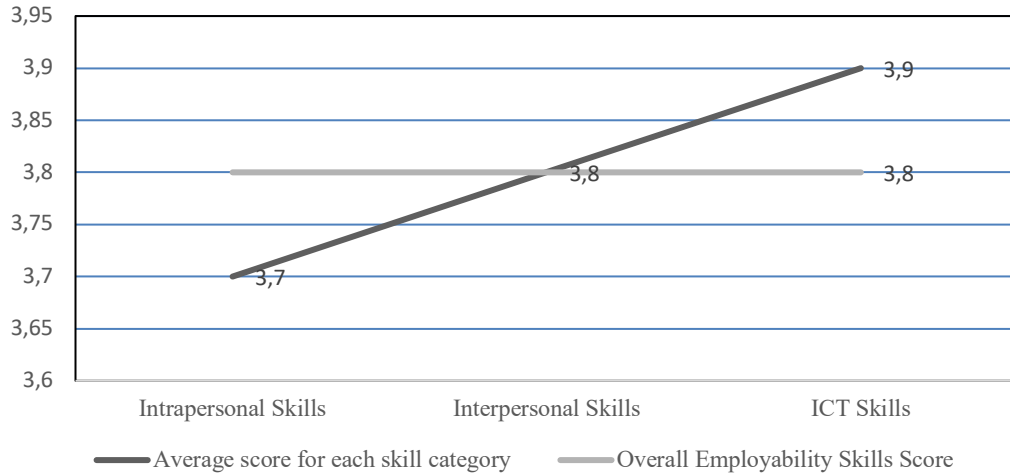
There are two main categories of higher education institution in Malaysia, public universities and private higher education institutions. The target samples for this research will be equally selected from a selected list of public or private higher education institutions in Malaysia. This research approached four public and four private universities which offers bachelor degree program in Malaysia. The target samples were randomly selected or approached via email from the list of graduates provided by the universities. The primary data collection was used to collect the data among the graduates. The questionnaire included questions related to selected employability skills and competencies. The data collection was conducted among 300 graduates from selected public and private higher education institution in Malaysia.

4. RESULTS

A summary of the overall employability skills of the graduates is shown in Figure 1. The mean scores of the graduate's employability skills were 3.82 out of 5. The graduates seem to be most competent in ICT skills with a mean score of 3.87 out 5. Followed by interpersonal skills with a mean score of 3.84 and the lowest mean score for Intrapersonal skills with 3.75. This addresses the first research question measuring the generic employability skills of Malaysian graduates. We can conclude that the graduates are competent with some basic employability skills.

FIGURE 1

Graduates Employability Skills



Note: N = 300, employability skills the Score ranges from Poor (1- 2), Moderate (2.1- 3.9), Good (4-5)

The main analysis was to identify the significant relationship between higher education institutions and employability skills of graduates. The Pearson Correlation for Employability skills and Higher Education in Table 1 was $r = 0.135$. This indicates a significant correlation between Higher Education and Employability skills of the graduates. There was also a significant correlation between employability skills and the type of higher education institutions the graduates came from. This addresses the second research question on the important of higher education as a contributing factor to employability skills among the graduates.

TABLE 1

Correlation for employability skills

	Pearson Correlation for Employability Skills
Higher Education	0.135*
Type of HIE	0.134*
Academic Qualification	-0.001

45 per cent of the graduates were from public university and 55 per cent of the graduates were from private universities or colleges. All the graduates had minimum academic qualification of degree. The average employability skills scores for graduates from private higher education institutions (mean 3.85) were only slightly higher than the employability score of public university graduates (3.74) as shown in Table 1. There was no significance difference between mean scores for employability skill among graduates from private and public higher education institutions. The third research question concludes that there is no difference in the employability skills between graduates from public and private higher education institutions.

TABLE 2

T test of employability skills by type of education institutions

Type of HIE	Employability skills mean	T Test	df	P (2 tailed)
Public University (45%)	3.7424	-2.34	298	.02
Private University (55%)	3.8596			

Note: N = 300, employability skills the scale ranges from Poor (1- 2), Moderate (2.1- 3.9), Good (4-5)

The output shows that higher education was an important factor towards the development of employability skills of the graduates. Most of the graduates felt the higher education institutions should be responsible in helping them to develop the relevant skills and competencies needed in the job market. In further investigation on the three broad categories of employability skills, this research found that only intrapersonal skills had significant correlation with higher education. Intrapersonal skills in this research focused on communication skills, problem solving skills, analytical skills, motivation and time management. This clearly indicates that higher education does contribute towards the development of communication and analytical skills among the graduates.

TABLE 2

Intrapersonal skills of graduates

	Mean	Employability Skills Score	
		Minimum	Maximum
Communication	3.7220 (.79609)	1.80	5.00
Problem-solving	3.7037 (.50337)	2.67	5.00
Time Management	3.8544 (.57712)	2.33	5.00

Note: N = 300, Std. deviation are in parentheses

Employability skills score ranges from Poor (1- 2), Moderate (2.1- 3.9), Good (4-5)

The Intrapersonal skills category mainly focused on communication skills, motivation and attitude, problem solving and analytical skills. The graduates seem to have moderate capabilities in term of intrapersonal skills. The results of this analysis show that graduates are still not completely equipped with communication skills. Their average score for communication skills was 3.72. The lowest mean score was 1.80, which show that some graduates are still very poor in communications skills. The graduates' have moderate problem-solving skills (average mean of 3.70 out of 5). The lowest mean score was 2.67, which indicate that some of the graduates still need to improve on problem solving skills. Some of the graduates are also not fully motivated and are still having problems with time management.

5. DISCUSSION

The major responsibility on developing employability skills, addressing the mismatch and reducing graduate unemployment has always been pushed back to the higher education institutions. Malaysian employers and graduates indicated that higher education institutions need to change their quality of teaching to make graduates more employable. Employers are also urging

the higher education institutions to train the graduates with the relevant workplace skills and remove the subjects that are not relevant to the job market (UNESCO, 2012). Based on this understanding it can be concluded that the higher education institutions can help provide knowledge and enhance skills and competencies among their students.

The outcome of this research found that higher education institutions is an important contributor towards the development of some employability skills of the graduates . More significantly on the development of intrapersonal skills among graduates. Higher education institutions have a positive impact towards the graduate's ability to learn and adapt some of skills in certain subjects and assessments. Some of the soft skills that can be enhanced are communication skills, problem solving skills, analytical skills, ability to learn and adapt to changes, motivation and time management.

However there were two important findings, the first is that the graduates did not associate the development of ICT skills towards the learning experience from higher educations institutions. Most of the graduates felt that they were well equipped with ICT skills by their own initiative. The graduates are technology savvy and have learnt to use their ICT skills in their daily activities and personal lifestyle. The graduates felt that ICT skills development was influenced by the latest updates in digital and media technology in their everyday life. This has benefited the graduates to easily learn and adapt to new technology changes.

The second being higher education institutions has no correlation with development of interpersonal skills among the graduates. Interpersonal skills include leadership skills and teamwork. The graduates felt that higher education studies and experience did not contribute towards developing leadership skills and teamwork among themselves.

5. CONCLUSION

The graduates have clearly indicated that their years of study and experience in higher education institutions does contribute to the development of certain soft skills that may be useful for employment. But the graduates felt after spending 3 to 4 years in the degree program they are still not completely prepared for the job market. The demands in the job market and industry are constantly changing, therefore it is important for higher education institutions to improve and upgrade their curriculum that is constant with the needs of the employers and job market. The curriculum content and learning outcomes needs to be more relevant to industry and real-world scenario. However, the problem within most higher education institutions is that it takes time and effort to review and update curriculum contents and often changes in curriculum could affect the quality of education provided by the institutions.

Another suggestion to help students develop relevant skills and competencies is to make changes and improvements in the assessment method. The assessment method in the Malaysian education system is more focused on examination. This type of assessment only tests the individual's academic abilities and performance. Whereas the assessment in higher education institutions should encourage communication and expression of ideas or opinion, teamwork, and creativity. In developed countries like the United States, Australia, and Europe their education system focuses more on the competencies and skills of students. Their subject assessment is more focused more on projects, class presentations, assignments, case studies, short quizzes, group discussions, group work etc. The different type of assessment method can help the students gain knowledge of subject area and provide opportunity to develop some soft skills. In addition, using different type of assessment methods will help the students adapt to changes in different learning methods which will be helpful for them.

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**ESCALATION OF DARKNESS BY WHITE-COLLAR OFFENDERS:
A CASE STUDY OF ENVIRONMENTAL CRIME CONVENIENCE**

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ABSTRACT

Commitment to goals can escalate to such an extent that it encourages deviant behaviour even after detection of a crime. A case study illustrates how detection of environmental crime in one country led to environmental crime in another country. The Probo Koala tanker ship was to deliver another shipment of coker gasoline waste to the Ivory Coast, and her sister ship, Probo Emu, both owned by Trafigura, was preparing for the same journey. Trouble started when the illegal waste shipment was detected. Trafigura management quickly found an alternative destination for the waste, where an explosion harming local citizens occurred. The case of redirecting the tanker ship to Norway is studied as a dark project by application of convenience theory, which suggests that offenders have financial motives, organizational opportunities, as well as willingness for deviant behavior caused by escalating commitment to illegal behavior to reach goals such as getting rid of the hazardous waste.

***Keywords:* Escalation of commitment, deviant behavior, convenience theory, environmental crime, white-collar offender.**

1. INTRODUCTION

Escalation of commitment is defined as “decision-making in the face of negative feedback about prior resource allocations, uncertainty surrounding the likelihood of goal attainment, and choice about whether to continue” (Keil et al. 2007: p. 392). While escalation of commitment is a well-known phenomenon, many researchers have focused primarily on studying escalation behaviour in laboratory experiments, thereby studying the antecedents or causes of escalation of commitment (e.g. Biyalogorsky et al. 2006; Conlon & Garland 1993; Schmidt and Calantone 2002). Slesman et al. (2018) state that previous escalation literature focused largely on psychological and individual aspects with only a fraction of the literature highlighting contextual factors. This results in a poor understanding of the rich and complex dynamics underlying escalation behavior in organizations (Slesman et al. 2018).

As such, existing research offers little to explain how escalation behavior starts, intensifies, and sometimes, spirals out of control. With ‘out of control’ we refer to commitment to a project that drives project managers to intensify illegal behavior (Welsh et al. 2020), i.e. the dark side of organizational leadership (Linstead 2014). When time or costs turn out to be insufficient for the project, escalating unethical or illegal activities may occur in an attempt to attain the project’s goals (e.g. Locatelli et al. 2017; Schweitzer et al. 2004; Welsh et al. 2020).

In this article, we explore what can drive a project beyond the edge, that is: how commitment to a project, over time, can escalate to such a degree that the project engages in further unethical or illegal practices. To analyze this question, we focus on the extreme case of Vest Tank, a so-called dark project: a project that was illegal from the start (Gormley 2009; Gulating 2013, 2015; Maksimentsev & Maksimentseva 2020; Nordhordland 2010; Pedersen 2017).

The increased focus on sustainable development goals and environmental crime has made handling and disposal of waste more difficult and more expensive than ever before. The potential financial gains for bending the rules or concealing illegal dumping of waste can be substantial (Böhm 2020; Huisman & Erp, 2013; Lynch 2020). As such, this is the right context for examining dark projects. Examining such an extreme case allowed us to discover the dynamic drivers of illegal behaviour in dark projects. Based on convenience theory (Braaten & Vaughn 2019; Dearden & Gottschalk, 2020), we will discuss causes for engaging in illegal activities and examine how these causes interact and reinforce each other in system dynamics terms (Sterman 2000). Furthermore, we will propose how these three causes also can explain escalation of commitment in legitimate projects.

In the next sections, we will discuss our theoretical framework that is based on two streams of research, i.e. escalation of commitment and white-collar crime convenience. Then, the case study is described, followed by a case analysis. In the discussion we introduce a dynamic model explaining the drivers of unethical behavior and explain how these drivers interact so that they push a project over to the darker side. Finally, we present managerial and theoretical contributions.

2. ESCALATION OF COMMITMENT

In his seminal study on this phenomenon, Staw (1976: 29) describes escalation behaviour as a negative reinforcing process: “due to a need to justify prior behavior, a decision maker may increase their commitment in the face of negative consequences, and this higher level of commitment may, in turn, lead to further negative consequences”. Van de Ven and Poole (1990) find that negative outcomes in an innovation project predicted subsequent expansions of actions. Thus, instead of accepting an immediate loss and terminating the project, decision makers may

commit new and additional resources in terms of funds, personnel, or time to it. Once investors have made commitments to a project, they are inclined to reinvest later in order to “save” their initial investment (Van de Ven et al. 2008). This could lead to a costly circle of escalation (Staw & Ross 1978). In their meta-analytic review of the determinants of escalation of behavior, Sleesman et al. (2012) describe four sets of antecedents. Project determinants explain that the decision to escalate or de-escalate depends on the highest expected utility. The quality of information available to decision makers is such a project determinant. Biyalogorsky et al. (2006) argue that escalation is caused by the improper use of initial positive beliefs in the face of negative new information, and Keil et al. (2000) remark that negative project status information is sometimes not available or not attended to. Simester and Zhang (2010) describe three ways of responding to unfavorable information in escalation settings: distorting, discrediting, or simply not collecting information that may reveal unfavorable news. Uncertain, ambiguous, or simply the lack of information about the project may increase escalation. Psychological determinants are the second set of antecedents of escalation behavior.

Examples of these determinants are sunk costs, self-efficacy, ego threats, and personal responsibility for the initial decision (Sleesman, et al. 2012). Project managers who are personally responsible for negative outcomes are more inclined to increase investment in resources (Staw 1976). Schmidt and Calantone (2002) argue that managers who initiate a project report a higher level of commitment to it than do those who assume leadership after the start. Social determinants of escalation describe the involvement of other parties (evaluators, commentators, rivals, observers). Decision makers subject to outside evaluation are more likely to escalate in order to save face (Brockner et al. 1981; Sleesman et al. 2012). Finally, structural determinants of escalation describe the structural features of an organization and its interaction patterns. The

principal-agent perspective is part of this category, whereby managerial incentives to escalate diverge from the interests of the organization (Sleesman et al. 2012). This may occur especially in a context that is conducive to adverse selection, as when the manager has private knowledge and so can pursue a personal agenda.

Sleesman et al. (2012) concluded from their literature review of these four sets of determinants that a relative dearth exists of empirical studies examining social and structural determinants. Some years later, a follow-up study was published focusing on the role of context (Sleesman et al. 2018), in particular group, organizational, and external context. The group context captures factors like autonomy and authority. High levels of autonomy may increase escalation of commitment (Sleesman et al. 2018; Weick & Sutcliffe, 2003). Organizational context focuses on organizational factors that contribute to escalation behaviour, like decision making processes, organizational identity and culture, corporate governance, and incentives such as bonuses. Finally, the external context describes, for example, the stakeholder environment, and market and industry factors. Sleesman et al. (2018) conclude in their extensive review that escalation research has largely focused on a single context and that little research has explicitly examined the interaction of factors across these three contexts. In addition, besides mentioning how legal commitments may hamper the ability to terminate a project (Sleesman et al. 2018; Walker 2000) the role of illegal and/or unethical practices in escalation of commitment is not mentioned in this review.

Although criminal organizational practices, to the best of our knowledge, have not been analyzed in the context of escalation of commitment, goal-setting offers more insight into these practices. Goalsetting is often perceived in a positive light, meaning that high goals increase performance (Locke & Latham 2013). However, there is also some evidence suggesting that high goals can lead to unethical and criminal behaviour (Schweitzer et al. 2004; Simmons 2018; Welsh

& Ordonez, 2014; Welsh et al. 2019). Welsh et al. (2020) argue that this is not only because of rewards associated with goal attainment, but also because of changing moral reasoning processes related to the goal. As such, high goal commitment facilitates unethical behaviour by increasing not only the motivation to achieve the goal but also the motivation to justify doing so by any means necessary (Jonnergård et al. 2010). This is also known as state moral disengagement: a process through which individuals justify unethical behaviour (Moore 2015).

3. WHITE-COLLAR CRIME CONVENIENCE

Understanding unethical behaviour by business enterprises is an important part of research on criminal activities, where the theory of convenience is an emerging new perspective on white-collar crime (Braaten & Vaughn 2019; Chan & Gibbs 2020; Dearden & Gottschalk 2020; Gottschalk 2017, 2019, 2021). White-collar crime is a financial crime committed by individuals in privileged positions in business enterprises and public organizations (Sutherland 1983). White-collar crime is unlawful conduct that elites and the powerful commit without fear of coming into contact with the criminal justice system. White-collar offenders commit and conceal their crime in professional settings where they have legitimate access to premises, resources, and systems (Benson & Simpson 2018; Logan et al. 2019).

Convenience is the state of being able to proceed with something with little effort or difficulty thereby saving time and effort (Farquhar & Rowley 2009; Sundström & Radon 2015) and avoiding pain and strain (Engdahl 2015; Higgins 1997; Mai & Olsen 2016). Convenience is an advantage in favour of a specific action to the detriment of alternative actions. White-collar offenders choose the most convenient path to reach their goals (Wikstrom et al. 2018). The theory of convenience suggests that crime for illegitimate financial gain by white-collar offenders occur

because they have an economical motive to explore possibilities and avoid threats, an organizational opportunity to commit and conceal crime, and a personal willingness for deviant behavior (Gottschalk 2019; Sutherland 1983).

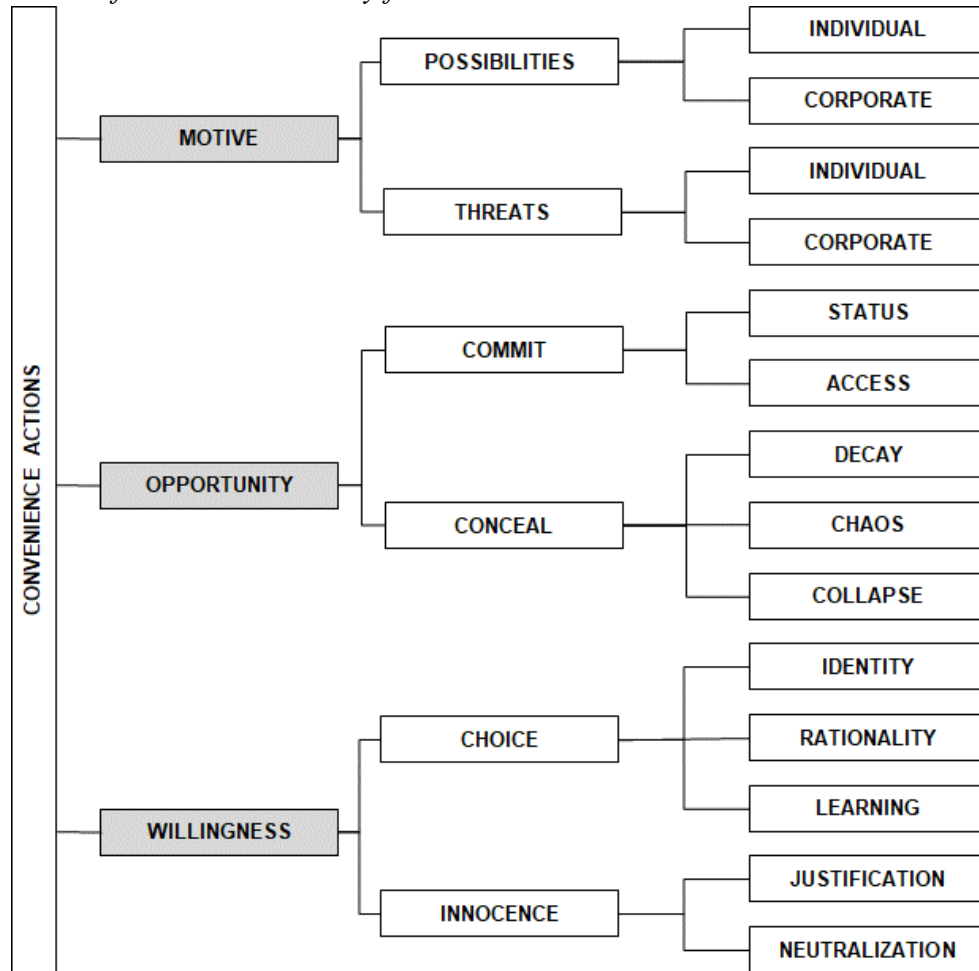
Possibilities for the corporation include reaching business objectives by ignoring whether or not means are legitimate or illegitimate (Campbell & Göritz 2014; Jonnergård et al. 2010; Kang & Thosuwanchot 2017). Ends simply justify means that might represent crime. It may be so important to have a bottom line in accounting that satisfies investors and others that crime emerges as potentially acceptable. Dodge (2009: 15) suggests that tough rivalry among executives makes them commit crime to attain goals: “The competitive environment generates pressures on the organization to violate the law in order to attain goals”.

The opportunity to commit and conceal crime in the organizational context depends on the lack of controls, oversight, and guardianship as well as the convenient access to crime resources as illustrated in Figure 1. Legitimate access to premises and systems (Benson & Simpson 2018), specialized access in routine activity (Cohen & Felson 1979), blame game by misleading attribution to others (Eberly et al. 2011), and institutional deterioration (Rodriguez et al. 2005) are some of the perspectives integrated in the opportunity dimension of convenience theory.

The personal willingness for deviant behaviour depends on both justification and neutralization as illustrated in Figure 1. A number of factors enhance willingness, such as narcissistic identification (Galvin et al. 2015), acceptable for the elite (Petrocelli et al. 2003), learning from others (Sutherland 1983), negative life events (Engdahl 2015), application of neutralization techniques (Sykes & Matza 1957), lack of self-control (Gottfredson and Hirschi 1990), and sliding on the slippery slope (Welsh et al. 2014).

FIGURE 1

Structural model of convenience theory for white-collar crime



4. ENVIRONMENTAL CRIME CASE STUDY

The Vest Tank case that is the subject of our analysis is a case about illegal waste disposal in Norway. Handling and disposal of waste has become more difficult and expensive due to the increased focus on sustainable development goals and environmental crime. As such, the potential financial gains for bending the rules or concealing illegal dumping of waste can be substantial. Environmental harm and crime has received increased attention in recent years (Böhm 2020; Huisman and Erp 2013; Lynch 2020). Traditionally, white-collar crime cases have focused on non-

violent financial crime. Recently, with increased environmentalism, researchers have focused on white-collar crime that can impose physical harm on people (Benson and Simpson 2018: 129):

These offenses are potentially much more serious in that they can and often do impose physical costs on individuals. This is not to say that the perpetrators deliberately set out to harm other people. They do not. The physical harms that they cause are unintended in the sense that they are not what the offender is trying to achieve. The motivation for the offense is not to impose harm on others but rather to gain a financial advantage.

For example, Wingerde and Lord (2020: 478) argue that the waste industry is a criminogenic industry that is vulnerable to environmental crime:

First, this concerns the waste product itself. Waste is a product that has a negative value attached to it (...). Second, the industry in itself also has some characteristics that are considered to be criminogenic.

However, few individuals face convictions for environmental crime. For example, after the British Petroleum (BP) Deepwater Horizon oil spill in the Gulf of Mexico in 2010, prosecutors brought criminal charges against four British Petroleum executives, but no one ended up in prison (Fowler 2014; Freeh 2013; Thompson 2017). Greife and Maume (2020) found that:

Despite recent attention to multi-billion dollar settlements for environmental violations involving high-profile offenders such as BP and VW, criminal sanctioning of individuals and organizations for environmental offenses is uncommon.

One exception is the conviction of both the chief executive officer and the chairperson of the board at Vest Tank in Norway, as well as a chemical advisor to the company, who received prison sentences for a tank explosion caused by dangerous waste (Gormley 2009; Gulating 2013, 2015; Nordhordland 2010; Pedersen 2017). Because going to prison is such a serious matter (Dhami

2007; Logan et al. 2019; Stadler et al. 2013), the case of Vest Tank falls into the category of dark projects. The project was concerned with getting rid of the dangerous waste after Trafigura was denied access to waste disposal at the usual site in Africa. The redirection of the Probo Emu tanker to Norway is considered the project, as described below.

The methodology applied in this case study is an archival review by content analysis of court documents (Gulating 2013, 2015; Nordhordland 2010), media reports (Gormley 2009; Knudssøn & Bakke 2009; NRK 2015; Oliver 2010; Pedersen 2017), and published research (Maksimentsev & Maksimentseva 2020). Content analysis is any methodology or procedure that works to identify characteristics within texts attempting to make valid inferences (Bell et al. 2018; Braaten & Vaughn 2019; Saunders et al. 2007). Content analysis assumes that language reflects both how people understand their surroundings and their cognitive processes (Krippendorff 1980; Patrucco et al. 2017). Therefore, content analysis makes it possible to identify and determine relevant issues in a context (McClelland et al. 2010).

5. ENVIRONMENTAL CRIME DESCRIPTION

The Probo Koala tanker ship was to deliver another shipment of coker gasoline waste to the Ivory Coast, and her sister ship, Probo Emu, both owned by Trafigura, was preparing for the same journey. Trouble started when the government of the Ivory Coast detected illegal waste disposal and threatened to take Trafigura to court for the illegal shipment of coker gasoline waste. The company was later prosecuted and charged for 16 lethal cases and over 100,000 claims of health problems as a result of harm caused by toxic pollution (Maksimentsev & Maksimentseva 2020: 286):

In order to bring the story to a close and release its executives detained in a local prison in expectation of host state court rulings on criminal charges, Trafigura concluded a

settlement deal, totaling 100b local francs, with host state government and local victims to pay 95b francs to civil victims and 5b francs to the Côte d'Ivoire state budget in reparation and compensatory payments, at that time an equivalent to approximately USD 198m; it also released its two top managers from the local jail after the deal was properly enacted on 12 February 2007 and countersigned by the government of Côte d'Ivoire. Also, in order to avoid proactive collective lawsuits from the extraterritorial legal attempts of 1,000 victims from the Abidjan community brought overseas to the London courts, Trafigura paid GBP 32m in an out-of-court settlement.

Courts not only in the Ivory Coast and the United Kingdom, but also in the Netherlands later considered Trafigura to be liable for deeply negligent pollution and damage to the safety of the living environment of the host state citizens. The courts found the damage to be a breach of security of industrial operations and transportation of oil products with a heavy impact on human health in Africa. Contact with toxic waste, spills and sludge remaining in the soil and water along oil-transportation pipelines and around onshore and offshore oil-processing sites were considered the responsibility of both Royal Dutch Shell and Trafigura (Maksimentsev & Maksimentseva 2020).

Rather than terminating their detected criminal activities after reactions and controversy in the West African state, Trafigura instead redirected the Probo Emu tanker ship to the tank facility Vest Tank in Norway (Knudssøn & Bakke 2009; NRK 2015; Oliver 2010). By not telling the whole story about the cargo to executives at Vest Tank in Norway, the waste was accepted and treated by desulphurization, since coker gasoline has low octane and high sulphur content (Gormley 2009).

Vest Tank was selected for two reasons. First, Vest Tank was a company specializing in

the receipt and treatment of wash water from the cleaning of empty tanks on oil tankers. The company held the required environmental permits for such activities. For Trafigura, Vest Tank in Norway was in a related business that they could contact when they had trouble. For Vest Tank, Trafigura had a waste disposal problem where Vest Tank could make a profit from cleaning it. Vest Tank had entered into an agreement with Trafigura in 2006 to clean wash water from Trafigura's oil tankers. Thus, there was already a business relationship between the two companies. When Trafigura had a different waste disposal problem, Vest Tank was willing to solve that problem for their customer as well. Six Trafigura vessels arrived with coker gasoline at Vest Tank before the explosion occurred (Knudssøn & Bakke 2009; Pedersen 2017).

The illegal chemical process at Vest Tank started with water and caustic soda being added to the gasoline. Sulfur and some other impurities bind to the caustic soda and precipitate. The mixture is then allowed to stand and separate, and the gasoline that settles on top can be drained. However, some explosive residuals from the coker gasoline accumulated at the bottom of the tank. An attempt was made to neutralize the bottom layer by adding hydrochloric acid. This caused a flammable gas to form, which was ignited by a spark from a coal filter. The pressure from the explosion also caused the neighboring tank to burst, and the waste stored in it flowed down to the explosion site and burned up there. The fire caused a large cloud of poison that spread along the fjord in several directions. The cloud reached the village of Eivindvik three hours after the explosion. Two weeks later, it was discovered that a large proportion of Eivindvik's one thousand inhabitants were inflicted with disease. Some people developed migraine and other forms of headaches, while others suffered from nausea and vomiting (NRK 2015).

The dark project of illegal waste disposal caused public outrage after the explosion at Vest Tank in Norway. Both the chairperson and the chief executive at Vest Tank as defendants received

prison sentences in Norwegian courts (Gulating 2013, 2015; Nordhordland 2010). The commodity trading and logistics company Trafigura avoided the criminal justice system. While Vest Tank white-collar offenders were sentenced to prison in Norway, Trafigura white-collar offenders in the Ivory Coast were released from custody in a settlement deal as explained earlier. Trafigura as a company had to pay fines in the UK, the Netherlands, and the Ivory Coast, but there were never any convictions of Trafigura executives to the best of our knowledge. Trafigura did not stop or alter their waste disposal business, but instead introduced corporate structures with responsibility for potential wrongdoings in local subsidiaries in Africa.

6. ENVIRONMENTAL CRIME ANALYSIS

We apply the structural model of convenience theory shown in Figure 1 to examine Trafigura's motive, opportunity, and willingness in Figure 2 (dark grey boxes). There was a threat to the corporation of not getting rid of the dangerous waste that caused strain, pain, and uncertainty (Langton & Piquero 2007). Surprisingly often, environmental crime and other forms of corporate crime are not caused by the well-known phenomenon of greed (Goldstraw-White 2012). Rather, avoidance of corporate problems is more common (Blickle et al. 2016), as well as adaption to criminal market forces (Leonard & Weber 1970) and required cooperation with criminal networks and cartels (Goncharov & Peter 2019).

Maksimantsev and Maksimantseva (2020: 285) suggest that executives at Trafigura made a rational judgment to avoid risks of liability in the future by transferring responsibility to local actors in Africa:

The rational judgment from the headquarters was to thus avoid risks related to physical participation in local subsoil use and the environmental impact of criminal extracting and

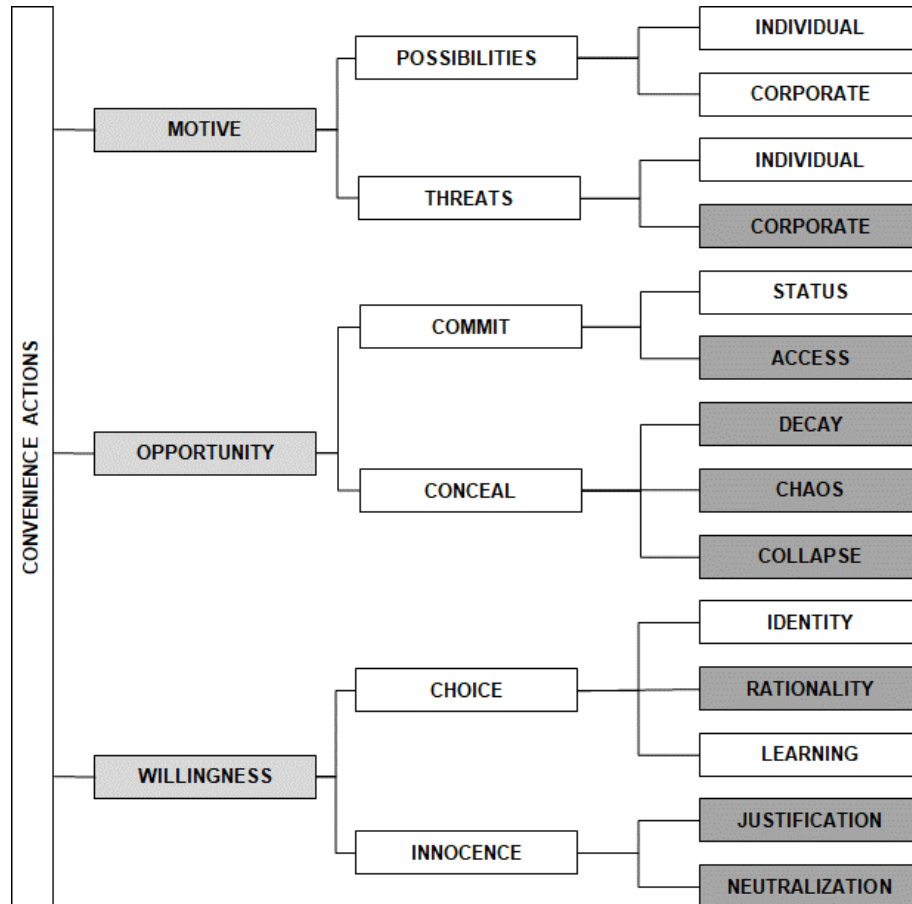
mining operations. This would leave any trouble from host state jurisdictions to locally incorporated special-purpose vehicles (subsidiaries and affiliates), thus anticipating that the corruption and low competencies of local (host state) public officers, prosecution, courts and enforcement agents would limit or mitigate any potential risk and negative impact of environmental crime of transnational corporations, with minimum or no material impact on mother companies, allowing them thus, according to Riley, to ‘evade the risk of liability’.

Trafigura obviously considered it a rational choice to have operations through host state affiliates and subsidiaries under transnational companies holding corporate control. Similarly, they found it convenient to have a shipment destined for Vest Tank.

In the dimension of organizational opportunity of convenience theory, executives at Trafigura had opportunities both to commit and to conceal crime. They created opportunity by entrepreneurship (Ramoglou & Tsang 2016), and they had specialized access in routine activity (Cohen & Felson 1979) to commit crime. They created opportunity by institutional deterioration based on legitimacy (Rodriguez et al. 2005), lack of control in principal-agent relationships (Bosse & Phillips 2016), and rule complexity preventing compliance (Lehman et al. 2020) to conceal crime.

FIGURE 2

Convenience themes in the Trafigura case



Redirecting dangerous waste to a facility that had no state approval for handling it was a rational choice in the motive dimension as well as in the behavioural dimension of convenience theory (Pratt & Cullen 2005). Executives at Trafigura could neutralize their potential guilt by claiming a dilemma had to be solved. Offenders can argue that a dilemma arose whereby they made a reasonable trade-off before committing the act (Schnatterly et al. 2018). Therefore, trade-offs between many interests resulted in the offense. Dilemma represents a state of mind where it is not obvious what is right and what is wrong to do. For example, the offense might be carried out to prevent a more serious offense from happening, such as dumping the toxic waste in the ocean.

Executives might also slide further down the slippery slope, where they had already left the right side for the wrong side of the law (Welsh et al. 2014) while suffering from lack of self-control (Gottfredson & Hirschi 1990).

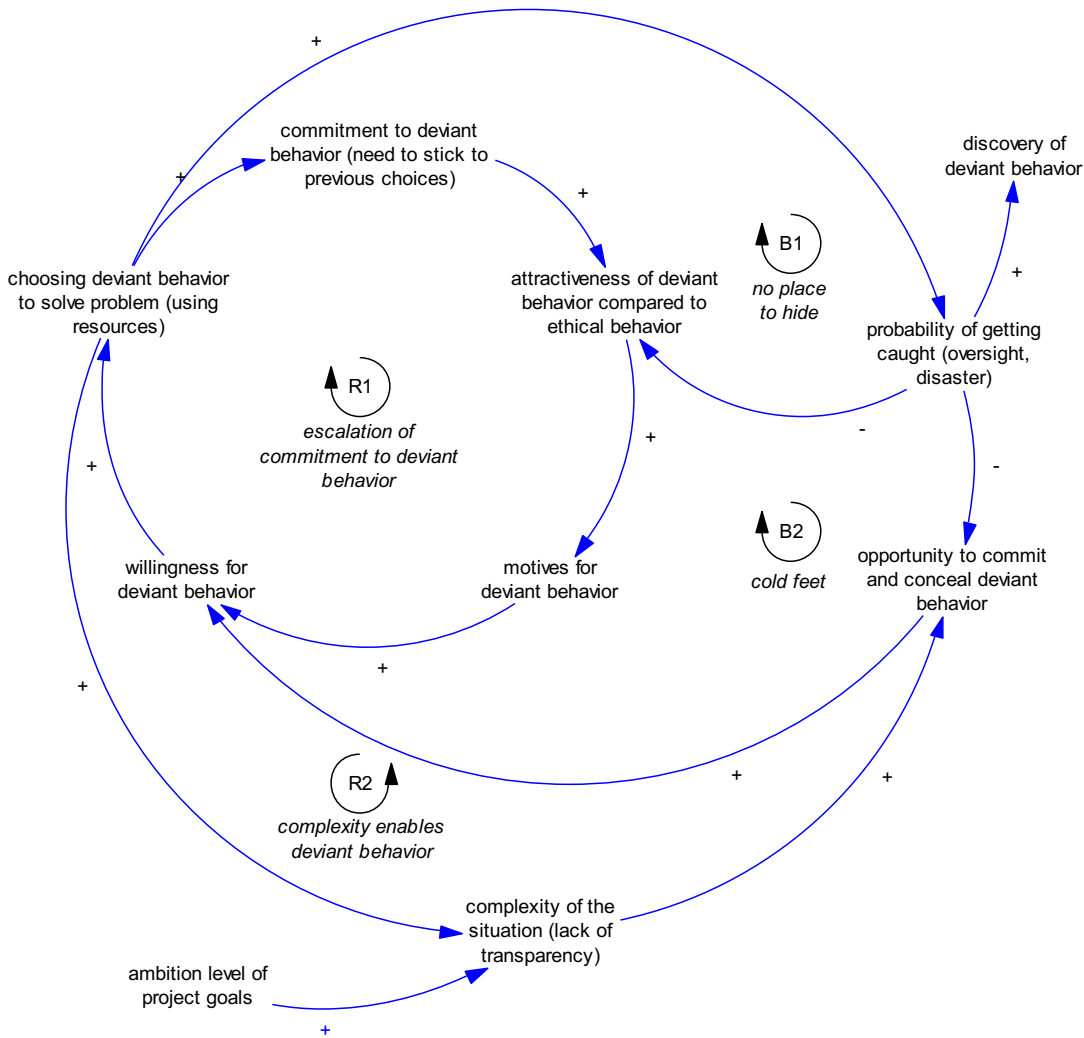
7. DISCUSSION

Convenience theory explains why people choose deviant behaviour over normal (legal, ethical) behaviour. While the theory explains that deviant behaviour is caused by motive, opportunity, and willingness, the theory is still developing regarding interactions and interdependencies between all three determinants. To analyze how these three determinants may interact over time, we have developed a causal loop diagram, inspired by the Vest Tank case as well as convenience dynamics suggested by Gottschalk (2021). In developing the causal loop diagram, we applied the theoretical perspectives of commitment escalation and crime convenience. The causal loop diagram is depicted in Figure 3.

Starting below in the causal loop diagram, organizations set goals for projects. (Note that we focus on projects and the effect project goals can have on project managers. But goals can of course also be used for departments, groups, or processes, which will influence the behaviour of department, group, or process managers. The more ambitious these goals are, the more difficult they are to realize. As such, the ambition level of goals positively influences the complexity of the situation project managers need to deal with. Complex situations are often characterized by a lack of visibility or transparency (Skilton & Robinson 2009; Sterman 2000).

FIGURE 3

Conceptual model of the convenience theory¹



The situation may be ambiguous; information may be distorted or not readily accessible or observable to every stakeholder in the project. Such a lack of transparency, however, creates

¹ The arrows in a causal loop diagram indicate a causal relationship. A positive causal relationship indicates that cause and effect behave in similar directions: when the cause increases (or decreases) the effect increases (or decreases). A negative causal relationship means that cause and effect behave in opposite directions: when the cause increases (or decreases) the effect decreases (or increases). Feedback loops can be either balancing (B) or reinforcing (R). Balancing loops are self-stabilizing, they bring equilibrium to the system. Reinforcing loops are amplifying, they spiral out of control. These loops are also known as vicious or virtuous cycles.

opportunities to conceal certain activities, since it is hard for people to understand and evaluate what is going on in those situations. For example, a project manager may deliberately choose to hide negative information about the project or twist the information to the project's advantage without the steering committee or the project owner noticing this. The opportunity for concealing "evidence" positively influences the willingness of the project manager to actually do so. This willingness is also impacted by the motives for deviant behaviour. Motives can be diverse, but they are affected by the attractiveness of deviant behaviour compared to normal, ethical behaviour.

There may be personal financial incentives involved for getting the project to the finish line or a promotion after the project's completion. If, by bending the rules a little, these incentives are easier to reach, one may not be able to resist temptation and actually opt for the deviant behaviour to solve a problem, similar to the state of moral disengagement described by Moore (2015). This is a dangerous choice, because it is likely to start a path dependency, or commitment to this kind of behaviour. Once the rules are bent, it is more difficult to go back to normal because this may require a confession of the crime of deviant behaviour. Commitment to the path chosen leads to an increased attractiveness of deviant behaviour, which increases the motives for a continuation of this behaviour even more, thereby continuing down the slippery slope (Welsh et al. 2014). We have now described the first loop in our causal loop diagram: the reinforcing loop of *escalation of commitment to deviant behaviour*. The loop is reinforcing because it amplifies itself, it is a vicious cycle that may spiral out of control (if nothing else happens to stop this behaviour).

A side-effect of actually choosing deviant behaviour in a given situation is that the entire situation gets even more complex. The project manager now needs to manage two worlds in one project: the world that everyone is allowed to see and know about and the secret world where the

deviant behaviour is hidden. This does not make the situation more transparent, and it may actually make it easier to continue with this kind of behaviour. The two worlds make it even more difficult for steering committees or other stakeholders to understand what is going on and as such the opportunity for concealing deviant behaviour increases. Now we have a second reinforcing loop of *complexity enabling deviant behaviour*.

Although a lot of crime or unethical behaviour in projects may remain undiscovered forever, a large number will be discovered eventually. “Limits to growth” is a well-known archetype in system dynamics (Senge 1990) that describes that the growth, represented by reinforcing loops in a system cannot continue forever. Systems reach their limits. These limits are formed by balancing feedback loops. These balancing loops either put a stop to the growth or they may even turn the growth around and cause a decline of behaviour. Previously, we discussed that the more often someone bends or breaks a rule and selects deviant behaviour, the more complex and the less transparent the situation becomes. But at the same time also more and more people, stakeholders, governance systems etc. are affected. The probability that eventually someone starts to notice something strange or that a warning signal turns red will increase over time. As such, the probability of getting caught increases. When this happens, the attractiveness of deviant behaviour is reduced, which in turn decreases the motives for this kind of behaviour. We have labelled this the balancing loop of *no place to hide*. The probability of getting caught also reduces the opportunity for concealing deviant behaviour, which lowers the willingness for this behaviour. We call this the balancing loop of *cold feet*.

Together, these two balancing loops can either force the project manager (or the offender of a crime) to choose legal, normal behaviour over deviant behaviour, or to come clean and confess to a crime committed. When this happens early in the project, the project and the project manager

may still be spared from disaster. Later in the project, it is more likely that crime is discovered by someone else, which probably puts an immediate stop to the project and the project manager's career. This is what happened in the Vest Tank case when the project literally exploded and revealed the crime committed.

8. CONCLUSION

This paper used the example of a waste disposal project to illustrate the relationship between core dimensions of convenience theory and thereby explain the dynamics that can lead to a self-reinforcing cycle in terms of an escalation of deviant behaviour. It has highlighted mechanisms that can spiral criminal behaviour. The extension to convenience theory and its connection with escalation of commitment is a conceptual contribution to the field of dark projects. Our contribution is in line with previous research on escalation of commitment, dynamics, and self-reinforcing processes by Alvarez et al. (2011), Fleming and Zyglidopoulos (2008), Hällgren (2007), Stingl and Geraldi (2017), and Vaughan (1996). Some researchers make a distinction between commitment toward a task and commitment toward behaviour, which might be explored in future research. One line of research is concerned with escalation of commitment by normalization of deviant behaviour (Fleming & Zyglidopoulos 2008; Jenkins & Delbridge 2017; Pinto 2014; Vaughan 1996).

The combination of motive, opportunity, and willingness for deviant behaviour may drive people to select unethical/illegal activities over ethical/legal activities. The reinforcing loops described in our causal loop diagram in Figure 3 suggest how deviant behaviour reinforces itself. There is escalation of commitment to deviant behaviour: once you have chosen to go to the dark side, it is very hard to go back. The causal loop diagram can also be used to explain decision

making in projects that do not literally go to the dark side, but nevertheless are running out of control. In these projects, a project manager may have the motive, opportunity and willingness to hide some negative information about the project and to paint a more positive picture of the project to the steering committee. When the steering committee then approves and supports the continuation of the project, it will be more difficult for the project manager to reveal this negative information at a later stage and easier to continue hiding it. As such, our causal loop diagram suggests how escalation of commitment to a certain kind of behaviour can lead to projects spiralling out of control. Escalation of commitment *to behaviour* is different from escalation of commitment *to a project*, although the results may be the same. Therefore, our findings point to a new avenue for research on escalation of commitment. By combining contextual factors of escalation of commitment (group, organization, external contexts), as suggested by Sleesman et al. (2018), goal-setting addition that explains that deviant behaviour can be triggered when goals are (too) ambitious (Welsh et al. 2020), and finally the three elements of the theory of convenience (motive, opportunity, and willingness, as described by Gottschalk 2017, 2019, 2021), we show how commitment to deviant behaviour can escalate. We also described two ways to break the escalation cycle. An offender may eventually realize that one has pushed the boundaries too far and that there is no way to continue with deviant behaviour without getting caught. This reduces opportunity and willingness for deviant behaviour. Also, the attractiveness of deviant behaviour compared to legal/ethical behaviour decreases and that will negatively impact the motivation for deviancy. If it is not too late, this realization may stop deviant behaviour in favour of legal/ethical behaviour. But if it is too late, deviant behaviour will be discovered and offenders will probably get caught.

In addition, our causal loop diagram shows that escalation is not a one-time event. It is a

dynamic process that grows over time. The majority of previous research on escalation of commitment has focused on determinants or antecedents, but not so much on the interrelations between determinants and how they can reinforce each other (Sleesman et al. 2018). In fact, our diagram proposes that one can get stuck in a path of deviant behaviour down the slippery slope (Welsh et al. 2014).

Our findings also help explain the “sweet spot” in the relationship between motivation and performance that is mentioned in goal-setting research. Ambitious goals increase motivation and as such performance, but goals that are too ambitious may enable state moral disengagement (Welsh et al. 2020). Our model in Figure 3 suggests that when it is not possible to lower the ambition level of goals, deviant behaviour can still be avoided when the opportunities for this behaviour are reduced. This can be done by increasing governance mechanisms or by removing incentives that increase motivation for deviant behaviour. As such, our model contributes to the call for more research on the dynamics between motivation and performance (Welsh et al. 2020).

Finally, our findings also contribute to the convenience theory. This theory explains that motive, opportunity, and willingness cause deviant behaviour (Gottschalk 2017, 2019, 2021). But, it is uncertain whether these three determinants are required at the same time and if interdependencies exist between them. Our causal loop diagram in Figure 3 proposes that motive, opportunity, and willingness are interconnected in such a way that they can reinforce each other, which creates an escalation of commitment to deviant behaviour. This dynamic perspective contributes to the theory of convenience.

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**RECOVERY OF NON-PERFORMING ASSETS
THROUGH DEBT RECOVERY CHANNELS IN INDIAN BANKS – AN
ANALYSIS**

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ABSTRACT

Non-Performing Assets (NPAs) are increasing day by day which is creating big problems, not only to financial sector i.e. Bank/NBFCs, but also for other industries. The problem of NPAs has shaken the entire Indian Banking Sector and they should be reduced and controlled. This paper assessed the performance of various legal measures taken for recovery of NPA's. The various legal channels through which the banks trying their best to recover NPA's, are Lok Adalat, Debt Recovery Tribunals (DRTs) and SARFAESI Act. Recently the Government of India announced for set up a separate bank, titled BAD BANK to ease the situation. The study derived the conclusion that there is significant difference among the number of cases referred to the recovery mechanism and significant difference in respect of percentage of amount recovered through various channels. The study also derived the conclusion that overall recovery mechanism in the banking industry is quite poor.

***Key Words* : Lok Adalat, Debt Recovery Tribunals (DRTs) , SARFAESI Act.**

1. THE PROBLEM

Non-Performing Assets (NPAs) are increasing day by day which is creating big problems not only to financial sector *i.e.* Bank/NBFCs but also for other industries. Increase in NPAs is directly creating its impact on the financial performance of the banks. Consistent fund requirements and increasing defaulter rate is resulting to higher NPAs and growing interest expenses have put pressure on the bank's profitability. NPAs are not generating income for the banks, however affects the profitability, liquidity and competitiveness of the banks. The impact is not only on the banks, but it also affects the whole economy as well. The bank should stop it at the time of credit appraisal rather than try to recover it after it becomes NPAs. The mass level drive of privatization of public sector banks is at highest level of government agenda. The problem of recovery has reached at that extent where the government forcefully decided to set up separate bank in the name of BAD BANK in the Budget announcement of 2021-22 just to ease the ever rising problem of NPAs.

2. INTRODUCTION

Timely payment of interest and principal is necessary for the health of the banking business. Default in payment of interest and principal will create a serious problem for the bank. The rising of NPA is setback to the banks and they can be on a back foot if proper recovery system is not developed and steps in line to its recovery may not be taken. Hence the objective stating the types and effect of NPAs stands clear that it can produce shocks to both banks and economy because the rising defaulter rate should be controlled by way of efficient recovery system (*Bhadoriya Gupta, and Sood 2019*). The concept of NPAs comes to existence when the loan amount is not recovered

according to contract. The NPAs is an asset which ceases to generate income for the banks. For the first time in 1991, The Narashimham Committee (Committee on financial system reforms, 1991) introduced the concept of NPAs. A NPA is a loan or advances for which the principal or interest payment remains overdue for a period of 90 days. Thus, according to Reserve Bank of India, NPA is an asset. A leased asset becomes non-performing when it ceases to generate income for the bank. In India, on the basis of repayment status, assets of a bank are classified into four categories. These are standard asset, substandard asset, doubtful asset and loss asset. The problem arises day by day due to increasing amount of NPA. The impact of ownership pattern in deciding the level of NPAs is investigated against the perception that public sector banks have a relatively larger level of NPAs. But no strong empirical evidence is found in support of this perception (*Ombir and Bansal 2016*). To reduce the cost on NPAs, banks should improve their credit appraisal system rather than to recover it after it becomes NPAs. Since rising NPA is comparatively higher in Public Sector Banks as compared in Private Sector Bank, the government should take strategic plans to reduce the NPA burden (*Singh 2016*). Timely and prompt corrective measures and necessary action should be taken to control it. As the proverb says, Prevention is Better than cure” (*Gadhia 2018*)

3. REVIEW OF LITERATURE

Public sector banks are affected to a larger degree than private sector banks by the problem of NPAs and the increasing level of NPAs adversely affects the profitability of the banks in India, (*Kashyap and Bansal 2020*). The level of NPAs is higher in Public Sector Banks compared with Private Sector Banks. Focused causes, level of NPA and controlling measures were analyzed and it was suggested that the root of the issue of rising NPAs lies in the nature of overseeing credit

chance by the banks and willful defaulters (*Vikram and Gayathri* 2018). The extent of NPAs is comparatively more in public sector banks as compared to private sector banks. It is because public sector banks are more influenced by the government interventionst. The government is taking many steps to reduce the problem of NPAs but banks should also have to be more proactive to adopt a structured NPAs policy to prevent the NPAs and should follow stringent measures for its recovery (*Mittal and Suneja* 2017). The recovery mechanism of NPAs with its three important wings *i.e.* recovery through Lok Adalat, Debt Recovery Tribunals (DRTs) and Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act (SARFASEI) and its impact on NPA covering the years from 2003-04 to 2016-17. The overall recovery mechanism in banking industry is very poor. Among the three wings recovery through DRTs is better than other two (*Dey* 2018). The overall NPA position in the Indian Banking System is deteriorating over the years. There is a negative high correlation between GPA and NP, the profit gradually decreases as the GNPA grows. In case of most of the banks' profit has reduced considerably. Some of the banks have incurred losses too (*Roy and Samanta* 2021). There was a moderate relationship between Gross NPA and Net profit of the syndicate bank and it was also found no significant difference between sector wise NPA (*Shiralashetti Poojari* 2016),

4. OBJECTIVES OF THE STUDY

The followings are main objectives of the present study

1. To study the status of Non-Performing Assets of Indian Scheduled Commercial Banks in India
- 2 To know about recovery channels for NPAs
- 3.To observe most commonly used recovery methods in selected banks.

4 To identify the impact of implementation of these recovery channels

5 To measure the importance of recovery channels in terms of recovery

6.To suggest better improvement in recovery performance of selected banks

4.1 Research Question

The research questions drafted for this study are based on the specific objectives of the study, specified as follows;

1.What is and what should be the role and process of various channels through which the banks recover NPA's, such as Lok Adalat, Debt Recovery Tribunals (DRTs) and SARFAESHI Act. ?

2. What has been the performance of various channels through which the banks recover NPA's, during period of study, i.e. 2010-2019 ?

4.2 Limitations

Though the problem of NPAs facing by schedule Commercial Banks is quite old. But the present study has been conducted to identify and confirm the recovery aspects in scheduled commercial banks in India. The data used in the present analysis is confined to the period between 2010 to 2019 only.

4.3 Research Methodology

For the present study, we have considered NPAs in Scheduled Commercial Banks which includes public sector banks, private sector banks and foreign banks which are listed in the Second Schedule of the Reserve Bank of India Act, 1934. The study is based on secondary data. The study discusses

the conceptual framework of NPAs and it also highlights the trends, status and impact of NPAs on scheduled commercial banks during the period of ten years i.e. from 2010 to 2019. Several reputed research journals, research papers and articles have been used by the researchers. Moreover, RBI Report on Trend and Progress of Banking in India for various years, websites and a book on banking has been referred during the study.

Efficiency of various recovery channels available for the recovery of NPAs are measured and relatively compared with the amount of NPAs to know the effectiveness of the recovery channel. The general rule accepted worldwide is that a recovery measure is efficient if it enables recovery of more NPA in comparison to other measures. Also, a higher recovery as a percentage to Gross NPA. Net NPA is considered an indication of efficiency of recovery management.

4.4 Research Hypothesis

HO : There is no significant difference between NPA recovery through Lok Adalat, Debt Recovery Tribunals and SARFAESI Act.

H1 : There is a significant difference between NPA recovery through Lok Adalat, Debt Recovery Tribunals and SARFAESI Act.

5. RECOVERY CHANNELS

Some measures are designed to maximize the NPAs recoveries in Indian banking. The Central government and RBI have taken steps for controlling incidence of fresh NPAs and creating legal and regulatory environment to facilitate the recovery of existing NPAs of banks.

There are mainly three recovery channels through which the banks recover NPAs. In India, all schedule commercial Banks facing the problem of recovery of dues adopt a two-way recovery mechanism *viz.*, legal and non-legal. This paper analyses the recovery mechanism of NPAs with its three important wings *i.e.* recovery through Lok Adalat, DRTs and SARFAESI Act.

5.1 Lok Adalat

The Lok Adalat is one among the choice dispute redressed mechanisms founded by the government. It is a forum where disputes or cases pending within the court of law or at pre-litigation stage are settled mutually. Lok Adalats are given statutory status under the Legal Services Authorities Act, 1987. Under the said Act, the choice made by the Lok Adalats is deemed to be a decree of a civil court and is final and binding on all parties and no appeal against such a decision lies before any court of law.

If the parties do not seem to be satisfied with the award of the Lok Adalat, though there is no provision for an appeal against such a request, they will initiate litigation by approaching the suitable court by filing a case by following the desired procedure exercising their right to litigation. The jurisdiction of the Lok Adalats is in cases/disputes of above 10 lakh rupees in value.

The persons deciding the cases within the Lok Adalats are called the Members of the Lok Adalats and that they have the role of statutory conciliators only and don't have any judicial role. Therefore, they'll only persuade the parties to come back to a conclusion for settling the dispute outside the court within the Lok Adalat and shall not pressurize or coerce any of the parties to compromise or settle cases or matters either directly or indirectly.

The Lok Adalat cannot decide the matter brought up it on its own but instead it has to selected the premise of the compromise or settlement between the parties. The members shall assist the parties in independent and impartial manner in their try and reach amicable settlement of their dispute. Mobile Lok Adalats are recognized in various parts of the country which travel from one location to different to resolve disputes so as to facilitate the resolution of disputes through this mechanism.

5.2 Debt Recovery Tribunals

Banks and Financial Institutions are facing a very strange problem of recovering loans which they have sanctioned to any individual or business organization. Because of the aforementioned reasons, the banks and financial institutions has been restraining themselves from sanctioning fresh loans. This concern motivated for establishment of DRTs following the passing of the recovery of debt due to Banks and Financial Institutions Act (RDDBFI), 1993. DRTs effectively facilitate recovery of loan amounts which banks and financial institutions have given to their customers.

The primary goal and function of DRTs is to recover due amount of loans from their borrowers which is owned to Bank and Financial Institutions. The power of the tribunal is restricted to settling the cases concerning the recovery of the due amount of NPAs, affirmed by the banks as per the RBI guidelines. DRT is presided over by a presiding officer who is appointed by the Central Government and who shall be qualified to a District Judge. Under article 226 and 227 of the Indian Constitution, The Supreme Court and the High Courts have jurisdiction over this matter. No other courts have jurisdiction over this matter.

The Tribunal has the power bestowed with the District Court. DRTs are fully empowered to pass comprehensive order and can travel beyond the Civil procedure Code to render complete justice. DRTs cannot hear claims of damage or deficiency of services or breach of contract or criminal negligence on the part of the lender. DRTs cannot express an opinion beyond its domain or the list pending before it. DRTs can appoint Receivers, Commissioners, pass ex-parte order, ad-interim order. DRTs can review their own decision and hear appeals against order passed by the Recovery Officers of the Tribunal. DRTs can review their own decisions and hear appeals against order passed by the Recovery Officers of the Tribunal. DRTs can hear cross suits, counter claims and allow set off.

For debt less than 10,00,000, suit in civil courts may be initiated. Only Banks and Financial Institutions (which later includes Public Financial Institutions & Securitization company / Reconstruction company) can file original application for recovery of Debts. No other type of application is entertained by DRTs.

Looking to the number of cases increasing, the number of DRTs are not sufficient given the increasing number of cases. Further, the time taken by DRTs in settling cases is too long. DRTs are not able to handle cases related to large borrowers.

The debt recovery appellate tribunals were set up in five places in India, they are; Mumbai, Allahabad, Delhi, Chennai and Kolkata, and the debt recovery tribunals were set up in twenty-three places in India. The total numbers of tribunals at present are thirty-eight.

5.3 Securitization and Reconstruction of Financial Assets And Enforcement of Security Interest Act, 2002 (SARFAESI)

Application of SARFAESI Act & Security Interest Enforcement Rules 2002 process the of recovery of the loans in case of default/non-payment/non-performing assets. The provisions of this Act are applicable only for NPA loans with outstanding above. The Act facilitates to realize long term assets, deals with problem of liquidity and asset liability mismatches and to improve recovery by exercising power to take possession of securities. Enforcement action under SARFAESI Act can be initiated where the account becomes NPA. As per the definition provided in the Act, an account will be treated as NPA when it is classified in the books of the secured creditor as such. Under Section 13(2) in SARFAESI Act, 2002 where any borrower who is under a liability to a secured creditor under a security agreement makes any default in repayment of secured debt or any installment thereof, will have their account in respect of such debt classified by the secured creditor as non-performing asset. Then, the secured creditor may require the borrower by notice in writing to discharge in full his liabilities to the secured creditor within sixty days from the date of notice failing which the secured creditor shall be entitled to exercise all or any of the rights under sub-section (4). The secured creditor need not to wait until the same is reported as NPA in the books.

The Act empowers the Bank to issue demand notice to the defaulting borrower and guarantor, calling upon them to discharge their dues in full within sixty days from the date of the notice. According to provision of the Act, in case the corporate borrower default loans for 180 days, the Banks/FIs can intimate the borrower for the repayment by issuing a notice. To give notice to any person who has acquired any of the secured assets from the borrower to surrender the same to the Bank. Banks/FIs are empowered to proceed with acquisition of assets in sixty days from the non-

repayments after the issue of the notice. Further, the Bank/FIs can proceed to issue a possession notice under section 13(4) of the Act., after which it will proceed to take physical possession of the property under the provision of Section 14 of the Act by the District Magistrate. The court appoints an Advocate Commissioner for this purpose, who will take the physical possession of the assets along with Bank official. After completion of the aforesaid process, the Bank will proceed to dispose of the property/secured interest. It is supposed that while doing so, the Bank will strictly comply with the provisions of the Act. The SARFAESI Act essentially empowers banks and other financial institutions to directly auction residential or commercial properties that have been pledged with them to recover loans from borrowers.

Co-operative banks initially were not covered under the definition of banks for which the SARFAESI Act was applicable. Cooperative banks established under a State law or multi-State level societies come within the ambit of the SARFAESI Act of 2002. The government also extended the SARFAESI Act to loans advanced by regional rural banks (RRBs). Under the Act, the lending bank can take over the assets of the defaulting borrower. The government doubled the pecuniary limit to Rs 20 lakh for filing loan recovery application in the DRT by banks and financial institutions. Over the same period, their NPAs reduced by Rs 2,57,980 crore due to recoveries.

The SARFAESI Act provides stringent powers to the Banks and Financial Institutions whereby, the secured asset of the borrower is auctioned without the intervention of the DRT. Whereas, the RDB Act provides the whole judicial proceeding before the DRT and the Debt Recovery Appellate Tribunal.

5.4 Asset Reconstruction Company (ARC)

This empowerment encouraged the three major players in Indian banking system, namely, State Bank of India (SBI), ICICI Bank Limited (ICICI) and IDBI Bank Limited (IDBI) to come together to set-up the first ARC. Arcil was incorporated as a public limited company on February 11, 2002 and obtained its certificate of commencement of business on May 7, 2003. In pursuance of Section 3 of the Securitization Act 2002, it holds a certificate of registration dated August 29, 2003, issued by the Reserve Bank of India (RBI) and operates under powers conferred under the Securitization Act, 2002. Arcil is also a "financial institution" within the meaning of Section 2 (h) (ia) of the Recovery of Debts due to Banks and Financial Institutions Act, 1993 (the "DRT Act"). Arcil is the first ARC in the country to commence business of resolution of non-performing assets (NPAs) upon acquisition from Indian banks and financial institutions. As the first ARC, Arcil has played a pioneering role in setting standards for the industry in India.

6. ANALYSIS OF RECOVERY OF NPAS

Scheduled commercial Banks in India have been making all efforts to reduce their non-performing assets through various legal channels like resolutions through Lok Adalats, DRTs and invoking SARFAESI Act.

Table 1 disclose the fact that the number of cases referred to Lok Adalat between 2010 to 2019 compared to two other channels was quite large. It is the largest among other channels in terms of number of cases dealt for recovery of NPA. In ten years between 2010 to 2019, total number cases referred to Lok Adalat were 2.19 crores, ASCBs were able to recover Rs.641 crore through Lok Adalat, which represent almost 4 per cent of the total amount involved Rs. 26916

crore. On the whole, Table 1 shows a fluctuating trend and the average recovery rate of ASCBs through Lok Adalat during the study period, i.e., from 2010 to 2019 was 3.79 per cent. It is evident that the recovery rate through Lok Adalat is too feeble during the period selected for study. The low level of recovery rate may be because case referred to this channel were large in number

TABLE 1

Recovery of NPA Through Lok Adalats From ACBs from 2010-2019

Year (End March) (1)	Number of Cases Referred (2)	Amount Involves (Rs. In Crore) (3)	Amount Recovered Rs. In Crore (4)	Recovery Rate (in % 3/4)
2010	778833	7235	112	2
2011	616018	5300	200	4
2012	476073	1700	200	12
2013	84061	66	4	6
2014	1636957	232	14	6
2015	2958313	310	10	3
2016	4456634	720	32	4
2017	3,555,678	361	23	6
2018	3,317,897	457	18	4
2019	40,80,947	535	28	5
Total	21961411	16916	641	3.78
Average	2196141	1691	64	3.79

Source: Report on Trend and Progress of Banking in India, RBI, Various Issues.

Table 2 reflects the fact that the total number of cases referred to DRTs during 2010 to 2019 stood at 2.20 crore. Amount involved to cases referred by Scheduled Commercial Banks to Debt Recovery Channel were highest in 2011 and 2012 and were lowest 310 crore in 2013. However, the amounts involved in the cases referred showed quite a fluctuating trend. Amount recovered by DRTs was maximum in the year 2010, 2011 and 2012 and afterwards it showed

declining trend till 2017. Total amount recovered by DRTs from 2009 to 2019 were Rs. 11677 crore. Recovery rates of DRTs was highest in the year 2010 and 2011 and lowest during the year 2018, which was only 5 per cent during years of study 2010 to 2019.

TABLE 2

Recovery of NPA Through Debt Recovery Tribunals From ASCBs from 2009-2019

Year (End March) (1)	Number of Cases Referred (2)	Amount Involves (Rs. In Crore) (3)	Amount Recovered Rs. In Crore (4)	Recovery Rate (in % 3/4)
2010	6019	9797	3133	32
2011	12872	14100	3900	28
2012	13365	24100	4100	17
2013	13408	310	44	14
2014	28258	553	53	10
2015	22004	604	42	7
2016	24537	693	64	9
2017	28902	671	164	24
2018	29,345	1330	72	5
2019	52,175	3064	105	15
Total	220865	55222	11677	21.14
Average	22086	5522	1167	21.13

Source: Report on Trend and Progress of Banking in India, RBI, Various Issues.

One of the other channels of recovery of NPAs of scheduled commercial banks is SARFAESI Act. As compared to recovery of NPAs through two other channels mentioned above i.e., Lok Adalat and DRTs, the performance of SARFAESI Act, with regards to the recovery of NPAs of commercial banks, can be considered as most important. Between 2010 to 2019, total number of cases by scheduled commercial banks together referred to SARFAESI Act. were 1611174. The total number of cases referred to SARFAESI Act by the scheduled commercial banks in the year 2010 were 78,366, which have been continuously increased during subsequent

years and reached 194707 in 2014. It declined marginally during the year 2016 but again increased in 2017. The total number of cases referred were 91330 in 2018 and 248312 in 2019. Total amount of NPAs involved in the cases referred to SARFAESI Act were 14249 crores, which has continuously increased and reached to Rs.156800 crore in 2015. However, it significantly declined during subsequent years which can be considered as a cause for concern. Similarly, the amount recovered through SARFAESI Act, 4269 crore, was only 30 per cent of the amount involved during 2010. In the subsequent years the performance in this regard worsened between 2015 to 2019.

TABLE 3

Recovery of NPA Through SARFAESI Act. from 2010-2019

Year (End March) (1)	Number of Cases Referred (2)	Amount Involves (Rs. In Crore) (3)	Amount Recovered Rs. In Crore (4)	Recovery Rate (in % 3/4)
2010	78366	14249	4269	30
2011	118642	30604	11561	38
2012	140991	35300	10100	29
2013	190537	68100	18500	27
2014	194707	95300	25300	27
2015	175355	156800	25600	16
2016	173582	80100	13200	16
2017	199352	1,414	259	18
2018	91330	818	263	32
2019	248312	2890	418	15
Total	1611174	485620	109470	22.5
Average	161117	48562	10947	22.5

Source : Report on Trend and Progress of Banking in India, RBI, various issues

7. EFFECTIVENESS OF RECOVERY CHANNELS

The percentage share of the number of NPAs cases, of amount involved and amount recovered through Debt Recovery channels during 2010 to 2019 is depicted in Table 5.

It is evident from analysis of Table 5 that, out of total number of cases referred by ASCBs for recovery of NPAs during 2010 to 2019, around 90 per cent of cases referred to Lok Adalat, around five per cent to DRTs and rest five per cent to SARFEAESI Act respectively. In the case of amount involved for recovery through the Debt Recovery Channels, 87 per cent was covered under SARFAESI Act, around ten percent under DRTs and only three per cent was involved in Lok Adalats. It clearly discloses the fact that the largest number of cases with smaller amounts have been tackled by Lok Adalat. Out of the total recovery, around 90 per cent recovery made by SARFAESI Act, and around ten by DRTs and share of Lok Adalat remained quite insignificant. The delayed disposal of cases and partial repayment of loans under Lok Adalat is the primary reason for the lower rate of recovery. With regards to the individual recovery – the amount of NPAs recovered with regards to the amount involved, the SARFAESI Act seems to be better than other recovery channels. This also proved from the amount recovered under SARFAESI that ASCBs have utilized this channel quite effectively so that the amount involved under this channel is higher than other channels.

The conclusion is also supported by the bankers as they have also considered SARFAESI Act the most powerful channel for recovery of NPAs due to its legal support as well as speedy recovery. Since 2014, the amount recovered under SARFAESI Act has declined due to the delayed disposal of cases in the courts. From this analysis, the effectiveness of recovery channels can be measured under the consistent recovery and the sum recovered. With this condition, the

SARFAESI Act is an effective channel for the amount involved and DRT is an effective channel for consistent recovery. The Lok Adalat has to improve their performance in terms of efficiency.

TABLE 4

ANOVA Test, The Percentage share of Debt Recovery Channel with regard to Number of Cased, the Amount Involved and Amount Recovered during 2010-2019

Criteria	Debt Recovery Channel	Total	Percentage Share
Number of Cases	Lok Adalat	4080947	89.68
	DRTs	220865	4.85
	SARFAESI Act.	248312	5.45
	TOTAL	4550124	100
Amount Involved	Lok Adalat	16916	3.03
	DRTs	55222	9.90
	SARFAESI Act.	485620	87.06
	TOTAL	557758	100
Amount Recovered	Lok Adalat	641	0.52
	DRTs	11677	9.58
	SARFAESI Act.	109470	89.88
	TOTAL	121788	100

With a view to analyze the significant difference among the Debt Recovery Channels, the ANOVA test has been applied. The individual recovery percentage out of the amount involved under each channel during 2010 to 2019 has been taken for the analysis the alarming problem of Non performing assets being faced by the Indian Commercial Banks which is depicted in Table 5.

TABLE 5

Percentage of Recovery with Respect to the Amount Involved Under Lok Adalats, Debt Recovery Tribunals and SARFAESI Act.

<i>Year</i>	<i>Lok Adalats</i>	<i>Debt Recovery Tribunals</i>	<i>SARFAESI Act.</i>
2010	2	32	30
2011	4	28	38
2012	12	17	29
2013	6	14	27
2014	6	10	27
2015	3	7	16
2016	4	9	16
2017	6	24	18
2018	4	5	32
2019	5	15	15

Source : Report on Trend and Progress of Banking in India, RBI, Various Issue.

The p value of the ANOVA table is .0007, i.e. less than 0.05, clearly discloses the fact that there is a significant difference between these recovery channels in terms of recovery (in percentage term). The F statistic value is higher than the F critical value, meaning the variances are not the same. Here the Null hypothesis is rejected, and the alternative hypothesis is rejected. It is clear from the analysis that there is significant differences in NPA recovery among the Debt Recovery Channels.

8. SUGGESTIONS

There are certain suggestions which may help reduce the NPAs as well as recover more through these channels. They are:

1. Governments have farmed numerous laws to recovery NPAs, but these are several decades old. As such these are not suitable for present environment. The laws require urgent amendment and some new law should be framed which would be able to fulfill the changed requirements.

2. Recovery process should be easy and completed with less complexities. This can accelerate the recovery process.

3. Proper circulation of information among defaulter by banks or banks group to improve the Settlement Advisory Committee (SACs) and utilizing the power given to the banks under the SARFAESI Act.

4. Strict legal action should be taken against willful defaulters.

Banks have to be given powers of inspection of the use of loans and the loan should be disbursed on the point of purchase by the borrowers to ensure proper utilization of deposits. Banks may also be given powers to recover loans from the guarantor of the borrower.

9. CONCLUSIONS

The problem of inefficient recovery of NPAs for a country like India has become quite alarming. Despite continuous efforts of efficient recovery, favourable results are yet to be achieved. The study reveals that the performance of existing channels are not satisfactory. There has been reduction of NPAs recovery through all the channel from 2014. It has been observed that the long pending cases in DRTs has directly affected the NPA recovery and Bankers felt that the introduction of SARFAESI Act may resolve these issues and provide adequate strength to the Banks to expedite recovery of dues. Disposal of cases quickly by the Banker increased the recovery rate of NPAs. Recovery of NPAs had improved after increasing the number of DRTs. The Bankruptcy framework of IBC 2016 will assist to resolve corporate defaults in more timely manner in order to arrest the continuous rise of NPAs and prevent from the vulnerabilities of NPAs. No doubt, strengthening the functions of the existing recovery channel, the alarming problem of Indian Banking with regard NPAs could be resolved easily. Ensuring the role and

responsibility of the aforementioned recovery channel will assist banks and Financial Institutions in re-establishing their lost financial credibility. The performance achieved by existing legal channels so far cannot be considered satisfactory and the government has forcefully made the decision to establish BAD BANK with a view to strengthen existing arrangements of recovery of dues. Experience of Lok Adalat failed miserably. Recovery percentage through *Debt Recovery Tribunals and SARFAESI Act*, though depicted a fluctuating trend close to a satisfaction level till 2011 cannot be considered satisfactory during recent years.

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**ECONOMIC ASSESSMENT OF EFFECTIVE EMPOWERMENT AND
CHANGE IN CONSUMER DYNAMICS ON PRODUCTS AT BOTTOM-
OF-THE-PYRAMID LEVEL: A STUDY ON GENDER DIFFERENCES IN
EMPOWERING RURAL ODISHA, INDIA**

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ABSTRACT

The purpose of this paper is to develop a reliable and valid field survey research instrument to assess behaviour dimensions to facilitate empowering, development, and operating across diverse organisations. In the present scenario, more particularly the rural customers focus more on selecting an appropriate retail product, value addition, cost effective, income generating process in Bottom-of-the-Pyramid (BoP), which provides a value added services. Their expectations are also more towards their needs and is very much responsive to their concerns and issues. Customers prefer a particular retail outlet if they find more value over their total shopping cost. Here, it is an analytical case of Odisha based on rural purchase behavior of both the groups (gender), which have been analyzed for measuring the differences in perception level which is identified as the significant cause of consumer dynamics. The study consists of focus group evaluations of the validity and the translations to local languages of a survey instrument assessing change behaviour preferences in BoP. In Methodology, factor analysis has been used with Cronbach Alpha

for reliability and has been interpreted in response to the difference in gender groups. . Out of the total eighteen factors only seven major factors have proved to have more significant impact on the change of consumer dynamics in the product value cycle. Role of empowerment is also a critical issue among the genders to change the process dynamics. So, a further study has been made to analyse the real empowerment in differentiating with gender groups in Bottom of Pyramid level in Odisha , for which anova has been used to measure. The studies find that the valid and reliable factors for assessing preferred gender group behaviour across retail malls in BoP structure . The length of the survey is to produce a shorter version with equivalent reliability and validity on the perceptual factors based on empowerment. As the research project is long term, at this point, a relatively long survey is available for research, with a shorter version planned for the future. Practical implications include producing and validating a field survey research instrument that is reliable and valid across demographic, gender, income , education and languages, and can be employed to improve the understanding, development, and education of customers and leaders of business organisations. The research purpose is to identify the differences in empowerment at bottom level for retail and accordingly the changes required by the retail malls , more particularly in COVID-19 period accordingly to their preferences and need for more value creating and generation. Management and leadership processes are employed in all aspects of category differences and can be better understood and improved through this research project. This study has a social applicability and some implications are there to empowering them by the malls at bottom level. This model can give a way to analyse for the further researcher in the empowerment strategy at Bottom of Pyramid process applicability by the malls. The majority of cross-gender research is demographic-centric studies of characteristics; this project expands the scope of studies further into customer-centric studies of observed leader behaviour.

Keywords: Retail, BoP, Dynamics, Empowerment, product-chain

1. INTRODUCTION

Consumer dynamics in India is fast changing with the change environment and style. So, the retailer needs to pay right attention towards this and formulating their strategy to deliver the best value addition for their consumers. As we know, India is the second largest consumer retail market in the world. So, each individual type of retailers need to measure the consumer dynamics in the retail market more appropriately. This involves in identifying the key drivers of growth, the consumer's demographics and their expectations. It also means to evaluate the nature of competition and challenges in the rural marketplace. All these challenges lead the Indian organized Large retail sector to pay more attention to this analysis of the buying behaviors of consumers in order to optimize the target market needs more effectively than its competitors.

The customers process around these activities approaches retail to behave according to their expectancy level. The approach for customers in different stores is to explore product opinion on shopping the products according to their desired outcomes. Customers preferably move frequently towards the brand and brand stores to update themselves with the brand market change over the period, where others mostly prefer to visit retail outlets with its competing brands to avail best price offers.

Consumers' preference towards a particular retail outlet is a cause of behavioral issue which can influences the reference groups, i.e., friends, relatives and family, culture, life cycle, income, education and their attitude etc. The image of these outlets is a determining factor which customize a customer to patronize towards a particular retail outlet. The shopping experience bridge the relationship and create the prospects for acquisition of a good shopping experience.

BOP level approaches two crucial challenges, governance and sustainability; neither challenge is currently well addressed nor effective governance mechanisms and bodies are properly regulated and monitored for the development of markets and effective competition. Marketing expertise and experience is required to produce and distribute appropriate affordable BoP products at high volumes and razor-thin profit margins.

The present research suggests that successful BOP endeavors that are characterized by communities that benefit by obtaining basic services or growing more in their purchasing power. Therefore, innovation going on for this market to focus on the two attributes are: Relative advantage and Complexity in COVID-19 situation more particularly,

In the present context, time is vital constraint and money becomes a luxury. Here, more particularly, the rural customers have focused more on selecting an appropriate retail outlet, which can provide value added services, can focus on customer needs and can also be responsive to customer concerns and issues. Moreover, Customers prefer a particular retail , of which can provide a better facility as per the expectation over their total shopping cost.

C.K. Prahalad and Hart, Stuart published an article on “Strategy- A Business magazine which introduced the world a new idea on Bottom of the Pyramid (BOP) in the year 2002. This idea, which explains the poor of the present, who are under wide untapped business opportunity. If companies could serve the poor in rural by provisioning retail outlets , then the possibility to eradicate poverty and to gain a good profit could be expected . It was a revolutionized business policy, which is the present context of research .

During the recent years, the approach based on market, particularly bottom level market, , i.e., ‘market-based’ approaches have been in process of development which can gain a considerable ground in development business environment, bringing a significant private-sector

resources on global platform to reduce poverty, disease, hunger, and also to empower the rural women empowerment. Within this context, the Bottom-of-the-Pyramid (BoP) approach championed by the C.K. Prahalad has been heralded by some as a remarkable change in approaches towards economic development of the country (Prahalad 2004).

The concept behind BoP appraises that the best way to meet the needs of the rural poor is through a profit driven market-based approach. As a result, there may be significant benefits for rural poor in terms of reduction in poverty, increment in productivity, and rural empowerment. Corporate interested in exploring the opportunities at the BOP search for solutions in form of innovation , new products and business vision models. Basically, this approach provides products and services at most acceptable prices in rural segments. The Bottom of the Pyramid (BoP) constitute a ready market made model for bottom level customers among the poorest people of these regions.

The arguments in favor of basic BOP can be summarized below:

- Most untapped purchasing power at the bottom of the pyramid is marked at rural . Here, Private companies can make some significant profit by selling to the poor.
- By selling to poor, private companies can uphold prosperity of poor, which can help to eradicate poverty.
- Large multinational companies (MNCs) can play a lead role in this process to selling the products designed for poor.

The BoP model approaches not only to open new market to create business opportunities for private sectors corporate who can offer channel to remodify the commercial environment with their ethical values, which can be the key pillars for urban sustainability in product market cycle.

1.1 Scope of BoP

At bottom of the pyramid (BoP) level, it is revealed a wide and attractive market opportunity in the rural environment . The ‘BoP model also indicate the selling to the rural poor and simultaneously helping to empower the rural with eradicating poverty. It may be the best and potential success for MNCs to serve poor consumers in the BoP model , which can be the fast-growing economies in the country like India , where the GDP and per capita remains low. Further, during the period of COVID-19 , it is difficult in the part for retail malls to overcome the challenges .

In the past decade, the idea of reaching the bottom of the pyramid, the lowest socio-economic levels, has become an increasingly important organizing principle for development. The promise of strategically harnessing the market potential of the rural people, that has proved motivational, as large companies, social entrepreneurs and even non-profits financial companies for new market access to those formerly excluded. Yet as more organizations put theory into practice, important fundamentals of the “BoP” model have been emerged.

The Bottom of the Pyramid approach offers private sectors entities to create and find an opportunity to lead the path towards entire economic and social transformation during this 21st century. The risk-taking attitude of the entrepreneurs of the industrials revolution who opened the wells of wealth to rural through innovations needs to be relived .

1.2 Some key Challenges of BoP

A corporate enterprise tries to create market for its own products or services in the rural areas. These entities also face so many challenges on geographic consideration where low population density are in the villages in the country. The second challenge comes from low purchasing power

and limited disposable incomes of the country. The third challenge may be the COVID and post-COVID situations in the entire world.

Buying Behavior is most flexible in the decision processes and also act in buying and using products. It is also necessary to understand the following before taking decision towards the market:

- Why do consumers make the purchases that they make?
- What factors influence consumer purchases?
- The changing factors in the genders

The changing demographic profile of the rural market or consumers , i.e. education, income, size of the family, occupation , gender, proximity to the centres and so on, are important in the context on what is more substantive to come on psychographics of customers, how they feel, think or behave when provisioning is there.

Consumer attitude towards buying is mostly dynamic in both the gender groups . So, it is necessary to include in research to analyze and interpret it to understand the market management to frame more effective market in considering the change in products, price, promotion and distribution system . The profit position on product disposition can be positive and/or negative , which can be measured for consumers in BoP market .

The change concept of retail and the emergence of large sized retail corporate has already been in drive in the name of malls and supermarkets. Here, the government policy towards these kinds of business also encourages and allow foreign direct investment towards retail business to make a significant change in BOP market . The lifestyle and the buying patterns and preferences of the consumers in India , more particularly in BoP market confront with a complex set of alternatives in many purchase situations, which are in the scope of study .

2. OBJECTIVES OF THE STUDY:

The specific objective of this research is :

- To analyze the consumers' attitude and buying behavior towards products and to measure the perceptual difference across gender on empowerment in change environment.

2.1 Literature review:

Dixit & Sharma(2012) findings were on rural markets, which require patience and investment by companies as, in some cases, the companies have to build the entire product category and not only position their brands. Thus, marketers are not only marketing products, but they are contributing to the nation-building by focusing on improving the standard of living of rural masses. Intense focus on the rural and semi-urban areas has inherent advantages. Consumer product multinationals Procter & Gamble, Nokia and Unilever are adopting unconventional and innovative distribution models for better rural connect. The two giants are scouting for, incubating and investing in small, rural entrepreneurs who can assist them in selling to low-income consumers. Marketers are trying novel ways to tap the vast rural potential however it is a wait-and-watch scenario for now.

BOP consumers are using PC kiosks, Mobile phone, Mobile banking etc. Relative advantage and Complexity attributes of an innovation suggested by Everett Rogers (2004) significantly influence the adoption of an innovation in the Bottom of pyramid market (Rahman, Hasan, and Floyd, 2013).

Wu Zhao , Anqi Wang , Yun Chen and Wei Liu(2021) reported the understanding on how to successfully form sustainable entrepreneurial eco-system by integrating entrepreneurs in value chain of BoP model . The successful experience of Taobao village provided contributions

and implications to management in practice. On the one side, it can provide a guide for other countries and regions to build inclusive entrepreneurship eco-systems which can help to check and fill the gaps to build inclusive entrepreneurship eco-systems based on their local characteristics. Further, this study provides a theoretical guidance for solving the problem in poverty at the BOP, transforming the poor from the objects of help to successful entrepreneur regional sustainable development.

3. RESEARCH METHODOLOGY

For this purpose, a structured questionnaire was set and distributed to 99 rural customers and collected from them by asking in their local languages for more easy collection and reliable data. Out of that, 69 respondents were male customers and 30 respondents were females to answer all my questions. The customers were mostly ongoing customers to the retail malls which was where the data was collected.

3.1 Questionnaire

A pre-tested questionnaire was used with distributing to first 10 respondents and finally the pilot study was rectified as per the opinion collected and finally it was re-designed for all types of customers of BoP market. Moreover, 18 factors have been considered here for study. The second part of the questionnaire was related to the questions on “empowerment”. From this empowerment, the gender differences were studied.

To analyze the level of preference, liking and disliking of the respondents among the products, the data were collected from the different types of respondents based on their socio-economic factors such as Educational Qualifications, Occupation, companion, Income, and Mode

of Payment which were studied by means of cross tabulation analysis, one-way Anova, Chi-square test, KMO (Kaiser-Meyer-Olkin) tests, Bartlett's Test of Sphericity and Factor Analysis.

4. ANALYSIS AND INTERPRETAION OF RESULTS

‘Marketing Innovative Devices for the Base of the Pyramid’ shared 10 best practices for marketing affordable, life-changing devices and equipment to the bottom of the pyramid.

4.1 Product purchase and preference score in rural India

TABLE 1

KMO and Bartlett's Test on Change in Consumer Dynamics on products

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.913
Bartlett's Test of Sphericity	Approx. Chi-Square	0.314
	Df	153
	Sig.	0.00

Sources: Primary data

This Table 1 shows KMO and Bartlett's Teston “Change in Consumer Dynamics on products” for purchase on BoP model. The Kaiser-Meyer-Olkin Measure of Adequacy indicates that the proportion of variance in variables of perception on “Product Characteristics” might be caused by the underlying eighteen factors. Further, Bartlett's test of sphericity tests the correlation matrix, which indicates that variables are related and suitable for structure detection as the value is 0.913. So, it indicates that factor analysis may be useful with input variables of perception on “Product Characteristics” on BoP retail.

TABLE 2

Communalities on Change in Consumer Dynamics on products

		Initial	Extraction
Factor 1	Availing of personalized products	1.000	0.793
Factor 2	Makes wide advertisement for creating awareness on product	1.000	0.814
Factor 3	Feeling of product development.	1.000	0.804
Factor 4	Improve access to retail products	1.000	0.887
Factor 5	Creating buying power(low-cost product ranges)	1.000	0.875
Factor 6	Shaping product aspiration to urban lifestyles	1.000	0.873
Factor 7	Any time product availability	1.000	0.769
Factor 8	Bundle Pack for cheaper cost	1.000	0.645
Factor 9	Refill pack availability	1.000	0.791
Factor 10	Well maintained supply chain	1.000	0.995
Factor 11	Experiencing products in malls for new products	1.000	0.832
Factor 12	Localized product availability	1.000	0.748
Factor 13	Pay-per-use” system(laundry system)	1.000	0.981
Factor 14	Well maintained supply chain	1.000	0.899
Factor 15	Meet the needs of consumers in a different area	1.000	0.708
Factor 16	Greenfield-market expansion	1.000	0.952
Factor 17	Product selling devotion to social missions	1.000	0.885
Factor 18	Nurture the creation of a new market	1.000	0.896

Extraction Method: Principal Component Analysis.

Sources: Primary data

Table 2 indicates the factors responses on “Change in Consumer Dynamics on products” in BoP marketing where the initial values of all the five factor components are one and the extraction values shows more than 0.5 ,which means all the factors are best fit to the data and can be explored in measuring the variance to find out the most significant factor. But here all the six factor variables of “Change in Consumer Dynamics on products” are best fit for further measurement.

TABLE 3

Total Variance on Change in Consumer Dynamics on products

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.837	10.206	10.206	1.837	10.206	10.206
2	1.603	8.904	19.110	1.603	8.904	19.110
3	1.470	8.167	27.277	1.470	8.167	27.277
4	1.368	7.601	34.878	1.368	7.601	34.878
5	1.149	6.383	41.261	1.149	6.383	41.261
6	1.135	6.307	47.568	1.135	6.307	47.568
7	1.085	6.026	53.594	1.085	6.026	53.594
8	0.986	5.480	59.074			
9	0.962	5.345	64.418			
10	0.897	4.983	69.401			
11	0.853	4.741	74.142			
12	0.783	4.350	78.492			
13	0.762	4.236	82.728			
14	0.712	3.953	86.682			
15	0.677	3.759	90.440			
16	0.654	3.634	94.074			
17	0.573	3.181	97.255			
18	0.494	2.745	100.000			

Extraction Method: Principal Component Analysis.

Sources: Primary data

Table 3 indicates that from the total variance of individual factors (eighteen) as well the extraction values of sum of squares loading values, seven factors have been found in the initial Eigenvalues, which are positive and finite values. The process adopted here in Principal Component Analysis (PCA), with loading values of the component, scores on responses from migrated customers, which has been presented in the last column of the above table. The results are also found in extraction values for those seven factors, which are most significant among the selected factors in the initial Eigenvalues. So, from that it is concluded that in measuring through PCA only seven factors out of eighteen factors are mostly significant with the total variance of 54 percent ,

which indicates a loss of 46 percent of data and needs for further analysis on Change in Consumer Dynamics on products. Further, the extraction value of loading is most equal with the Eigenvalue of the components, which also indicates of no loss of data due to the responses as presented from the responses on Likert scale.

TABLE 4

Component Matrix on Change in Consumer Dynamics on products

Factor		Component						
		1	2	3	4	5	6	7
1	Availing of personalized products	0.200	0.133	- 0.007	0.145	- 0.084	0.372	0.410
2	Makes wide publicity for creating awareness on products	0.789	0.211	- 0.049	- 0.178	- 0.041	0.278	- 0.298
3	Feeling of product development.	0.581	0.202	- 0.163	- 0.233	0.077	- 0.125	- 0.154
4	Improve access to retail products	0.859	0.121	0.193	0.099	0.074	- 0.052	0.078
5	Creating buying power(low-cost product ranges)	0.847	0.254	0.311	- 0.074	0.111	- 0.071	0.412
6	Shaping product aspiration to urban lifestyles	0.849	0.458	- 0.127	0.172	0.150	- 0.047	- 0.082
7	Any time product availability	- 0.196	0.150	- 0.538	0.241	- 0.382	- 0.123	0.004
8	Bundle Pack for cheaper cost	0.843	- 0.054	0.359	0.550	- 0.232	0.107	- 0.353
9	Refill pack availability	0.706	0.233	0.470	0.493	0.046	- 0.142	- 0.198
10	Well maintained supply chain	0.225	- 0.626	- 0.124	0.034	- 0.053	0.030	0.180
11	Experiencing products in malls for new products	0.098	- 0.501	- 0.351	0.168	0.222	0.134	0.229
12	Localized product availability	- 0.113	0.108	0.431	- 0.552	- 0.062	0.171	0.016
13	Pay-per-use” system(laundry system)	0.776	0.053	0.034	- 0.112	0.075	0.455	- 0.158
14	Well maintained supply chain	0.000	0.257	- 0.086	0.192	0.294	0.632	0.052
15	Meet the needs of consumers in a different area	0.212	0.161	0.181	0.370	- 0.007	- 0.211	0.471
16	Greenfield-market expansion	0.060	0.147	- 0.085	0.088	- 0.611	0.367	0.063

17	Product selling devotion to social missions	0.049	-0.398	0.192	0.079	-0.212	0.170	0.090
18	Nurture the creation of a new market	0.848	-0.207	-0.004	0.269	0.546	0.139	-0.203

Extraction Method: PCA

a. 7 components extracted.

Sources: Primary data

Component matrix Table 4 highlights the results of each component's Variance on "Change in Consumer Dynamics on products". The customers made their exercise on selecting the options on the eighteen variables. Out of eighteen factors, only seven factors have been extracted-those have more significant positive value in the columns of components. Here the more value is marked on F2, F4, F5, F6, F8, F13 and F18 and these are the seven most significant causes for better option on "Change in Consumer Dynamics on products". So, it is concluded that the Effectiveness of Empowerment is highlighted more significantly on F2 (Makes wide advertisement for creating awareness on product), F4 (Improve access to retail products), F5 (Creating buying power (low-cost product ranges)), F6 (Shaping product aspiration to urban lifestyles), F8: Bundle Pack for cheaper cost, F13: Pay-per-use" system(laundry system) and F18(Nurture the creation of a new market). The other eleven factor variables are to be solved for more Change in Consumer Dynamics on products for enhancing its efficiency in BoP marketing. Customer have more cautiously opined these seven most items that are going on more effectively , which is proved as these are significant in the matrix values.

4.2 Impact Study on Factors for Effective Empowerment

The key bottom of the pyramid business strategy is to approach the market with "small unit packages, low margin per unit, high volume, and high return on capital employed." The private sector adapts its practices and products to most effectively engage it. Today, it still serves as the

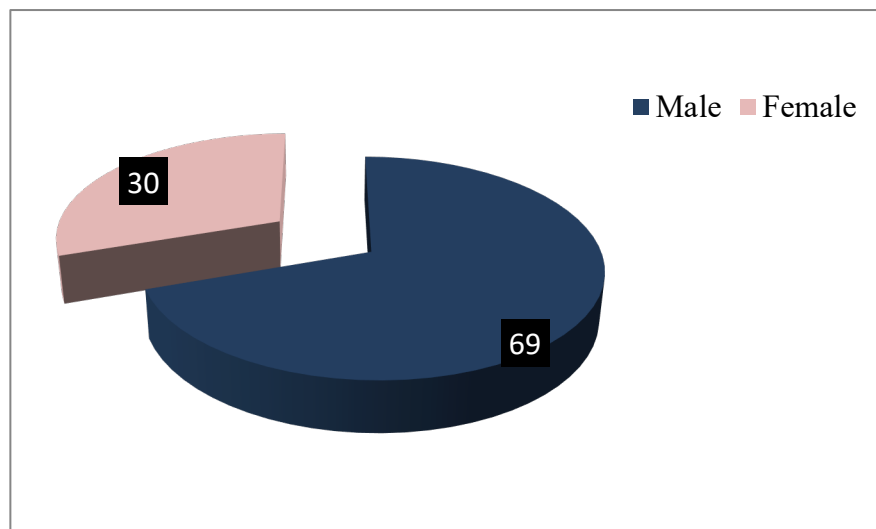
root of discussion and debate on reaching the bottom of the pyramid.

Here, total five variables have been selected for measuring the efficiency change across gender on empowerment . These value score has been measured through Likert scale of 1- strongly accepted 2- accepted , 3- cannot say, 4- not accepted and 5- strongly rejected, accordingly the measurement has been made in the following table. These variables include the following factors.

1. Educating community to brings real benefits to impacted practices
2. Upgrade skills and productivity to improve living standard and to increase purchasing power
3. Identify Innovative Financing Schemes & Create Buying Power for product
4. Encouraging a habit of savings through BoP purchase
5. Community credit pooling with a revolving loan fund

FIGURE 1

Male and female no. which are included in this study. 69 customers are male whereas 30 customers are of female category.



4.3 One way Anova: Gender

TABLE 5

Descriptive analysis on Effective Empowerment

		N	Mean	Std. Deviation	Std. Error
V1	Male	69	1.660	0.887	0.025
	Female	30	1.674	0.763	0.039
	Total	99	1.667	0.620	0.027
V2	Male	69	1.746	0.951	0.051
	Female	30	1.782	0.978	0.060
	Total	99	1.714	0.962	0.039
V3	Male	69	2.144	0.856	0.080
	Female	30	2.023	0.896	0.094
	Total	99	2.086	0.879	0.061
V4	Male	69	1.407	0.966	0.081
	Female	30	1.465	0.899	0.090
	Total	99	1.436	0.781	0.060
V5	Male	69	2.191	1.303	0.070
	Female	30	2.279	1.262	0.078
	Total	99	2.229	1.285	0.052

Sources: Primary data

Here the descriptive Table 5 indicates the results of “Effective Empowerment” in BoP marketing with respect to the gender of the customers. Five statements on this factor i.e., “Effective Empowerment” have been incorporated here, which were asked to the customers of BoP marketing. The lower Mean Score values indicate more positive towards the attainment of more effective results on business strategy maintained by BoP retails. Here it is marked that, the male customers of factor V1 show lower mean score i.e.,1.667, than customers of all other factors. So, it is concluded that male customers of factor V1 (Educating community to bring real benefits to impacted communities) and V4: Encouraging a habit of savings through BoP purchase (MS=1.436) have more impact for the “Effective Empowerment” practices in BoP marketing by the companies with respect to their gender .

TABLE 6

ANOVA on Effective Empowerment in gender

		Sum of Squares	df	Mean Square	F	Sig.
V1	Between Groups	4.697	1	4.697	1.832	0.228
	Within Groups	251.272	98	2.564		
	Total	256.242	99			
V2	Between Groups	2.336	1	2.336	1.212	0.145
	Within Groups	188.944	98	1.928		
	Total	191.280	99			
V3	Between Groups	4.412	1	4.412	1.954	0.129
	Within Groups	221.284	98	2.258		
	Total	225.696	99			
V4	Between Groups	2.682	1	2.682	1.226	0.135
	Within Groups	214.424	98	2.188		
	Total	217.106	99			
V5	Between Groups	1.117	1	1.117	0.675	0.124
	Within Groups	162.190	98	1.655		
	Total	163.307	99			

Sources: Primary data

Table 6 reported the results of Anova to test the changes on “effective empowerment ” by the retail malls in BoP marketing across the gender group of the customers. It shows a significant F statistic with the p-value as 0.228,0.145,0.129,0.135 and 0.124 respectively for five variables mentioned in the table. Hence, a no significant variation has been marked in all the above factors with respect to change in “**empowerment** ” across the gender groups. That means both the groups have the same opinion on the aspect of empowerment in rural Odisha.

4.4 Findings and suggestions

It is concluded that in measuring through PCA only seven factors out of eighteen factors are mostly significant with the total variance of 54 percent , which indicates a loss of 46 percent of data and needs for further analysis on Change in Consumer Dynamics on products. It is concluded that it is more significantly on - Make wide advertisement for creating awareness on product,

improve access to retail products, create buying power (low-cost product ranges)), (Shaping product aspiration to urban lifestyles), Pay-per-use” system(laundry system), F (Well-maintained supply chain) and F (Nurture the creation of a new market). The other eleven factor variables are to be solved for more Change in Consumer Dynamics on products for enhancing its efficiency in BoP marketing. In other cases, it is suggested to make some vision of change on the process of re-engineering of the companies to make the process more efficient and to change the attitude of the rural customers in Odisha. Further, there is no change marked across the gender groups on the responses for effective empowerment in rural Odisha . So, the model should be one model for all rural groups .

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