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Determinants of Cutbacks: Do Coping Strategies Moderates the Relationship of
Cutbacks and Organizational Performance

Arrived Date	Accepted Date	Published Date
19.07.2021	20.07.2021	31.07.2021
Sumaira GHAFFAR ¹, Dr. Kausar Fiaz KHAWAJA ², Farhana BUKHARI ³		

ABSTRACT

Quantitative research on cutbacks is very limited. The current study explores the determinants of cutbacks through a survey. Cutbacks mediate the relationship between organizational decline, government policy, and organizational performance. While coping strategies moderates the relationship between cutbacks and organizational performance. CFA, mediation, and moderation were checked through SPSS 19. The survey results of 294 respondents at T1, T2, and T3 show that cutbacks mediate the relationship of organizational decline, government policy, and organizational performance. While coping strategy moderates the relationship of cutbacks and organizational performance. Results emphasize cutbacks and coping strategies in the context of practical and theoretical implications for academia and practitioners.

INTRODUCTION

The domain of public management has mainly focused on cost-effectiveness, cost awareness, and value for money. Due to the financial crises of 2008 and its aftermath that manifested in the form of the economic recession that has hit many parts of the globe, the need for cost-effectiveness in the public sector could not be more emphasized. As a result of the crises, radical reduction in the expenses of public sector firms has been enforced in a more radical than strategic way. These changes have emphasized the importance of cutback management in the research and management prices of the organizations. Fiscal stress to which public agencies are subjected at different government levels has resulted in monumental changes being made in allocation, utilization, and overall management of financial, personnel, and organizational resources. The importance of effective and efficient management of resources without comprising on the quality of service especially in the public sector could not be more emphasized because the cutback on the resources after the financial crises for a much longer time has become a regular practice. Cutback management and the scarcity of resources have been studied. parkDifferent research studies conducted have focused and highlighted different perspectives, but rarely the coping strategies adopted by the organization and how employees react and perceive the fiscal stress have been addressed (Park, 2018). The major focus of the studies conducted after the financial crises has been

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on a specific perspective of the change management domain which emphasized the management role in the changes adopted which are associated with cutbacks (Park, 2018).

In times of fiscal stress when there exists an intense need to reduce costs, the choice of decision obeys the public organizations mainly revolve around either to delay the cutback or implement the cuts in expenses. Cutback practices may include halting the hiring and compensation to employees, downsizing of the offices, the cutting may be proportional to the requirements, it may be targeted and gains from the middle ground strategy (Pollitt, 2010).

Outdated cutback strategies such as recommending cutback for reductions, postponing in the filling of positions of vacancy and cuts across the boards were associated with rather new strategies such as considering client requirements while prioritizing, establishing new partnerships with stakeholders and improving practices of personnel and management by Austin (1984). Purging of not well-fitted employees when there is a requirement of improving the performance of an organization may be beneficial (Chadwick 2007). Cameron, Whetten, and Kim (1987) defined organizational decline as "a substantial, absolute decrease in an organization's resource base over a specified period." How organizations respond to financial decline has been called "cutback management in the literature of public management and it is defined as "managing organizational change toward lower levels of resource consumption and organizational activity" (Levine 1979).

The factors that have been explored in the previous studies are important like new government responsibilities, how cutbacks and transformations are associated, selected tactics of cutbacks affecting and length of fiscal stress, and the extent of how cutbacks application relates to work engagement and organizational commitment of public firms of Dutch (Wolman and Davis 1980; Levine, Rubin and Wolohojian 1981; Levine 1985; Glassberg 1978; Dougherty and Klase 2009; Hartley 1981; Rubin and Willoughby 2009; Scorsone and Plerhoples 2010, Thynne 2011; Dabrowski 2009; Gieve and Provost 2012). This specific study is the first one that explores the organizational decline and government policy as determinants of cutback to the best of the author's knowledge. This study also explores firm performance because of cutback considering the moderating role of coping strategies. Another novelty of the current study is that it also includes private sectors organizations in the sample. Previously in public administration, only government institutions were studied. Research implications will be of monumental importance for practitioners and policymakers. The following research questions are answered through this study: What are the determinants of cutbacks and do coping strategies moderate the relationship between cutbacks and organizational performance? The further paper explains the literature review methodology and results. The current study is concluded with research limitations and future directions.

Literature Review

Cutbacks are introduced in the literature of 1980 when taxpayer proposition 13 was implemented in California and the Reagan government put huge cuts on the budget. According to past studies cutbacks are strategic level temporary decisions taken by the government to reinstate fiscal balance as a result of fiscal crisis. The current study defines cutbacks as the lower level of resource utilization as a result of organizational restructuring and change in processes (Overmans and Noordegraaf 2014).

Multiple policy-related research investigated the association of economic growth, energy supply foreign direct investment, and firm's competitiveness internationally. Conditions that directly link public policy with firms suggest that effective and efficient implementation of public policies affects the economic and business performance at each level of a firm. Studies of rammer explored how government policies affect export performance. Most researches explored the impact of government policies on a firm's financial performance (Plank and Doblinger, 2018 Jaraité and

Kažukauskas 2013). In times of crisis, government controls the cost by imposing restrictions on employee health quota and health budget. Reimbursement quota and healthcare costs for government employees are restricted to a limit and money is more utilized on necessary expenditure to provide good services to the general public (Yan, Jianzhou, 2019). Resource scarcity and organizational decline have been studied in public administration since 1970. Several studies investigated how government institutions survive under critical environmental conditions and fiscal stress. It is important to measure how organizations perform with limited resources. In times of financial crisis, organizations reduce the human resource to control cost and increase performance (Park, Sanghee 2019). Therefore in this context, it is proposed that government policy and organizational decline are positively associated with organizational performance

H1 (A): government policy is positively linked with organizational performance.

H1 (B): Organizational decline is positively associated with organizational performance.

Government Policies and Cutbacks

As a result of cutbacks, organizations faced different outcomes like moral dilemmas at the line level. Cutbacks are implemented as a result of policy change. In this context administrations also account for consequences while constructing new policies or changing existing policies (Orfield 1991). Several studies highlight the importance of consideration of staff dynamics while setting cutback policies (Edwards, Lebold, and Yankey 1998). A prime source of finance for government institutions are public budget, therefore, most of times cutback are massively implemented because of policies in response to the financial crisis (Van der Voet and Vermeeren 2016). In response to crisis management change in powers and control usually happens. Governments function speedily in hard times which results in policy change and quick legitimization (Savi & Liiv 2015). Decision-making is more centralized and taking retrenchment decisions is necessary. Limited resources and cutbacks are the primary agenda. It is essential to devise cutbacks from top to down as monetary measures and policies changed to cope with the situation (Savi & Liiv 2015). Based on the above literature government policies trigger cutbacks in times of crisis. From Hypotheses 1 is constructed.

H2: Government policies are positively related to cutbacks.

Organization Decline and Cutbacks

Samuel 2010 explains that globally several organizations downsizing decisions and gradually reach a decline stage (Peretz & Vinarski 2019). The organizational decline is usually considered as bankruptcy (Probst & Raisch, 2005). While increased competition loss of market share, revenue, and decrease in goodwill and retrenchment in human and financial resources is also named as organizational decline (Cameron 1983; Ghazzawi & Cook, 2015; Chhinzer & Currie, 2014) restructuring (Hambrick & D'Aveni, 1988) loss of the local or international market share (Burt et al., 2002; Harrigan, 1982; Jackson et al., 2005; Mellahi, 2002; Mellahi & Wilkinson, 2004; Starbuck et al., 1978), or the failure of its leadership to swift the essential changes to attain its goals or endure its growth (Ghazzawi & Cook, 2015; Giessner & Van Knippenberg, 2008; Meindl & Ehrlich, 1987; Probst & Raisch, 2005). One of the reasons for organizational is a financial crisis. While in crisis time's organizations moves towards retrenchment and decline policies. Organizational decline and cutbacks literature considered organization environment and uncertainty theories. According to research, people exhibit different attitudes in response to cutbacks and decline. Layoffs, seniority, hiring freeze even % cuts, and zero-based budgeting are famous cutbacks implemented during organizational decline as a coping strategy to increase performance (Piatak

2019). According to previous literature organizational declines cause the implementation of cutbacks.

H3; Organizational decline is positively related to cutbacks.

Government policy, Organizational Decline Cutbacks, and Organizational Performance

The oil crisis in 1970 resulted in a reduction in the level of government spending (Levine 1978). After the mid1980 when the economy is flourishing focus on cutback management research was also decreased (Bozeman 2010). However, after the financial crisis of 2008 cutbacks again catch researchers' eye. (e.g., Bozeman, 2010; Cepiku & Bognomi-Savignon, 2012; Kickert, 2012; Overmans & Noordegraaf, 2014; Pandey, 2010; Pollitt, 2010; Raudla et al., 2013). In times of financial crisis in response to government policy and organizational decline, cutbacks are implemented as an austerity control measure to improve the efficiency and overall performance of the organization (Bozeman, 2010; Pandey, 2010; Raudla, Savi, & Randma-Liiv, 2013). The administrative response model explains that government prefers systematic decision-making in times of economic crisis. At initial stages of decline level of cutbacks are low but as the level of decline increase, it is necessary to target cuts (Klase 2011). According to administrative response model cutbacks as a tool of control selected by the government when the level of resources and change in government policy in response to a crisis. To cope up with uncertain situation government take strict actions in shape of cutbacks (Scorsone and Plerhoples 2010). There is an unlike association between cost and performance while cutbacks are the most convenient way to increase performance (Damanpour and Schneider 2008; Hood and Dixon 2015). Public organizations react to economic challenges in a unique way which builds the relationship between resource and performance. According to literature effective management of organizational resources is important in the context of organizational performance (Brewer and Selden 2000; Boyne 2003; Meier and O'Toole 2002, 2009; O'Toole and Meier 1999, 2004; Walker, Boyne, and Brewer 2010). Cutbacks are implemented in this regard to improve the performance across the board and on the whole organization (Hood and Wright 1981; Pollitt 2010). Based on the above literature and explained by the administrative response model it is proposed that cutbacks meditate the relationship of organizational decline, government policy, and organizational performance.

H4 (a): Cutbacks strengthen the relationship of Organizational decline and performance.

H4 (b): Cutbacks strengthen the relationship between government policy and performance.

Coping Strategies as Moderator

Coping is described as "an individual's efforts to master demands (conditions of harm, threat or challenge) that are appraised (or perceived) as exceeding or taxing his or her resources" (Monat & Lazarus, 1991). Coping styles plays a very important role in understanding an individual's responses towards the stressful event (Grennan & Woodhams, 2007). Past researchers like (Pollard and Kennedy 2007) explored that coping strategies were comparatively stable and suggest that there is a dispositional element to coping and several categorizations have been described in the literature (De Ridder 1997). (Roger, Jarvis and Najarian 1993) divides coping strategies into two types; adaptive and maladaptive styles. Adaptive Coping strategies are further named as rational and detached coping while maladaptive coping is emotional and avoidance coping (Roger, Jarvis, and Najarian 1993). According to literature, rational coping is alternatively used as task-oriented & problem-focused coping. It involves trying to change the conditions of the stressful event by using a problem-solving approach. Perhaps this is opposite to detached coping which poses that create a distance or disassociate you from such happenings (Grennan & Woodhams, 2007; Roger 1993). It

has been seen that detachment and rational coping is more fruitful than avoidant or emotional coping

(Freeman 2005). Emotional coping is more related with handle emotional distress and avoidance coping is specified as avoiding or ignore a problem to remain calm (Grennan & Woodhams 2007). According to the literature implementation of cutbacks is perceived as results in job insecurity and stressful situation. While public show resistance when cutbacks are implemented. Moreover, it also results in a low level of job satisfaction, organizational commitment, and organizational performance (Pandey 2010). For effective implementation of cutbacks support from organizational members is needed. In this context explained above for implementation of effective implementation of cutbacks coping strategies plays an important role and moderate the relationship of cutbacks and organizational performance.

H5: Coping strategies moderate the relationship of cutbacks and organizational performance.

Methods

Participants and Procedure

Three different time intervals were chosen to collect data from private and public hospitals in the country. The overall period for the data collection was over 2 months with three intervals having a lag of a week or two between each interval when data was collected from the same respondents? At these intervals, very specific questionnaires which were personally administered to respondents were given to collect data. To explain the purpose of the study and what it comprises, all the participants were given a cover letter. It was voluntary participation by all respondents, and they were assured of the confidentiality of responses in the study. Before data collection could begin, to ensure access to all these organizations – their HR departments were reached. To make it easy to collect data at a second and third interval from the same employee, each questionnaire was assigned a tracking ID together with time gap defined.

Upon first interval or T1, 350 surveys were distributed containing the measures related to dependent, independent, and moderator variables of the study including organizational decline, government policy cutbacks, coping strategies, and organizational performance. With a response rate of 84% at T1, around 294 surveys were received which were completely usable. At T2 or second interval, after a lag of about two weeks – respondents who gave usable data were reached out to fill in a second survey that comprised of independent variables of the study including government policy and organizational decline. Around this time, with a response rate of 88% surveys received back that could be reused were 310. Eventually, after two weeks of T2, at the third interval or T3 – participants who gave usable data form at T2 were asked to complete a third survey having questions about mediator and moderator variables of the study which includes coping strategies and cutbacks. This time around 290 completed questionnaires were received and overall 82% response rate for the study was reached.

The respondents differed in their ages, gender, education, hierarchical levels, departments, and other demographics.

Measures

Questionnaire was written in the English language. A 5-point Likert scale ranging from 1=strongly disagree to 5=strongly agree was used to get responses on the items. High values indicated high levels of that variable and vice versa.

Organizational decline (OD). IPM was tapped by a 6-item scale developed by Sanjay Mohapatra. (2013). Sample items of this scale are "Unable to meet payroll crisis" "No marketing rumors about the organization", "Poor internal control" and "Major conflict between executive directors". The Cronbach α for this scale was found to be 0.79. *Government Policy (GP).* GP was tapped by a 3 items scale used by Ringa et al (2013). Sample items for this scale "Proportional cuts across-the-board over all areas." and "Targeted cuts according to priorities (reducing funding for certain areas, while maintaining it for the prioritized ones)". The Cronbach alpha reliability for this scale was found to be 0.78."

Cutbacks (CB): CB was measured by 5 items used by COCOPS Survey (2013) Sample items of this scale are "Staff layoffs" and "Hiring freezes" and "Pay cuts". The Cronbach α for this scale was found to be 0.77.

Coping strategies (CP). CP was measured by a 4-item scale adapted from (Bonnie brittle 2020). Sample items for this scale are "Take Action to change things" and "Just take nothing personally". Cronbach α for this scale was 0.74 in the current study.

Organizational performance. It was measured by a 6-item scale developed by "Xueyuan Liu et.al 2018". Sample items of this scale are "The customer service level" and "The reliability of services". Cronbach α for this scale was found to be 0.75.

Control Variables

Due to age and department, variations in the outcome variables were indicated by a one-way ANOVA test. In addition, total and present experience, age were of importance also but due to being continuous or having less than three categories, their effects were directly controlled.

Confirmatory Factor Analysis

Confirmatory factor analysis was conducted to shape the discriminant validity of the variables of the study. As per Gerbing and Anderson (1988), one on one variables pairing needs to be evaluated against a respective one-factor model of each. Therefore, firstly a full measurement model was tested (CFA of all variables in study) and it was equated to a one-factor model in which all the variables' items were loaded onto a latent single factor.

Furthermore, In addition, variables that were measured at the same time interval and were answered to by the same participant were compared to their one-factor models of each. In every scenario, a multiple factor model with no constraints appeared to be better suited than the earlier mentioned single factor models which mean discriminant validity of our study variables was adequate. Table 1 shows CFA results

Table 1

Results

Descriptive statistics are given in Table 2, Cronbach alpha reliabilities and Bivariate correlations among the main variables of the study are also given. Organizational decline was positively correlated to organizational performance ($r=0.32$, $p<.001$), government policy ($r=0.35$, $p<.001$). Additionally, a Positive correlation was found between Organizational and cutbacks ($r=0.36$ $p<.05$) and government policy ($r=0.38$, $p<.001$) while cutbacks correlated to organizational performance ($r=.65$, $p<.05$).

Table 2

For assessment of mediation and moderation effects, the Preacher and Hayes (2004) macro using the bootstrapping technique through SPSS 19 was used. For testing the moderation hypotheses results at ± 1 SD the significant interaction terms were plotted. In support of H1(a), H1(b), the findings showed that organizational decline and government policy was significantly and positively connected to operational firm performance through cutbacks e.g. 95% confidence intervals around the indirect effects did not contain zero [.14, .31] [.12, 27]. Direct effects of organizational performance and government policy was correlated with cutbacks ($r=.38$ $p>0.05$) ($r=.36$ $p>0.05$) hence H2 and H3 was accepted. Besides, the Sobel test value for the normal theory test showing formal two-tailed significance test also authenticated these findings (Sobel, indirect effect=0.04, $Z = 6.59$, $p<0.001$) (Sobel, indirect effect=0.03, $Z = 7.01$, $p<0.001$. Hence H4(a,b) mediation hypotheses were accepted.

Table 3

Table 4 shows that cutbacks and coping strategies interaction were positive and significant for organizational performance ($\beta=.08$, $p<.01$). Furthermore, the bootstrapping technique at 95%CI also verified that cutbacks had conditional direct effects on organizational performance at varying levels of moderator, particularly for high cutbacks (see table 4). Consistent with H2, Figure 2 indicates that the positive link between cutbacks and Organizational performance is stronger (and positive) at high levels of coping strategies as compared to low coping strategies. Thus, H5 was accepted.

Table 4

Figure 2

Table 1

Confirmatory Factor Analysis

Model	χ^2	Df	χ^2 / Df	CFI	GFI	AGFI	NFI	RMSEA
M0: Hypothesized Five-Factor Model	685.17	425	1.61	.89	.83	.80	.80	.04
M1: One-factor model by combining all variables into one-factor (OD, GP, CB, CP, OP)	170.58	99	1.72	.87	.80	.78	.83	.06
M2: One factor model combines (OD, GP) in to one factor	892	433	2.06	.77	.75	.78	.67	.17
M3: One factor model by combining (CB, CP)	1241	437	2.83	.61	.77	.73	.76	.15

Note: n=260, where, OD=Organizational decline; GP= Government policy; CB= Cutbacks; CP=coping strategies; OP=Operational firm performance.

Table 2

Means, Standard Deviations, Correlations, and Reliabilities for Key Variables in the Study

Variable	Mean	SD	1	2	3	4	5
1. Government policy	3.73	0.95	(.78)				
2. Organizational decline	3.45	1.09	.51**	(.79)			
3. Cutbacks	4.01	0.94	.38**	.36**	(.77)		
4. Organizational performance	4.41	0.95	.35**	.32**	.65**	(.75)	
5. Coping strategies	3.47	1.00	.42**	.59**	.45**	.64**	(.74)

Note n=294, Control Variables are Organization name, department, age, Cronbach's alpha reliabilities are presented in parentheses. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3

Mediated Regression Analysis Results

	Variable	R	R ²	B	SE	t	p
		.38	.14				
1	Direct effects of GP on CB			.38	.05	7.01	.000
2	Direct effects of OD on CB	.36	.13	.36	.04	6.63	.000
3	Direct effects of CB on OP	.65	.42	.65	.04	14.72	.000
4	Direct effects of GP on OP	.35	.12	.35	.05	6.36	.000
5	Direct effects of OD on OP	.32	.10	.32	.04	5.74	.000
Indirect Effect and Significance Test Using Normal Distribution							
				Effect	SE	Z	p
	Sobel			.04	.03	6.59	.000
				.03	.02	7.01	.000
Bootstrap Results for Indirect Effects							
				M	SE	LL95% CI	UL 95% CI
	Indirect Effects CB			.2259	.0425	.1442	.3122
	Indirect effects CB (OD)			.1944	.0388	.1248	.2751

Note: n= 294, Control Variables are, department, age. OD=Organizational decline; GP= Government policy; CB= Cutbacks; CP=coping strategies; OP=Operational firm performance. Bootstrap Sample Size=5000. LL=Lower Limit, CI= Confidence Interval, UL= Upper Limit.

Table 4
Hierarchical Moderated Regression Analysis

Predictors	Organizational performance					
	R	R ²	Estimate	SE	LLCI	ULCI
Step1	.77	.59				
Constant			.22	.40	1.03	.57
Cutbacks			.72	.10	.52	.93
Coping strategies			.76	.12	.51	1.00
Step 2	ΔR^2	.0119				
CB x CP			.08	.02	.14	.02
Conditional Direct Effects of X on Y at Values of Moderator (i.e., CP) (Slope test Results)						
T						
Moderator	Coping strategies					
DTP			Effect	Boot SE	LLCI	ULCI
CP -1SD (-.72)			.52***	.04	.42	.61
CP mean(0.00)			.43***	.04	.35	.52
CP +1SD (.72)			.35***	.05	.24	.46

Note: n= 260, Control Variables are, department, age. OD=Organizational decline; GP= Government policy; CB= Cutbacks; CP=coping strategies; OP=Operational firm performance. Bootstrap Sample Size=5000. LL=Lower Limit, CI= Confidence Interval, UL= Upper Limit. * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1
Research Model

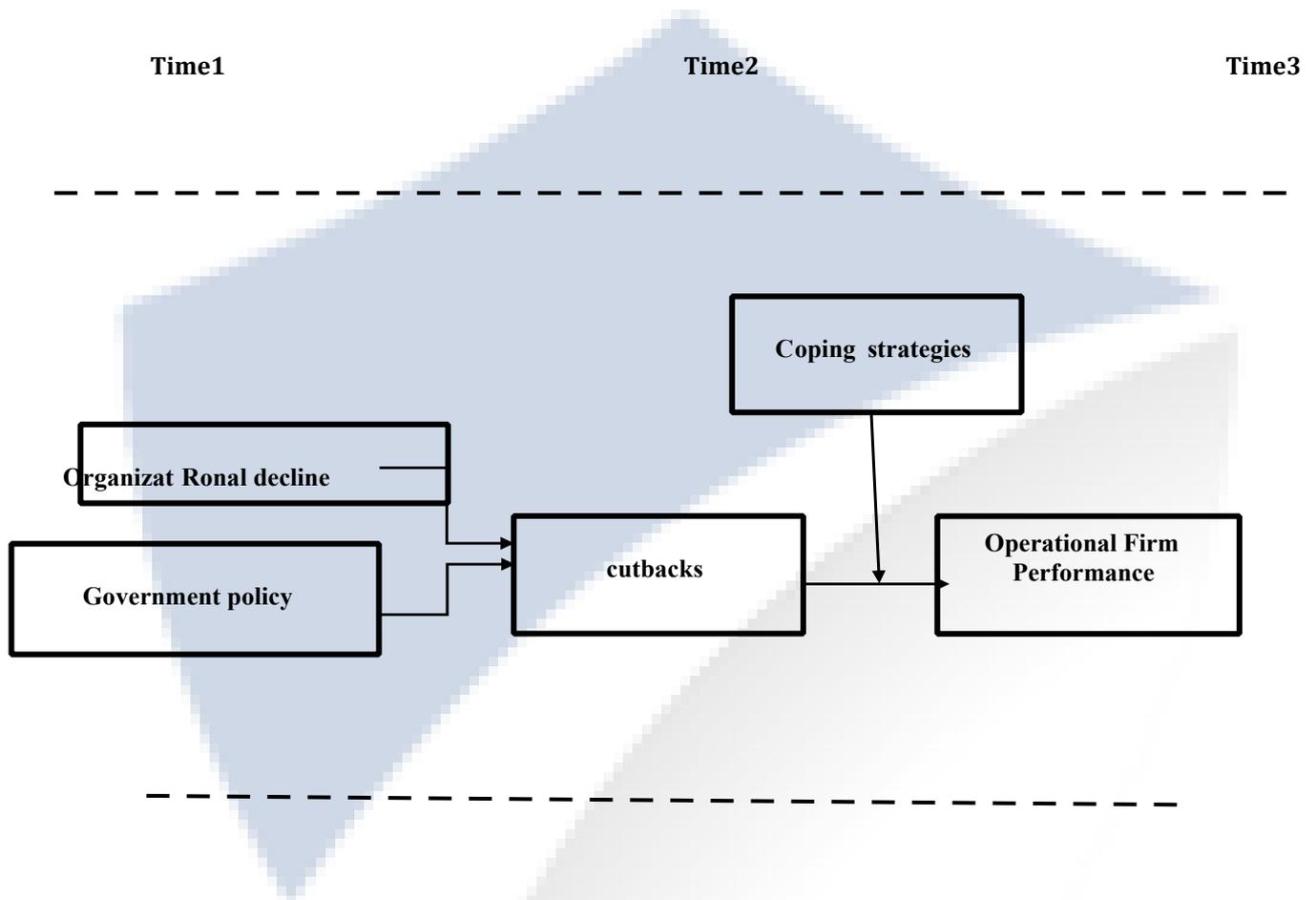
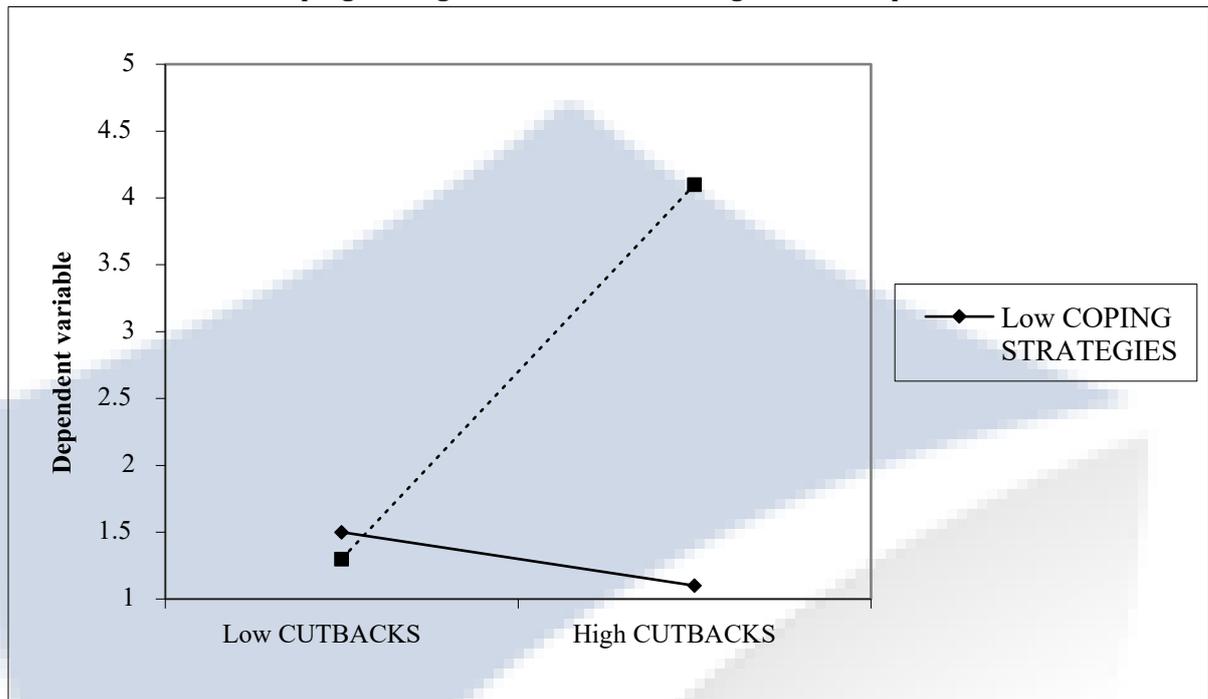


Figure 1 indicates a model where organizational decline and government policy leads to operational firm performance through cutbacks. Coping strategies moderates the relationship between cutbacks and organizational performance.

Figure 2

Interaction Effects of coping strategies on cutbacks and organizational performance



Result from Discussion and Limitations

The current study investigates the relationship of organizational decline and government policy with organizational performance while this relationship is mediating by cutbacks. Besides this coping strategy moderates the relationship between cutbacks and organizational performance. According to the results mentioned above organizational decline and government policy are positively associated with organizational performance. When organizations are declining their performance is poor. Similarly, government policies also affect organizational performance. An increase in organizational decline will lead to a decrease in organizational performance. To control the performance and chase the performance balance organizations implement cutbacks. Cutbacks mediate the existing relationship and weaken this. According to results implementation of cutbacks increases the performance. The purpose of the implementation of cutbacks is to control performance which is proved through mediation. On the other hand, cutbacks exhibit negative effects. Coping strategies strengthen the relationship between cutbacks and organizational performance. In prior studies coping studies were taken as mediators (bonnie brittle 2020). Results of direct effects and moderation depict that all hypotheses were accepted. This study is limited in the context of data collection and common method biases. one of the limitations of this study is it used perception-based scales. in this study, researchers perceive that in response to government policy and organizational decline cutbacks were implemented while constructing questionnaire items perception base items were used. This study also considers very limited determinants while in the environment there might be other factors also which leads towards cutbacks. Another limitation was it only includes the health sector in data collection while other sectors are equally important. Another limitation was while the collection of data people's biases related to filling of questionnaires might affect the results. Answers to the questions are dependent upon the mood of respondents.

Conclusion and Future Directions

The current study used 294 responses from the health sector to determine organizational decline and government policy as a determinant of cutbacks.in response to financial crisis organizations face

decline and in times of government policy also changed which leads to the implementation of cutbacks to maximize organizational performance. CFA, mediation, and moderation analysis were performed to report the results. Results were reported through SPSS 19. Results support all the hypotheses and conclude that organizational decline and government policy are determinants of cutbacks. Cutbacks are changing management's vital strategy to control the organizational performance in times of financial crisis. Implementation of cutbacks is important for the enhancement of organizational performance. While coping strategies plays important role in the effective implementation of cutbacks. The results of the current study provide important practical and theoretical implications.

Policymakers and decision-makers use this study's results before the implementation of change and can control the performance in times of crisis through various cutback strategies. Theoretically, no study had previously built this type of relationship and linked it with theory. Theoretical explanation of model is an addition in the existing literature. Another practical implication is it portrays the importance of coping strategies. Coping strategies mitigate the negative effects of cutbacks and help organizations to enhance organizational performance. Many organizations face failure Results show that this kind of hard situation can be controlled by coping strategies. This study provides future directions. Further researchers can conduct this study in different sectors and emerging countries as well. Another future direction is other factors in the environment might be also determinants of cutbacks which can be investigated in future studies. Future studies can also construct the scale for determinants of cutbacks.

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Role of Islamic Teachings in Shaping Mental Health of Educated Youth: A Contribution towards Good Governance

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Abstract

Islam is a significant religion globally, followed by a massive population. It encompasses all exclusive universal fundamental human values, which are considered essential sources of human advancement. The research study examines Islamic teaching and its effect on educated youth mental health toward good governance. The study has adopted a questionnaire survey method for data collection that contained 149 respondents from different cities in Pakistan. The data were analyzed through the Statistical Package of Social Sciences (SPSS) and interpreted according to the analysis result. The study's findings indicate that Islamic teaching positively affects the educated youth's mental health and promotes good governance in society. Prominent scholars and leaders who incorporate Islamic values in their governance also encourage the subordinates and general followers to accomplish their established goal among each segment of society to fulfill responsibility and rights through religious values and norms.

Introduction

Religion is the supreme persuasive subject, particularly for the influence of human behavior all over the world. Most of the world's communities and nations follow religion in their context. It has a substantial impact on individuals' lives while providing sources of motivation and inspiration for action and deeds in their daily lives. However, two-thirds of the population have faith in God and obey religious teachings firmly. (Najam, Khan, Waheed, & Hassan, 2019). Islam is the second-largest religion globally, encompassing all the universal moral values and determinedly emphasizes its practices. Quran is considered the primary source of life-guiding principles and absolute sources of faith for Muslims. At the same time, it teaches about God's oneness and provides a complete code of life, whether a collective or individual aspect of life. Islam has broad views and principles regarding man-to-man relations to regulate society in a civilized and moral way, such as socio-economic and political spheres of life. Islamic teaching, such as Quran and Sunnah, emphasizes individual and social morality to strengthen the values of trustworthiness, fairness, transparent dealings, tolerance, honesty, promises, and equality of men and draw some prescribed punishment for crimes (Rishi, 2004). The process of

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globalization has created a large vacuum in developing societies. It has brought plenty of conveniences and variation in ordinary people's lives and raised many mental health issues closely linked with understanding and insight. The human being is a superior species to animals because God bestowed wisdom and moral knowledge to men, as mentioned in the divine revelation of the Quran. Therefore, Islamic education emphasizes this knowledge, nurtures both body and soul, and satisfies human mental needs. Indeed the human behavior toward others and himself based on the Islamic teachings guarantees mental tranquillity. It has been proved that many behavioral and mental disorders result from the lack of ability of parents and educators in applying educational methods and discourse following the needs of each age group such as children, youngsters, and adolescence. Therefore, the prevention of negative attitudes and boosting religious and Islamic education play an essential role in creating and feeding upright mental health sources, leading to society's social and cultural development (Hamidif, Bagherzadeh, & Gafarzadeh, 2010).

Religion and mental health are naturally firmly interlinked. Each religion has large rooms to address the psychological capability and vulnerability of its followers. Furthermore, Islam has a significant potential to heal numerous mental illnesses of Muslims. Moreover, guide them about life's procedure and objectives. There is a substantial relationship between the Islamic lifestyle and mental health in both men and women. Mental health has been referred to as the lack of mental disorders. In contrast, the positive dimension of mental health is stressed. According to the World Health Organization (WHO) definition, health is the state of complete physical, psychological, and social well-being and not merely the absence of disease or disorder.

Furthermore, it refers to subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence, and recognition of the ability to realize one's intellectual and emotional potential. On the other hand, the young people's help-seeking for mental health problems and various terms, including psychological distress, issues, and mental disorder. Thus all variation and mood changes, thinking, and behavior are associated with pain or diminished functioning across various domains (Leighton & Dogra, 2009). Eventually, a mentally healthy youth can further contribute to society's development in numerous facets of the life sphere, such as participation in political and economic activities, community development, decision-making, and promoting society's entire governance.

In the context of Islamic jurisdiction, every person will be answerable to God for his action and deeds on earth. From the Islamic perspective, good governance mostly depends on its characteristics and features included in the governance process. The formal government ruled in Islam, referring to Mohammad's (S.A.W.) government and his caliphs (Khalifa Rashidun). The ruler and the ruled are subject to the law, and no discrimination based on status, power. Islam stands for equivalence and carefully adheres to this principle in social, economic, and political contexts. Islamic governance or state essentially uses Islamic ideals, values, and regulations as a governance system to promote the benefits of collective social interests and prevent social harm.

The idea of "good governance" can be generally defined as the governance model that indicates citizens' public and financial consequences or the receiving of required outcomes according to the normative values of social equality. In particular, good governance features such as appropriate organizational ability, community contribution, and responsibility can be exercised effectively. In contrast, overemphasis on some characteristics over others may lead to undesirable results. Moreover, governance implies the approach where the public is governed and the manner a government is run. It refers to a national political system and its works concerning community organization and the rule of the act. Thus, the idea of authority goes beyond the "state" and contains a governmental aspect (Islam, 2012). Today, almost all major growing institutes emphasize that good governance is an essential part of their program. Good

governance is a pretty indefinable goal; it has diverse meanings for different organizations and actors in the government system (Gisselquist, 2012).

The research study is qualitative in nature and analytical, following a secondary source of data. It aimed to analyze Islamic teaching and its effect on educated youth's mental health and their role towards good governance. Islam plays a vital role in strengthening the cognitive health of its followers; this study determined the relationship among their variables about the association between educated youth and their good governance. The study examines past literature and expert opinions, which bring a fruitful outcome to youth and society.

Problem Statement

The Muslim youth has firmly believed in Islamic beliefs and principles and strongly follows the rituals while ignoring the Islamic socio-economic, political, and cultural practices and discourses. Exclusively, Islam is considered the gratitude of all responsibilities as a divine command. Each Muslim student seeks and equips himself with other seculars studies and global, national affairs daily while not considering the most precious knowledge and practices in their daily life. Despite these sources, mental health and governance issues in the country exist on a large scale. Islamic teaching can positively turn the youth's thoughts and behavior into practices to receive fruitful outcomes, ultimately becoming a source of governance promotion.

Significance of the study

The research study has massive significance in numerous contexts; immensely, it will benefit the country's educated youth and equip them with a new source of knowledge and create future references to perform effectively and sufficiently in the government and private sector. The present study's primary goal is to examine the correlations between Islamic teachings, mental health, and good governance. This study will assist the researcher and other professionals in religions, psychology, and public administration and demonstrate several indications to deal with the task effectively. Furthermore, the most significant, the policymaker will be encouraged to adopt these sources to promote public servants' moral and ethical strength to deliver more beneficially and effectively to the public. On the other hand, academia will acquire a path and various approaches of coping with students' mental health and behavioral issue during their studies in universities and colleges. The research will lay down a milestone for the educated youth to promote and strengthen Islamic teaching fundamentals as sources of motivation for promoting their values and norms and, eventually, good governance.

Literature Review

The study highlights that Islamic teaching and its practices played an essential role in the believers' mental health and the execution of positive behaviour. Furthermore, the Islamic guiding principle encourages and promotes an ideal approach to life and endorses self-control to prevent maximum immoral acts. On the other hand, it also eradicates negative thoughts and behaviors such as hopelessness, stress, and anxiety among the firm believers. Moreover, results show that Non-Muslims should be more involved in exploring Islam to cure their mental illness (Najam, Khan, Waheed, & Hassan, 2019).

This study has examined the relationships between students' religious lifestyle, life satisfaction, and mental health. In the spiritual manner of life, the sacred, obsessive, and delightful values prevailing worldwide and play a significant role in mental well-being and life happiness. The strong connections between mental health and Islamic disposition significantly enhance the youth population's standard of living and life contentment. However, Islam plays an influential

role in persons' lives and is closely interlinked with psychological well-being and healing mental disease. Moreover, Islam provides guiding principles for life for its believers. It teaches individuals and society how to act and react in their surroundings in diverse circumstances due to any unpleasant occurrence and event (Esfahani, M, F, & A, 2018).

In a study on "Self-esteem, religiosity, and psychological vulnerability among university students," the author has demonstrated a connotation between religion, psychological well-being, and self-esteem among university undergraduates. However, self-esteem is a virtuous factor that plays a role in college students' modification. Faith has two magnitudes: i) motivation, ii) beliefs systematically established and displayed to be an essential mental adaptation factor. Gender differences were perceived in spiritual practices; however, there is no difference in religious beliefs; both men and women have an equal level of religious beliefs (Arshad & Uzair, 2017).

A critical study exhibited a significant effect of religious teaching on psychological well-being both in males and females. Moreover, mental health had more positive relations with spiritual lifestyle among females rather than the male. Thus social factors play a significant role in mental well-being than gender (Salmabadi, Farahbakhsh, Zolfaghari, & Sadeghi, 2015). The paper answered two central questions. First, what is the connection between Islam and mental health? Second, what is the relation between Islam and the West? Results indicate that mental health and Islam are interlinked. Islam enables each believer to develop mental health flexibility and provides a defensive mechanism against mental and behavioral illness. The distinct religious beliefs are the eminent and most effective approach to preserve mental health. An individual (spiritual or not) in Islam provides mental health care to develop social and Islamic proficiency that includes an awareness of a Muslim's deep affection for Islam and how this routine can play an influential role in recovery from a mental disorder (Hankir, Carrick, & Zaman, 2015).

According to Gazopour and barkhordar (2003), the Islamic teachings effectively preserved a balanced life and secured their followers' social hope and dignity. Recitation of the Quran has a significant impact on mental health and eradicates other physiological diseases. Moreover, it affects the same on both Muslims and Non-Muslims. Islamic teaching has a substantial role in building and strengthen mental health. Various social and emotional illnesses are caused by parents' and educators' inability and inferior educational methods, consequently harming young adults and students. Religious education can help implement mental health programs for the individual and society in various ways. Thus, these teachings have the highest sustenance for the person (Hamidif, Bagherzadeh, & Gafarzadeh, 2010).

Eventually, a mentally healthy youth can further contribute to society's development in multiple means, such as participation in political and economic activities, community development, decision-making, and promotion of society's governance. Islamic governance is considered an ideal structure, while the Muslim Ummah's charming objective is always not achievable. Most of the so-called Islamic countries have never followed Islamic governance's tenet, including its values and spirit. During the colonial era, Muslims were interested in implementing Islamic principles and values in their political systems, while Europeans demonstrated a renaissance movement. People coming together can be justified in a single polity is the benefit. This can be obtained from their cooperation to provide different services for each other due to their various specialized trades, profession, competencies, and positive character traits that complement each other and contribute to society's well-being.

The fundamental Islamic principles of governance are followed by an expansion of the essential Islamic values. Nayef Al-Rodhan has suggested eight criteria for ensuring good governance: i) participation, equity, and inclusiveness ii) separation of powers iii) the rule of law iv)

governmental legitimacy v) freedom of press vi) transparency vii) accountability viii) limiting the distorting effect of money in politics. The primary objective of good governance in Islam is to establishing a sociomoral order free from all sorts of oppression, corruption, exploitation, and maladministration. Furthermore, all society segments are responsible for encouraging these governance features such as employers and employees, suppliers and purchasers, the rulers and the ruled, the haves and have-not; besides, Islam firmly emphasizes the psycho-moral training of the individual and society at large.

Therefore, the *Taskiya* (the purification of the self from animal passions) refers to the psycho-moral practice as technical, leading to *taqwa* (God-fearing attitude). In the Muslim state, the ruler is obliged to ensure the community's participation in the state's affairs and benefit from its collective wisdom rather than bypassing the community by exploiting its illiteracy and ignorance. The public is obliged to transform itself from within before it aspires to effect conversion in the outside world. At the same time, it is monitoring vigilantly the society not only its performance, however, also the performance of its rulers (Azram, 2013).

According to Imam al-Ghazali, as he mentioned in his famous book *Ihya Ulum Al-Din* regarding Islamic philosophy of life, Muslims must remember that there is no separation between spiritual and temporal affairs of life. Therefore, all worldly deeds such as seeking knowledge, trading, dealing, and worldly majors, and working are considered an act of worshipping *Allah*. Since they are in line with Islamic policies, rules promote the seeking of human well-being (*Falah*) and good life (*hyayt tayyibah*). The dominant fundamental of good governance in Islam is the concept of God's absolute unity (*Tawhid*). According to Philips (1994), if *tawhid* is not sound, the rest of one's Islam will be paralleled to pagan rituals. Therefore, in the context of governance, an individual must seek guidance from the Creator of the universe in fulfilling the obligation to society. *Tawhid* will lead humankind to be aware that their existence on the earth is *Khalifah* (vicegerent or representative of God). Thus, from the principle of *tawhid* and Qur'anic verses,

The first principle is *Amanah*, or trust to be fulfilled correctly and rightfully. According to Zein et al. (2008), *Amanah* refers to an agreement between God and man since it is mentioned in the Qur'an that God has given the trust to humankind while the heavens, the earth, and mountains refused to accept due to the fear of the heavy burden (Qur'an 33:72). Additionally, the Qur'an has reminded the believers not to betray the *Amanah* entrusted to them (8:27). The concept of *Amanah* will determine the individual's relationship with society. If an individual understands the idea of *Amanah*, the issue of rights and responsibilities can be resolved appropriately. The fulfillment of *Amanah* would bring to *Adalah* (justice). *Adalah, therefore*, constitutes the second principle of good governance (Ihsan & Ayedh, 2016).

Islam always has been teaching firmly to its believers towards this excellent value: when the Muslims, as individuals, purify their intrinsic and outer nature and perfects themselves both physically and spiritually, they turn to transform and improve the social structure of their societies. Consequently, the alterations occur in the other institution of the communities such as family, education, economy, and politics based on Islamic Shariah of governance. This is emphasized on the concept of *Ihsan*, which refers to excel in all of one's worldly endeavors-worship, work, and social interactions. Simultaneously, in a government that implies Islamic values into governance with continual improvement towards an ideal and perfect system (Fattah, 2014).

The faith (*Iman*) provides the safety and security for human emotions and feeling to utilize in a balanced way that has become obligations and rights of each other in society. The concept of religion has been mentioned in the Quran into two categories. Firstly it refers to a set of rules that must be obeyed and implemented by people. Secondly, it has been used to submit the soul

for truth (al-Haq) with authentication *tasdiq* through the heart, speech, and action (Al-Aasfihani, 1412 H). Besides, it emphasizes ensuring quality public services, which is always a dominant demand of society. It required adequate human resources and other material capital such as the latest technology and an appropriate governance system to achieve the community's established goals. Good governance refers to a model or paradigm that the government provides quality services to the public through state machinery. On the other hand, the responsible dimension of the bureaucracy's quality community facilities is transparency and accountability in various governance aspects. In comparison, their actions and words comply with this regulation and character (Taufiq, 2015).

More than 60% of the country's population belongs to the young people in Pakistan. Simultaneously, they can bring prosperity and promote good governance if they receive more privileged required moral support and resources. Most societies have proven the youth's significant role in the development of country governance and culture. The study emphasized that psychologically vulnerable youth can be easy prey to criminals. On the other hand, inadequate opportunities and resources are available for the youth's ideological and physical development. The youth's current challenges and issues, such as unemployment, lack of education, and their energies, turn into harmful and devastating positions. Societal pressures and depression are causes of drug addiction in teenagers as well as in adult youth. (Rauf, 2019).

Research Methodology

This research study is based on a survey method questionnaire. Therefore questionnaire technique has been utilized as a tool for data collection. This research has been confined to the youth students and mainly university graduates pacing in life's practical field. Hence, the research population is graduates and youth who are initially in the professional career development phase.

Data Collection

The first survey consisted of 5 multiple choices questions with 5 points Likert scale response. The aim was to survey 200 graduates students of the different universities in Pakistan. The respondents were university students who are either under completion of their education or initially entering into the practical field to put their theoretical knowledge into practice. Therefore, 149 respondents have completed their responses.

Data Analysis Technique

Before analysis, the data-set was checked for missing data and outliers. The data was then analyzed by using statistical software Statistical Package for Social Sciences (SPSS). Various analysis tests have been applied, such as descriptive, regression, correlation, and moderation, to describe numerous variables' relations.

Results

In this research study, three demographic variables have been used to understand their influence on the relationship between Islamic Teaching and its effect on educated youth's mental health toward good governance. We focused more on age, education as these have profound effects on the outcomes. With age comes maturity and understanding and an increased sense of responsibility. Education enhances awareness, knowledge and promotes rationalization.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gender	149	1.00	2.00	1.3893	.48923
Age	149	1.00	2.00	1.3826	.48765
Qualification	149	1.00	4.00	1.8658	.87501
Valid N (listwise)	149				

The above table shows the descriptive analysis of the study variables. The table displays that gender; Means is 1.3893 (S.D= .4892), the average age of respondents is 1.3826 years (SD=.4876), intermediate qualification of respondents is 1.8658 (S.D= .8750).

Correlations

		Islamic Teachings	Good Governance	Mental Health
IT	Pearson Correlation	1	.591**	.580**
	Sig. (2-tailed)		.000	.000
	N	149	149	149
GG	Pearson Correlation	.591**	1	.580**
	Sig. (2-tailed)	.000		.000
	N	149	149	149
MH	Pearson Correlation	.580**	.580**	1
	Sig. (2-tailed)	.000	.000	
	N	149	149	149

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

The table shows the reliability and correlation analysis of the study variable. The table demonstrates that all the variables have a reliability value above .7, which means that the data is reliable. The table also shows that Islamic teaching is correlated with good governance ($r=.591$, $p<.001$), mental health ($r=.580$, $p<.001$).

Table 3 Regression Analysis for Direct Relationships

	B	T	Sig.
	0.6115	8.887	0.00
Islamic Teaching	→	Good Governance	

The table shows the regression analysis of the direct hypothesis of the research study. It demonstrates that Islamic teaching has a significant positive impact on good governance ($B=.6115$, $p<.001$), and the T value is 8.887, and the sig value is 0.00.

Table 4: Moderation Analysis

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.545E-15	.066		.000	1.000
	Zscore(IT)	.591	.067	.591	8.887	.000
2	(Constant)	3.075E-15	.062		.000	1.000
	Zscore(IT)	.384	.076	.384	5.021	.000
	Zscore(MH)	.357	.076	.357	4.674	.000

a. Dependent Variable: Zscore(GG)

Excluded Variables

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Zscore(MH)	.357 ^b	4.674	.000	.361	.663

A. Dependent Variable: Zscore(G.G.)

B. Predictors in the Model: (Constant), Zscore(I.T.)

Table 4 shows the moderation analysis of the study variables. Interactional term of (T.L.* J.S.) is significant ($p<.001$) with good governance, which means that Islamic teaching moderates the relationship of mental health between Islamic teaching and good governance.

Discussion

This research study's findings indicate that Islamic teachings positively affect the mental health of educated youth and, consequently, become a source of governance promotion in the society. The Islamic scholars and leaders focus on Islamic education and encourage their subordinates and general followers of religion to accomplish Islamic established goals by civilizing a high degree of social and cultural values of Islam through various procedures. Mental health is a socially impacted phenomenon that cannot be separated from the religious and ideological paradigm even though Islam always heals its followers' mental health through various stages and approaches. This research study demonstrates that furthestmost youth firmly follow the rituals and exercise other practices of Islam where society does not seem a fruitful result. Islamic teaching highlights that it improves believers'

collective values and norms in the community and facilitates them to achieve the great goal of self-actualization and motivation to execute their daily life activity excellently.

Islam always instructs their devotees to adopt transparent behavior and promotes a sense of responsibility to establish justice and equity in society. Additionally, Islamic teaching has an idealized influence that can affect employees' self-development, effectiveness, positive behavior. On the other hand, Islam provides an intellectual inspiration that might recover maintainable or supportive performance in each sphere of life. Moreover, mental health might have a conventional thinking pattern with their scholar's and teachers' inspiration that prematurely affects followers' intelligent behavior. Youth is a precious resource of the developing country. Simultaneously, more than 60% of Pakistan's population belongs to the young people in the country.

In contrast, youth can bring prosperity and promote governance in the country if they equip with Islamic pure values and norms. Historically the youth have constantly been playing a significant role in the development of country governance and society. The result demonstrates that psychologically vulnerable youth can easily prey on criminals if they cannot reasonably utilize their potentials and capability. On the other hand, inadequate opportunities and resources available for the youth's ideological and physical development. The youth's current challenges and issues, such as unemployment, lack of education, due to these challenges might be their potential energies, turn into harmful and devastating positions. Societal pressures and depression are causes of drug addiction in teenagers as well as in adult youth.

Conclusion

The research study revolves around the religious effect on human mental health and behavior. The youth population is a precious source for society's development in multiple spheres of life. The present research indicates that religion is an influential subject in human life, such as Islam significantly impacting its followers and providing a personality and character development source. It has been analyzed that Islamic teaching has a positive relationship with the youth's mental health, leading them toward a progressive role for social development. Furthermore, it specifies that most of the youth population adhered to Islamic teaching and particularly to rituals.

Moreover, religion is considered the source of cure for mental illness. The study revealed that Islamic education firmly instructs believers towards this excellent value: when the Muslims, as individuals, purify their inner and outer nature and perfect themselves physically and spiritually. Consequently, mentally wealthy youth equipped with Islamic knowledge and values would be the most significant good governance source if they inspire their ideologically and materially strength. The advancement takes place in the other institution of the communities, such as family, education, economy, and politics based on Islamic principles and governance practices.

Recommendation

- Teachers should assign different academic activities to the students, keeping in mind the teachings of Islam and observing them whether they follow those Islamic teachings in their practical life.

- The teachers of Islamic education need to work hard to cultivate healthy minds to face social and economic challenges in daily life.
- The prominent scholars and preachers of Islam should promote effective teaching mediums and procedures, particularly for youth.
- Higher Education Commission should declare the Islamic discourses as a compulsory subject in the higher education syllabus as sources of self-esteem and motivation.
- Universities should teach Islamic subject that concerns the youth's mental health in each faculty discipline.
- The education sector should enhance the opportunity to provide platforms and activities to counsel the student's character building and strengthen their mental and ideological health.
- The government should provide a reasonable opportunity to the country's youth to participate in its different segments to become service-oriented.
- The government should allocate a specific budget purely for youth career development. As well need to be focused on character building and should provide a reasonable opportunity to enhance professional performance.
- The Islamic concerned department and councils should collaborate with another governmental department to exchange high Islamic teaching and governance values.

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Questionnaire

Dear Respondent,

We are independent freelance research-based content writers. I am researching " **Islamic Teaching and its effect on educated youth's mental health toward good governance**" Your responses will be purely used for my research purposes. It's a voluntary activity; hence you can decline to take this survey. Therefore, please take 15 minutes from your precious time to fill out this questionnaire survey and leave any question that you don't wish to answer or information you don't want to disclose.

Thanks

Gender: (1) Male (2) Female

Age:

- 18-25
- 26-35
- 36-45
- Above

Qualification

- Bachelor
- Masters
- PhD

Islamic Teaching:

S.NO	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I read Islam and seek guidance to live my life	1	2	3	4	5
2	I have a good understanding of Islamic rituals and morals	1	2	3	4	5
3	I always seek the guidance of Islam for my profession					
4	I always do my daily activities according to the Islamic principles and teachings					
5	I often take part in Islamic activities regarding society and cultural development					
6	I always convince by Islamic teachings to take social responsibility in a proper manner					

Mental Health:

S.NO	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	My faiths give me feelings of peacefulness					
2	Islamic education enables the youth to face the challenges in life easily					
3	Islamic education has a significant impact on the psychological well-being					
4	When I am worried, my faiths helps me calm down					
5	Islamic teaching constantly strengthen my mental health and motivates me for positive action					
6	Islam provides sources for the mental illness of believers					

Good Governance:

S.NO	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I have a good understanding of good governance					
2	I always do perform my responsibility in a proper manner					
3	Muslim societies are declining due to the negation of the Islamic principles					
4	Our political and socio-economic system is not improving due to the negation of good governance principles					
5	Islamic teaching always emphasis on governance promotion in society					
6	Society is more influencing by cultural norms and values than Islamic values					

Role of Metallic Nanoparticles as Plant Growth Promoter

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ABSTRACT

Nanotechnology does have a vast range of scientific and agricultural applications. Agriculture both directly and indirectly produces food for mankind. With the world's population booming, it's more imperative than ever to adopt cutting-edge agricultural technologies like nanotechnology. Nanotechnology allows plants to make better use of water, insecticides, and fertilizers. Nanotechnology is described as materials that work at a scale of 100 nanometers or smaller. NPs can be employed as a "thrilling shot, containing herbicides, nano-pesticide fertilizers, or genes" that target certain plant organelles and disseminate their contents. The processes by which nanoparticles influence plant growth and development have received considerable attention. As a corollary, the current research concentrates on the effects of nanoparticles on plants. Nanotechnology will modernize agriculture and food engineering by introducing the latest course of actions such as precision farming, improving plants' aptness to absorb nutrients, more efficient and cost-effective input maneuvers, disease control and prevention, resistance to environmental pressures, and appropriate dispensing, storage, and packaging systems. In this review, we highlight the importance of nanoparticles and their applicability in the agriculture region as an enhancer for plant growth and development.

INTRODUCTION

Nanotechnology is fetching and a prompt promising field that emphasizes the production and use of particles at 1-100nm size. Because of their precise peculiarities such as dimension, form, and deployment, these nanomaterials have grabbed more attention from researchers across the deck (Zargar et al., 2011).

Different physical and chemical approaches are established aimed at nanoparticle (NPs) fabrication. Nevertheless, these procedures have certain pitfalls and pollute the surrounding region. Therefore, biological synthesis of NPs through bacteria, algae, fungi, and higher plants has begun as cost competent and milieu pleasant substitute technology (Makarov *et al.*, 2014);(Siddiqi, ur Rahman, & Husen, 2016). Because of the inclusion of phytochemicals (bioactive compounds) in plant extracts, no additional capping mediator is required for the assembly of MONPs. For human life, plants always show a crucial part. 25% of the pharmaceutical drugs are plant-based and its application accounts for almost 70% of disease treatments such as cancer or other infectious diseases (Perassolo *et al.*, 2017). Because medicinal plants are the cornerstone of traditional prescriptions, modern medicines are also based on them. Herbal medicines, according to the WHO, meet 80% of human healthcare prerequisites in remote areas, where many people have been disillusioned by conventional practice and are looking for alternatives (Hosseinzadeh, Jafarikukhdan, Hosseini, & Armand, 2015).

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Phytochemicals e.g., flavonoids and phenolic have a great effect on cancer inhibition and health. Plants are a rich source of phytochemicals. In the Okinawan population, the life span can be prolonged by phytochemical-rich vegetables and fruits, according to Dietary Approaches Stop Hypertension. Additionally, these compounds have high antioxidant activities. Secondary metabolites are plant active components that serve a variety of roles around the planet. The use of phytochemicals in pharmacological and cosmeceutical products, as well as medications, is a current research topic (Azwanida, 2015). Medicinal herbs were being used for flavor, food preservation, and the treatment of specific diseases since ancient times. Modern research focused on the use of nanotechnology to escalate the yield of plants and enhance their nutritional components to complete the food requirement of populations.

LITERATURE

Nanotechnology analyzes nanomaterials in a variety of different ways. Nanomaterials provide innovative concepts and objectives for the agriculture sector. The use of nanomaterials in nanotechnology has changed farm output. Nanoparticles have a variety of uses in areas such as medicine delivery, the environment, energy, pharmaceuticals, cosmetics, and agriculture, among others, due to their unique features. Nanoparticles have attracted considerable attention in recent decades (Okuyama, Lenggoro, & Iwaki, 2004).

Nanoparticles are made using a variety of processes, including physical, chemical, and biological ones. Nonetheless, the biological or green approach of producing nanomaterials is significant. The most suitable, appropriate, and environmentally beneficial approach to nanomaterial or nanoparticle synthesis is biological synthesis. Physical and chemical methods of nanoparticle manufacturing are both detrimental to the environment and pricy. Plant extracts are being used for biosynthesis of nanoparticles, which is garnering greater attention concerning other materials (Basavegowda *et al.*, 2013).

Depiction of nanoparticles is a necessary stride after synthesis. Nanoparticle characterization encompasses a series of microscopic and spectroscopic techniques. Microscopically based approaches, such as Scanning Electron microscopy (SEM) and Transmission Electron Microscopy (TEM), are being used to define the size and morphological configuration (Poinern, 2014). Similarly, spectroscopic methods such as XRD, FT-IR, and UV-vis are extensively conducted to analyze the organization, conformation, crystal phase, and assembly of nanoparticles. In addition, XRD observations indicate the crystalline size and alignment of nanoparticles. The FT-IR technique is used to confirm functional groups such as hydroxyls and carbonyls. FT-IR can also be employed to quantify surface morphology and residues because these constituents are fastened to the surface via nanoparticle formation (M. Shah, Fawcett, Sharma, Tripathy, & Poinern, 2015).

Nanotechnology draws a major effect on the food and agriculture industries. Distinct nanoparticles have unique characteristics and are applicable in ample domains. Nanoparticles like copper, zinc, as well as silver, and gold are frequently employed. Different nanoparticles are employed in growth mediums to minimize bacterial contamination as they have greater antimicrobial properties. Nanosensors are typically utilized in agribusiness to detect plant viruses and identify underground rail. These renewable agricultural resources, such as chemicals, minerals, and water, are user-friendly as nanosensors. To check the outcome, these petite sensors are disseminated across the desired dome (Ingale & Chaudhari, 2013). Nanosensors can help to diminish pollution and fertilizer consumption in the environment. Nano-fertilizers with a gradual release rate are commonly employed (DeRosa, Monreal, Schnitzer, Walsh, & Sultan, 2010).

Scientists are engrossed and leaning toward auxin evaluation as it aids them to cognize how plants respond to their environs. Auxin-based nanosensors have moreover, been discovered to play a foremost role in agriculture (McLamore *et al.*, 2010). Formers will profit more from these

revolutionary technologies, particularly nanotechnology, in zones where industries are less developed and in fully developed countries. Nanoparticles have a variety of commercial applications, including the Food and Cosmetics industries, as well as water treatment where nanomaterials contribute significantly and are cost-effective. Nanoporous ceramics, membrane-based carbon nanotubes, and magnetic nanoparticles are employed extensively in water purification systems, despite the inclusion of UV and chemicals. Carbon nanotubes, according to researchers, have eliminated heavy metals such as arsenic, lead, uranium, and water pathogens. Endosulfan, chlorpyrifos, and Malathion are pesticides, viruses, and pesticides that can be eradicated with nanoparticles. In bioremediation, nanotechnology plays a crucial role (Karn, Kuiken, & Otto, 2009).

Nano-encapsulation is the varnish of various nanomaterials within an additional material, such as a matrix or shell, at a nano-scale scale. In the agricultural industry, nano-encapsulation is a typical procedure for releasing insecticides slowly and efficiently into a specific host plant. It permits herbicides to be absorbed properly in plants. Nano-encapsulation is also a viable option for DNA delivery. Nano-encapsulation has changed the way plants interact with infectious agents and effectively defends plants from insects (Torney, 2009). Nano-fertilizers are more proficient than regular stimulants, according to (Liu, Feng, Zhang, Zhang, & He, 2006). Nano-fertilizers can help agricultural products flourish faster (35 to 40 percent). Nano-fertilizers are significant in the agriculture business for increasing nutrient efficiency and controlling eutrophication challenges. Nano-fertilizers are a new and effective technique to address organic fertilizer deficits. Many more studies about the use of nanoparticles as nano-fertilizers are required (Rout & Sahoo, 2015).

Urgency of Study

The impacts and applications of NPs on plant development and enlargement are highlighted in this review. Plant proliferation can also be boosted by nanoparticles because they can improve soil quality by degrading pesticide residues. Furthermore, it demonstrates how nanoparticles are the best alternative for agricultural production sustainability because they pose fewer environmental risks such as single-walled carbon nanotubes, for example, could pierce the cell wall, act as a transporter, and are cost-efficient. As a result, for nanoparticles synthesis that is safe to the environment, non-toxic, cheap, effective, and acceptable technology is required.

Research Purpose

The current appraisal is designed to keep in view the importance of metallic nanoparticles for the germination and burgeoning of plants. The main objective of the study includes the environmentally friendly amalgamation of nanoparticles and the effect of metallic nanoparticles on plant escalation as well as on plant development. This review also highlights the applications of nano-scale particles in various arenas.

Interaction of Nanoparticles with Plants

Nanomaterials must be incorporated by the plant cell and transit the plasma membrane to enter the symplastic path (Pérez-de-Luque, 2017).

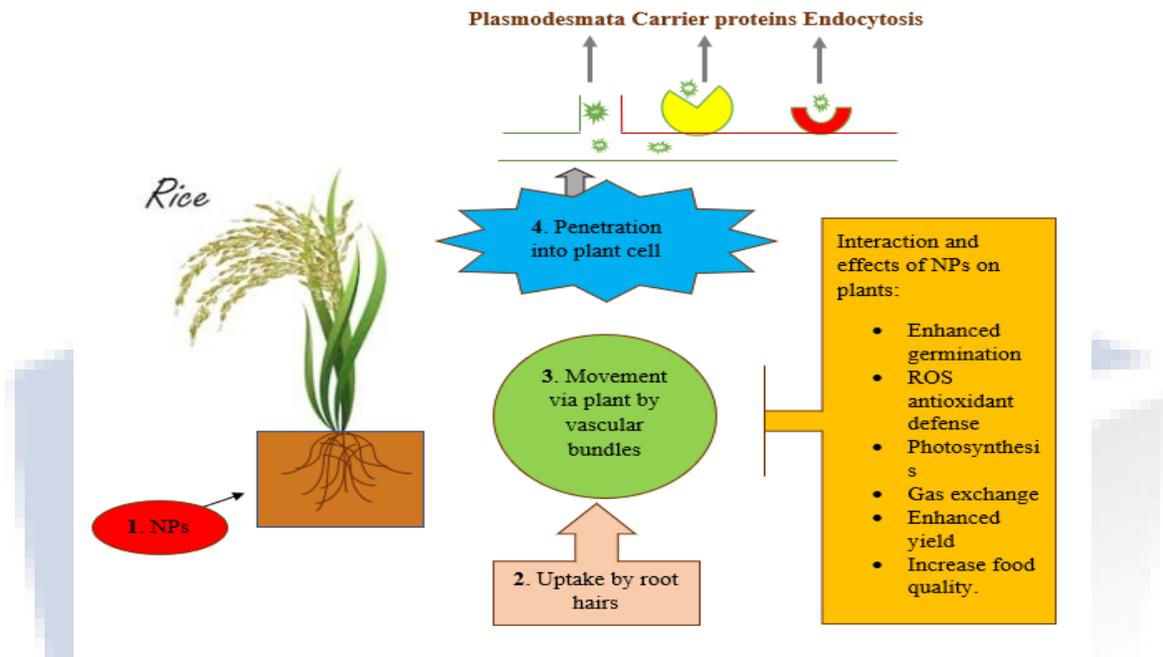


Figure 1: General schematic approach of nanoparticle incorporation in rice plants.

There are numerous ways for nanoparticles to penetrate the plant cell (Schwab et al., 2016).

How nanoparticles are stewed in the cells is one more important query as it will over manipulate the useful function of the nanomaterials. If we intend to distribute chemicals within organelles, then endocytosis emerges as the mainly appropriate method. Resting on the converse, for liberation in the cytosol, pore development ought to be the most obvious approach for it. Furthermore, we could be fascinated in nano-materials that do not go within the cells of plants although in other creatures, such as bacteria or fungi in array to indulge crop systemic ailments and toxicities (Rispaill et al., 2014).

Impact of metallic NPs in Plant Escalation and Growth

Each MONPs has the capacity of affecting the development and growth of floras. Seed growth, shoot/root development, biomass assembly, and physiological/biochemical responses all indicate both beneficial and harmful properties (Mohamed & Kumar, 2016). With changing morphological, structural, physiological, and hereditary factors of plants, metallic ENMs induce noxiousness at increasing concentrations (Rico, Peralta-Videa, & Gardea-Torresdey, 2015). A small number of booms are also available on the deleterious effects of engineered metallic NPs on seeds and seed-renew in wheat (Rico et al., 2014) and ordinary bean (Majumdar et al., 2015).

Even while significant differences in antioxidant enzyme functioning and up-regulation of heat shock proteins have been documented intermittently, some plant species may not show any physiological alterations (Siddiqi & Husen, 2016). Plants have a sumptuous antioxidant resistance arsenal, concerning enzymatic as well as non-enzymatic constituents, to avoid oxidative

detriment and concurrently amplify confrontation contrary to metal oxide noxiousness (Kumari, Singh, Singh, & Biochemistry, 2017). Metallic nanoparticles increase antioxidant actions in plants (Table1).

Metallic Nanoparticles	Enhanced Antioxidant Activity	Plants	References
Fe ₃ O ₄ NPs	Superoxide dismutase (SOD), Peroxidase (POX) Catalase (CAT)	Wheat plants	(Iannone <i>et al.</i> , 2016)
TiO ₂ NP	Catalase (CAT), Glutathione Reductase (GR) activities	Water thyme plants	(Okupnik & Pflugmacher, 2016)

The precise method fundamental to the plant protections against the nanoparticles beget harmfulness has not been completely recognized. The bioavailability, absorption, solubility, and disclosure period of metal oxide NPs influence their assimilation and transportation in diverse plant components (Verma et al., 2018).

Nanotechnology Applications

Nanotechnology is a fascinating and promising discipline that allows for new and cutting-edge study in a variety of sectors, and nano-technological discoveries may lead to new and exciting applications in biotechnology and agriculture. Nanotechnology has the potential to accelerate research in fields like reproductive biology and technology, agricultural and food surplus conversion to energy, and additional constructive derivatives during enzymatic nano-bio processing, chemical feelers, water cleaning, infection anticipation, and handling in plants using innumerable methods (Nair et al., 2010). The US Department of Agriculture and Clemson University scientists have settled a chicken feed that incorporates multifunctional polystyrene NPs that interact with pathogens to diminish food-borne diseases (Sekhon & applications, 2014). Nanoparticles shows various beneficial effects on palnt development and enlargement as shown in Table 2a, 2b.

The sway of Metallic Nanoparticles in Plants

Scientists from their outcomes demonstrated together constructive and pessimistic effects on plant escalation, progress and the effect of engineered nanoparticles on plants fulcrum on the temperament, attentiveness, dimension, and substantial and biological characteristics of ENPs as well as plant variety (Ma, Geiser-Lee, Deng, & Kolmakov, 2010).

The chemical arrangement, size, shallow casing, reactivity and most crucially the amount at which nanoparticles are treasured all limit their efficiency. Regardless, this exam addresses the important role of NPs in seed sprouting, root development, and growth parameters (Khodakovskaya et al., 2013).

Role of Silicon Dioxide NPs

As the initial emblems of growth and development, plant augmentation and enlargement begin with seed germination, tailed by root extension, and shoot advent. According to the findings of many investigations, the consequence of NPs on seed sprouting was dose-dependent. (Bao et al., 2004)

explore the functional significance of nano-SiO₂ on Changbai larch (*Larix olgensis*) plantlets and establish that nano-SiO₂ enhances sprout development and excellence, plus mean elevation, root thickness, foremost root dimension, and the numeral of adjacent roots of saplings and also induce the production of chlorophyll. In abiotic trauma, nano-SiO₂ accelerates kernel development. Nano-SiO₂ increased seed germination and expedited the antioxidant technique under NaCl pressure (Siddiqui, Al-Whaibi, Faisal, Al Sahli, & chemistry, 2014).

(V. Shah, Belozerovala, & pollution, 2009) used silica, gold, and copper nanoparticles in their research and discovered that all such nanoparticles have a noteworthy impact on lettuce beginnings. The function of nano-SiO₂ and nano-TiO₂ enhance soybean seed propagation by rising nitrate reductase and in addition by boosting the seed's capability to take up and exploit water and minerals (Zheng, Hong, Lu, & Liu, 2005). In salinity tension, nano-SiO₂ hastens leaf new and desiccated load, chlorophyll substance, and proline gathering. An extend in the gathering of proline, open amino acids, nutrients, antioxidant enzymes action owing to the nano-SiO₂, in this manner improving the lenience of plants to abiotic tension. Nano-SiO₂ NPs accelerated the plant development and expansion by mounting gas exchange and chlorophyll fluorescence constraints, such as residual photosynthetic grade, transpiration tempo, stomatal conductance, successful photochemical effectiveness, definite photochemical productivity, electron transport rate, and photochemical dose.

Role of ZnONPs

According to a burgeoning field of knowledge, zinc oxide nanoparticles (ZnONPs) boost plant growth and development. Nevertheless, the elevated quantity of ZnO nanoparticles lessened seed development. The consequence of NPs on growth and plant development differs on engrossment of NPs and diverges among different type of plants.

(de la Rosa et al., 2013) utilized various dilutions of ZnO nanoparticles on cucumber, alfalfa, and tomato and observed that isolated cucumber seed propagation was improved. Plantlet roots of *Vigna radiata* and *Cicer arietinum* immersed "ZnO nanoparticles" and increased essence and shoot extent, as well as shoot/root biomass, as shown by supplemental light and scanning microscopes, as well as atomic emission spectroscopy. Nano ZnO growth in MS media enhances somatic embryogenesis, shooting, and plantlet restoration, as well as proline generation, superoxide dismutase, catalase, and peroxidase movement, boosting biotic pressure tolerance (Helaly, El-Metwally, El-Hoseiny, Omar, & El-Sheery, 2014).

Role of Carbon Nanotubes

Carbon nanotubes (CNTs) contain a significant position owing to their distinctive perfunctory, electrical, thermal, and chemical characteristics. The accessible information divulges that polls on CNTs have chiefly been based on organisms and human beings (Tiwari et al., 2014). There has been incomplete evidence obtainable on CNTs and their interaction with plant cells and with plant absorption. Though, in different investigations scholars have described that multi-walled CNTs (MWCNTs) have an enchantment aptitude to affect the seed propagation and plant development, and slog as a transfer scheme of DNA and compounds toward plants cells. MWCTs stimulate the H₂O and fundamental Ca and Fe nutrients taking efficacy that could increase the seed propagation and plant enlargement and expansion; (Villagarcia, Dervishi, de Silva, Biris, & Khodakovskaya, 2012). Also, they reported that MWCNTs govern genes assembly controlling a variety of water channel soybean proteins, corn, and barley seeds coat. Different investigations confirmed the constructive function of CNTs in seed growth and plant development and enlargement. On the other hand, a few investigators highlight that MWCNTs do not demonstrate an encouraging effect on

seed germination in various plants even when they acknowledged high absorption of MWCNTs (Husen & Siddiqi, 2014). MWCNTs promote root and stem enlargement as well as peroxidase and dehydrogenase activity, which could be because MWCNTs are taken up and stored by roots, then translocated from roots to leaves, where they stimulate gene expression (Lahiani et al., 2013). (Tripathi et al., 2015) demonstrate the occurrence of water-soluble CNTs within the wheat plants through Scanning Electron and Fluorescence Microscopy, and they confirmed that CNTs regulate the Root and Shoot development in nimble and dusky circumstances. Furthermore, MWCNTs enhance water maintenance ability and biomass, flowering and crop harvest, and enhance the therapeutic characteristic of plants. Consequently, the influence of NPs on plants changes from plant to plant, their developmental phases, and the temperament of nanoparticles.

Title Role of Gold NPs

Limited examinations have been concluded on the relationship of “gold nanoparticles (AuNPs) alongside floras. Certain investigations show that AuNPs cause noxiousness in plants by disturbing aquaporin activity (it is a cluster of proteins that expedite the passage of broad series of molecules encompass water. Nonetheless, different scientists reported that in lettuce, cucumber, *Brassica Juncea* and in *Gloriosa superba*,” AuNPs enhance seed development (Gopinath, Gowri, Karthika, & Arumugam, 2014). AuNPs increase the mass of leaves, leaf area, plant elevation, chlorophyll component, and sugar matter that direct to the healthier crop harvest (Arora et al., 2012). Consequently, the constructive result of AuNPs requires more research to investigate the functional and molecular methods.

Role of Titanium Dioxide Nanoparticles

Like AgNPs, some researchers examine the effete of titanium dioxide nanoparticles (TiO₂NPs) on bacteria, algae, plankton, fish, mice, and rats although investigation focus on the recognition of the impact of TiO₂NPs on plant lingers deficient. Jaberzadeh in 2013 described that TiO₂NPs improved wheat plant progression and produced constituents under water divergence hassle requirement. TiO₂NPs regulate the action of enzymes elaborate in nitrogen metabolism, like nitrate reductase, glutamine synthase, glutamate dehydrogenase, and glutamic-pyruvic transaminase, that further help plants employ nitrate and also regulate the transfiguration of inorganic nitrogen to organic nitrogen in the arrangement of protein and chlorophyll, which might improve the fresh mass and desiccated weight of plants (Mishra, Mishra, Dikshit, & Pandey, 2014).

TiO₂NPs stimulate optical density, quicken the transportation and alteration of the light energy, defend chloroplasts from maturing, and lengthen the photosynthetic duration of the chloroplasts. TiO₂NPs may be useful in protecting chloroplasts from undue light absorption by speeding up the work of antioxidant enzymes like catalase, peroxidase, and superoxide dismutase (Hong et al., 2005).

Table (2a): Constructive effect of Metallic NPs on Plant Progression:

Nanoparticles	Plants	Part of plant/ Activity	References
SiO ₂ NPs	<i>Lycopersicon esculentum</i> Mil	Seed Germination	(Siddiqui and Al-Wahaibi 2014)
	<i>Zea mays</i> L.	Seed Germination	(Suriyaprabha <i>et al.</i> , 2012)
Zinc Oxide NPs	<i>Arachis hypogaea</i>	Seed Germination	(Prasad <i>et al.</i> , 2012)
	<i>Glycine max</i>	Seed Germination	(Sedghi <i>et al.</i> , 2013)
	<i>Allium cepa</i>	Seed Germination	(Laware, 2014)
	<i>Cyamopsis tetragonoloba</i>	increase root and shoot growth	(Raliya and Tarafdar ,2013)
CNTs	<i>Hordeum vulgare</i>	Plant development	(Lahiani <i>et al.</i> , 2013)
	<i>Glycine max</i>	Seed Germination	
	<i>Zea mays</i>	Germination and Protein production	
Gold NPs	<i>Arabidopsis thaliana</i>	Seed germination, <i>regulate micro-RNA expression,</i> antioxidant system	(Kumar <i>et al.</i> , 2013)
Silver NPs	<i>Boswellia ovalifoliolata</i>	Germination and seed ling widening	(Savithamma <i>et al.</i> , 2012)

Role of Silver Nanoparticles

According to accessible information, a diverse investigation on silver nanoparticles (AgNPs) has been reported on microbial and animal cells. Though a little research was carried out on plants. We are familiar that NPs have both progressive and adverse possessions on plant augmentation and enlargement.

Currently (Krishnaraj *et al.*, 2012) reported the consequence of biologically manufactured silver nanoparticles on hydroponically developed *Bacopa monnieri* growth metabolism and reported that “biosynthesized AgNPs” revealed a considerable impact on seed propagation and stimulate the

production of protein and carbohydrate and diminish the entire phenolic components and catalase and peroxidase actions.

Table (2b): Constructive effect of Metallic NPs on Plant Growth:

Nonetheless (Gruyer, Dorais, Bastien, Dassylva, & Triffault-Bouchet, 2013) demonstrated that

Nanoparticles	Plants	Part of plant/ Activity	References
TiO ₂ NPs	Brassica napus	improved seed growth and regulate radicle and plumule growth	(Mahmoodzadeh et al. 2013)
	<i>Arabidopsis thaliana</i>	Root length	(Lee et al., 2010)
	<i>Foenicicum vulgare</i>	Germination	(Feizi et al., 2013)
	<i>Lemna minor</i>	Plant development	(Song et al., 2012)
	<i>Triticum aestivum</i>	Increase Chlorophyll content	Mahmoodzadeh et al.,2013)
Iron Oxide NPs	<i>Arachis hypogaea</i>	Increase root length, plant height and biomass.	(Rui et al., 2016)
Nitrogen NPs	<i>Pennisetum americanum L</i>	Increase root area, root length, root perimeter, number of tips, average root diameter and total biomass.	(Thomas et al., 2016)
AlO ₂ NPs	<i>Arabidopsis thaliana,</i>	Root span	(Lee et al., 2010)
CuO NPs	<i>Triticum aestivum</i>	Biomass	(Dimkpa et al., 2012)

AgNPs have both encouraging and damaging influences on root prolongation contingent on the plants' variety. They examined that root dimension was improved in barley though it was decreased in lettuce . AgNP provokes root development by stopping ethylene signals in *Crocus sativus* (Rezvani, Sorooshzadeh, & Farhadi, 2012).

The effect of Ag-NPs on the structure and functioning of plants depends on the dimension and nature of NPs. Furthermore, Ag-NPs stimulated the aminocyclopropane-1-carboxylic acid (ACC) derived reduction of root prolongation in *Arabidopsis* seedlings" as well as decrease the expression of ACC synthase 7 and ACC oxidase2 indicating that Ag NPs function as inhibitors of ethylene sensitivity and could obstruct with thylene biosynthesis.

CONCLUSIONS AND RECOMMENDATIONS

Nanotechnology, without a doubt, is a fast-emerging technology that is attracting greater attention. Nanotechnology opens new possibilities in the areas of “electronics, energy, medicine, and biology”. Because of their distinctive characteristics, various studies have been concluded on the toxicological consequence of NPs on plants. However, the investigation of the encouraging effects of NPs on plants remains incomplete. Most plant tech companies are acquainted with metal and metal oxide NPs such as Au, Ag, ZnO, CuO, TiO₂, and CeO₂. Less data shows the affirmative effect of NPs on plant augmentation and growth (Table 2). The interaction of NPs with plants fluctuates from plant to plant. This review indicates that nanoparticles are significant as plant growth regulators, but further important drives are required to recognize the ‘physiological, biochemical, and molecular phenomenon’ of plants concerning nanoparticles. Furthermore, new research work is required to scrutinize the mechanism of the act of nanoparticles, their relations with ‘biomolecules, and their effect on the stimulation of gene expressions’ in plants.

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Russian Policies to Counter US Dominance in Syria: Analysis of Post Arab Spring Era

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ABSTRACT

The Russian-Syrian relationship has always been a pendulum, swinging from close to distant during the last half-century. As a result, today's interpretation of the link is an uneven mix of factual judgment and sheer speculation. Russia's ambition is to maintain diplomatic prominence and its position as an international influencer. This research explains the whole situation in the light of Neorealist theory that how the international structure persuades Russia for shaping its foreign policy towards Syria. Then again, Syria is geographically most important in facilitating the Russian maritime base on its coast of the Mediterranean. This research tries to look at the strategies that Russia has been adopted to counter US hegemonic influence in the Middle East. The contemporary situation means to re-establish Russia's status as a politically influential nation in the twenty-first century.

INTRODUCTION

Russia has consistently assumed a functioning part in world legislative issues. Under the Administration of Vladimir Putin, Russia is resolved to accomplish its pride as one of the significant powers once more. The Arab Spring came about in different Civil and Proxy Wars in the center East, the Republic of Syria is one of them that endured. In line with Bashar - al Assad Russia mediated in Syria. The choice of intercession in Syria assumed a significant part in Russian legislative issues on the International Stage. Despite the presence of the U.S and different variables, Russia helped Bashar al-Assad for different reasons. Russia respects the international significance of just all Syria in the center east. In doing as such Moscow stopped all the resistance to prevailing in Syria. Russia's strategies for Syria end up being a reappearance strategy in the worldwide executive issues for Russia (Ahmad, 2020).

Russian government showed deep interest and concern in the Middle East, more specifically after Arab Spring to retain its influence after disintegration. The best geographical country that Russia found was the best place to intervene and to use against the US hegemonic influence in Syria. Therefore Russia intervenes militarily and supports the Assad government to fulfill its goals. Furthermore, to understand Russia's involvement in Syria in the post-Arab Spring era, as well as its

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intervention and backing for the Syrian government, one must first comprehend Russia's viewpoint about the root cause of civil war in Syria, what Russia thinks about the causes, on which Russia justifies its involvement. There is a contradiction in the views of the US and Russia towards the root cause of the Syrian crisis. According to the US, it was the reaction of the oppressed majority against the government of Syria, in the context of a wave of democratization. However, when we look at Russia's perspective, we can see that the crisis was seen through a complicated prism. The reasons for violence, according to Russia, are ethnic and religious diversity within Syria's people, as well as a tightly-knit army and ruling party.

The most important question is that what the Syrian crises have served for Moscow. What achievements Moscow has got upon the military intervention and supporting Syrian government. Whether Russia is there just for diplomatic reasons or it was for the broader and long-term goals which were already anticipated by the Australian Foreign minister. Moscow supporting the Syrian government has appeared the reflection of long-term goals by president Putin. Putin readily accepts all kinds of international condemnation for assistance and supportive policies for Assad only to protect its remote naval station in the city of Tartus in the eastern Mediterranean Sea, which guarantees Russia's presence in the whole region of the Middle East, and through which Russia could be a watchdog there. Russia can curb external interference in Syria's internal affairs very easily through that naval base. The naval base is also a counter-strategy that balances the stability of US hegemony in the ME (Robin Yassin-Kassab, 2016).

On uppermost of that is, Syria is a key friend of Moscow in the Middle East, and when Syrian President Bashar al-Assad requested assistance, Russia stepped in to assist Syria in a time of crisis. According to American leaders and politicians that step taken by Russia, marks its U-turn in the region of the Middle East. According to these claims, Russia was isolated during the period when Egyptian President Anwar Sadat switched his country's allegiance from Russia to the United States. However, when looking at Russia's current situation and relationships in the Middle East, it is clear that Russia is not fully re-entering the region. In the era of the cold war, Syria was a strong ally of the Soviets, and therefore reasonable for President Bashar Assad to seek help from Russia. When looking at Russia's current policy in Syria, both short-term and long-term destinations appear to drive Russia's current approach. Furthermore, Syria is an ancient friend that allows Russia to wield influence, with tens of thousands of Russians (about 100,000) exists in the Syrian state. While analyzing the immediate goals, Russia, as a dominant player, is deploying various amounts of ships and airplanes to Syria, with the primary goal of weakening pressure on the government of Syria and bringing a better political solution. Moscow also desired to terminate the civil war, which could help Europe to prepare a deal in merging its connections with Syria and address the refugee situation there (Celso, 2019).

Theoretical Framework

The best explanation to describe the reality of Russian policy is neo-realism. The main theory of International Relations is neorealist or structural realism. It aims to clarify how countries, mostly the dominant ones, interact and behave on the international ground, starting with a minimal set of assumptions. It aims to give a scientific account of the international political system. Classic realists focus just on the state and overlook the system, while Neorealists focus on both. Kenneth Waltz compares the international world to a system and claims that realists only discuss the state and neglect the structure. Also, explain how international structure influences state conduct. The state acts by the international framework (Waltz, 1959).

The behavior of states is determined by international structure, according to neorealism (Scott Burchill, 2005). In the scenario of the Russian reaction and its policies in Syria, are the physical actions of Russian perspectives. The spread of radicalism, American hegemony in the region of the Middle East, and Russia's internal security interests oblige Russia to back the government of Syria in the period of post-Arab Spring.

The study also looked at how Russia's internal political developments have influenced an aggressive international strategy that served as a key component of Putin's method for regaining legitimacy and maintaining authority. This strategy's impact on Russia's Syria deals has been widely overlooked, especially under Putin's most recent government. Taken together, these findings may shed light on why reaching a political settlement in Syria has remained elusive in recent years. Because of the multiple interfering elements discussed in this study, Russia's assessment of what it can accomplish in Syria has shifted over time.

Literature Review

Following the disintegration of the Soviet Union, Russia found itself in a position of severe vulnerability and needed to concentrate its efforts solely on the country. Because it has the world's largest Muslim population, Russia seeks excellent relations with Middle Eastern countries, whose assistance may be utilized to combat anti-Russian terrorism. Because Russia has suffered through the breakup of the Soviet Union, two Chechen wars, and a bombing attack on the Moscow metro in March 2010. These fears have prompted Russia to strengthen its southern border security. Another factor for Russia's interest in Syria is its proximity to the Mediterranean Sea. Protecting Syria involves safeguarding Russian interests in the country and future access to the area. In Tartus city on the coasts of the Mediterranean Sea, Russia had one military navy base. However, Russia got another advantage through its military involvement, it succeeded in getting access to an additional airbase in the city of Latakia, called Khmeimim (Hmeimim) (KREUTZ, 2010)

Russia, at the request of President Bashar al-Assad, granted the Russian army in Syria on 30 September 2015. Following a request for military support in Syria, Russia launched airstrikes against several militant groups opposing Bashar al-regime, Assad's marking a critical crossroads for Russia's position in the war. Russia has objected to any UN-led diplomatic or military intervention in Syria. For the first time in post-Cold War history, Russia launched a military action outside the former Soviet Union's borders. Before the intervention, Western nations were dissatisfied with Russia's diplomatic support for the Syrian regime, as well as its repeated use of its veto power in the United Nations Security Council (UNSC) (Allcock, 2016).

As the world witnessed indissolubly relations between Russia and the US, the competition between the two countries is still going strong. For example, the 2008 Georgian war and Ukraine's Orange Revolution, as well as the civil war in Syria, following the uprising, becomes grounds for the clashes between both superpowers. A cold war broke out in Syria as a result of both countries' engagement. President Barack Obama wanted to detain Russia to its regional power, but the Russian military engagement in the Syrian state demonstrates that Russia wants to re-establish itself as a global player and participate in every key international decision (Pruitt, How a Five-Day War With Georgia Allowed Russia to Reassert Its Military Might, 2018)

Following a Russian-Syrian summit of January 24 in 2005, Russia declared that Moscow said that in exchange for Syria's authorization to build permanent Russian naval bases in Tartus and Latakia, it would write off the majority of Syria's debt and supply arms. The total amount that Moscow has forgiven would be over \$9.8 billion of Syria's \$13.4 billion. Closer ties with Syria, in Moscow's estimation, were a reaction to what is perceived by the foreign policy of the US (Borshchevskaya, 2016).

Russian military involvement in the Syrian crisis has generally focused on the operation's key objectives. Experts, media, lawmakers, and administrators have questioned the Russian reaction, that whether Russia is fighting for the government of Assad or ISIS and other extremist organizations in Syria. These disputes appear to be important politically, but they are often highly disrupting and don't add much to understand the Russian operation's objectives and consequences. There is so much more to understand. Experts can spend years researching Russian doctrines and dialogues by Russian officials and yet there is no one exact assumption has been made that how

Russia will react in certain scenarios. However, Russia's reactions to the Syrian conflict offer plenty of thought to comprehend Russia's strategies (Rodkiewicz, 2017).

Importance of Syria for Russia to be dominant in the region

Naval Base

Syria is Russia's latest strong Middle East Arab ally. A Russian maritime base on the Syrian Mediterranean coast of Tartus built-in 1971 has been housed in Syria. The Russian naval presence near Tartus might serve three purposes: backing for the Assad regime, the encirclement of a regional partner by NATO or Western powers, and a clear message that any movement would cause recreate the ties of the cold war between the US and Russia.

Russia regards Syria as an important piece of the terrace and has the only maritime base before the CIS countries like Tartus on the Mediterranean Sea. After Russian military bases in Cuba and Vietnam has abandoned, the only relevant geostrategic that remained was Tartus. Tartus is Syria's only place to stock and maintain on the Mediterranean coast. In winter, Russia does not have much to pay and will not lose access to hot water. Russia would need to make an enormous effort to protect its interest if it lost access to the Black Sea. Tartus was leased back to the Soviet Union in 1971, and Syria was exempt from debt in exchange for \$1.3 billion from the Soviet Union. In 1990, Russia was not allowed to have an entirely free base in Tartus as remuneration and it had not obtained customary arms supplies for Syria. Russia aimed at approaching the Black Sea, which was recently changed at a basic level following the accession of Bulgaria and Romania to NATO, and Georgia, and Ukraine. Through its naval base in the Mediterranean Sea, In addition, NATO intends to transport forces on the Azov Sea, which connects the Black Sea with Ukraine's Kerch Strait, has also encouraged Russia to increase its commitment to control the Mediterranean in Syria (Dettmer, 2021).

In 2005, the state of Romania agreed to a deal with the US to transport US Marines in the Black Sea, which was a major source of anxiety for Russia. Russia does not want NATO to have unrestricted access to the Black Sea, and by controlling the eastern Mediterranean, Russia may develop its maritime foreign policy as necessary. Since 2008, Moscow has dispatched several ships to the Mediterranean, delivering a variety of military measures. The government of Syria provides Russia with a critical opportunity to play a decisive role in regional and global critical endeavors, causing significant consternation among Turkish and Western important plans. Syria is important to Russia because it may use it to exploit the tensions between the United States and Iran, which it supports. Russia's current actions are also influenced by its financial machinations.

The most crucial thing for Russia is to secure the greatest critical trade route through the base of Tartus, and Russia's energy companies may be interested in a possible gas and oil hold along with the Syrian coast. Russian future ambitions in the Middle East are unmistakable, as continuously expanding the circle of its diplomatic and political relationships with further Middle Eastern states, including Iran and Egypt. Following the election of Abdel El-Fattah El-Sissi to Egypt's presidency in 2013, the two nations had four summits to improve affairs and retained several agreements, containing a rocket system as well. This condition harkens back to the days of former President Nasser when Moscow was a major seller of armed weaponry to the state of Egypt.

Latakia Port

The war led by the United States against ISIS captured Syria's airspace for decades but, with Russia's participation in the Syrian dispute, air space has not only been controlled by America, but it is also in partnership with Russia. Russia was already assisting Syria at the time by providing defense equipment, and it jumped into the conflict by facilitating the Syrian government through the land, air, and water. The Syrian military operation was Russia's first activity beyond its borders after the country's collapse.

Russia provided missiles to the government of Syria via Iraq and Iranian territory solely to emphasize that Iran and Iraq are their common allies. The Russian military collaborating with

Syrian forces, according to the US defense secretary, disproves Russia's claim to be combating ISIS. By destroying all opposition, Russia's main goal is to limit the west's options to Assad or ISIS. Russian airstrikes are said to be focused on areas that are a bastion of extremist powers as well as ISIS, such as Homs, Idlib, Hama, and Tartus.

Russian Strategies to Counter US Influence

US Influence in Syria

Russia is concerned about US activity in the region. The US has always been enraged by Russia's Syrian alliance, particularly, Russian use of chemical weapons in the state of Syria. Russia has consistently blocked UN resolutions against the overthrow of Bashar al Assad, president of Syria, which has enraged the United States.

"I want to make it clear to Assad and those under his command. The world is watching. The use of chemical weapons is and would be unacceptable. And if you make the tragic mistake of using these weapons, there will be consequences, and you will be held accountable." Barack Obama announced on 3rd December 2012 (Phillips, 2016).

The tension has been increased between Moscow and Washington since 2012. As tensions escalated after the US Senate rendered the Magnitsky decision in December 2012, experts of Russia have declared that a strict response will be taken to the United States in their all statement and would consider the law of Magnitsky to be an important concern. President Vladimir Putin stressed that the United States does not reserve the privilege of dealing with ethical choices that could affect Russia's legal settlement, as the United States also has problems with human rights violations, like Guantanamo and Abu Ghraib. Russia reacted to the "Magnitsky Law" by enforcing the "Dmitriy Yakovlev Law" prohibiting the American people from accepting young people stranded in Russia on December 21, 2012. The Dmitriy Yakovlev law does not only carried restriction on admission young people trapped in Russia by residents of the United States, but also on the residents of states that infringe the privileges of Russia, and further, it do not allow the actions of non-governmental organizations funded by the United States, by justifying that it would create risks for Russians interests in the country. Within the frame of that law, it would envision persons in Russia who have violated the Russian people's privileges or committed activities against Russian citizens and closed groups being barred from holding jobs in Russia (Tugce Varol Sevim).

Followed by the protest, Moscow settled for Non-Governmental Organizations to be trained externally as "remote agents". United States Agency for International Development (USAID) has worked in the Russian state for many years, and the organization is accused of facilitating governmental matters and trying to influence the political conclusion to end activities in the Russian state, particularly in the middle of September and October 2012. As a response, Russia temporarily ceased USAID drills with American spy services (Ward, 2018).

A series of incidents in January 2013 heightened relations between Russia and the United States. For example, the Jewish Chabad-Lubavitch Hassidic faction, based in the United States, has sued the Russian government over the migration of the "Schneerson Library," which was moved to Russia during World War I and has been kept in the Lenin Library since 1918, and a federal court in the United States that ruled on the issue determined that the Russian government should pay \$50,000 per citation. On the 25th of September 2002, Russian Prime Minister Dimitriy Medvedev announced that elements of the US-Russian Drug Traffic Control Agreement were signed. Russia's Permanent Representative to the United Nations, Vitaly Churkin, claimed that Russia is seeking clarification on data linked to a 20-tonne weapons stockpile transferred to Libya by Qatar with US support during the height of the crises in Libya. The Russian government has announced that it will ban beef imports from the United States as of February 11th, 2013 and that this ban will last as long as feasible.

Indeed, some improvements contradict these activities in the US and Russian respective relations. In November 2012, in light of US statements, John Kerry became a favorite in the Kommersant newsprint for the post of Minister of External Affairs and further, there were statements made by an individual. Unidentified duty officer linked to Hillary Clinton is "curious and belligerent." As a result, Moscow announced that Russia wanted to forge all kinds of more pleasant relations with the United States and improve relations that had become difficult over the years. Specifically, after John Kerry deployed 4,444 people in charge of remote affairs. Tensions defying Russia could be seen as a significant element for Iran and Syria and even for the Asia-Pacific region as well.

Russia believes that in this process the post-Assad period is, as, in the case of Libya, not all of them prohibited. Russia did not put an amendment in its position in the Syria crisis, and further Russia preceded discussions with the main strategic characters on the screen for the post-Assad period. In this scenario, the strain between Moscow and Washington tends to be accepted to represent an interruption in understanding two nations of the Syrian crisis. Trenin, the administrator of the Carnegie Moscow Center, rightly points out that the main cause of the difference between Russia and others, including Turkey, the United States, and the Arab states that Moscow claims Syria must depend on Syrians themselves and all other countries to avoid intervention or sanctions against Damascus.

However, Russia has several advantages in Syria, including a naval station in Tartous, a large arms market, business ventures such as energy purchases, a partner state, with a large number of Russian inhabitants. In June 2011, Russian Deputy Ambassador to the United Nations, Alexander Pankin, declared that the current situation in Syria, despite the rising tensions and showdown, does not constitute a threat to global peace and security. Syria's local circumstances, in our perspective, could pose a genuine threat to regional security" and didn't change until today.

Russian strategies to counter the US influence in the Syrian civil war

In June 2011, Russian unimpeded international strategy began in conjunction with Alexander Pankin, Russian Associate Ambassador to the United Nations, stating that the current situation in Syria does not pose a threat to global peace and security despite the increased tension and showdown. We believe that from the local circumstances of Syria a genuine threat to the security of territory could develop and did not fit until today.

First and foremost, Russia did not trust Barack Obama's and Donald Trump's Middle East policies. They saw the United States' policies and military intervention in Syria as aimed only at destabilizing the Islamic state. Moscow has pushed Washington to play a role in Assad's party and the opposition's likely coexistence. Moscow was indulgent to the Assad regime and asked the US to treat its security operation with gentleness.

Both parties wanted their "peace models" to be the sole options for ending the Syrian conflict, and neither of the titans was willing to admit that one or both of their viewpoints on the Middle East's political puzzles could be wrong. Russia was about to interrupt because it had gotten a formal invitation, but the US perceived this as a threat and has never backed its enemy, especially in oil-rich Syria. On foreign soil, the world was seeing a power battle between two massive titans, with neither of them responsible for the consequences.

By switching the course of the Syrian common conflict and saving an old customer, Moscow made an impression on other Middle Eastern systems that it is a solid accomplice. Scarcely anybody would scrutinize that Moscow has situated itself as a significant international and military entertainer at the famous intersection of the world after many years of undisputed U.S. military predominance. Russia has situated itself as an important conversationalist to all gatherings to the district's struggles (RUMER, 2019).

Revision of Russia-Tajik Model

The Tajik model, modernized and changed by Russia for post-Soviet states' versions of civil strife, served as Russia's blueprint for Syria. According to this concept, the opposition would be able to

participate in the state's authority and even keep it during the Assad regime's transition period, and Assad would modify some measures to favor the opposition, but the opposition would stay the opposition (Rezvani, Political stability, transition and conflict: Tajikistan compared with Georgia, 2018).

The situation would be monitored by a multilateral organization, which would include Russia's veto authority, and no additional charges to the situation would be permitted. The chair for Washington in this type of global monitoring body is unavoidable, and Russia needs the US to sit alongside him and merely watch. Russia wanted a leg up on the US and sole control of Syrian territory, but America's purpose was to show the rest of the world how effective and committed the US is in defeating terrorists and "Islamic extremism." When we analyze Syrian media about identical situations that have happened before, but with new labels each time, the phrase is artificial and conflicts with most after how political exploitation has occurred in the guise of counterterrorism.

Washington, between Destabilizing and Rehabilitation

After the ceasefire initiative, Washington felt that further attention was unnecessary or unnecessary; therefore they rejected this model, as well as any other move that could potentially benefit Putin rather than Obama. The US desired to be idolized and rewarded as the good guy in the overall scenario as the arbitrator while receiving their charges as a by-product of its peacemaking and stabilizing efforts. The United States had something to stand on in the form of Russia's phony peace initiative. The US interpreted it as participation in her version of a peacekeeping mission.

Five years into Russia's tactical intercession in Syria, understanding Moscow's endgame could give basic bits of knowledge into the long-term struggle's direction, just as Russia's stance in the Middle East and past. Albeit as yet developing and subject to inner discussions, Moscow's Syria system has all the earmarks of being fixated on a "ranges of authority" model. In this model, Syria is partitioned into unmistakable domains under the influence of contending outside benefactors. This methodology acknowledges an intricate exchange of military, political, and financial force between outside entertainers Russia, Turkey, the United States, and Iran inside the unique Syrian setting (Yacoubian, 2021).

Looking back for about three decades, we can see that Obama had a past to learn from when it came to Russia. The Arab world had already been shaken by Iran-US relations, particularly the Arab-Israeli conflict, in which the US couldn't afford to take chances for the sake of Syria. With its further broad system to understand the conflict in the Syrian state on its positions, Russia's decision to mediate in Syria may thus be considered trustworthy. Russia has attempted to achieve this with the strategy of establishing contacts with the Gulf countries. Moscow has demanded and will continue to demand, that any peaceful aims in the Syrian state would be based on the Syrian state's current political system and organizations, with some force sharing between the Damascus system and the Syrian restricted components he chooses (Rezvani, Russian foreign policy and geopolitics in the Post-Soviet space and the Middle East: Tajikistan, Georgia, Ukraine and Syria, 2020).

Conclusion

The study focuses on Moscow's interests and military participation in Syria, as well as the Kremlin's efforts to reclaim regional control. Russian-Syrian relations, in particular, may be traced back to both nations' alignment during the Cold War. Furthermore, the Kremlin has always been Damascus' first partner in the arms trade. Syria has been Russia's only stand in the Mediterranean Sea since the Cold War era, and the only country where Russia has a maritime station in the port of Tartus, whereas America has multiple bases in the region of the Middle East. These outposts, of course, we're used to containing US authority. In this circumstance, strong dominating strategies are required from Russia to fulfill its interest and reestablish its position. The result of the Arab Spring's domino effect brought the Arab Spring to Syria, allowed Russia to re-establish its power in the region. Russia could no longer afford to lose its sole ally and naval base in the Middle East

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