THE FACTORS AFFECTING HEALTH POLICY IMPLEMENTATION PERFORMANCE IN PRIMARY HEALTH CARE: AN EMPIRICAL STUDY OF THE SUB-DISTRICT LEVEL HEALTH FACILITIES IN BANGLADESH

Md. Mohoshin Ali

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ABSTRACT

Title of Dissertation	THE FACTORS AFFECTING HEALTH POLICY IMPLEMENTATION PERFORMANCE IN PRIMARY HEALTH CARE: AN EMPIRICAL STUDY OF THE SUB-DISTRICT LEVEL HEALTH FACILITIES IN BANGLADESH
Author	Md. Mohoshin Ali
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The magnitude of how health policy implementation performance is taking route at the national level is a very important issue as far as world population levels in relation to future workforces are concerned. These require properly implementation of health policy by the respective governments. However, it is noteworthy that not all countries have the same factors affecting health policy implementation. This study concerns the examination of the situation of primary health care at the sub-district level in Bangladesh. Hence, the specific purpose of the study was to assess the factors affecting health policy implementation performance in primary health care in Bangladesh. An integrated conceptual framework and models were developed based on a review of the literature. The primary data were collected from the total population of 421 Upazilla Health Complexes (UHC) using a survey questionnaire mainly through postal and email survey and the respondents were the Upazila Health and Family Planning Officers (UH&FPOs). Hierarchical multiple regression analysis as a tool of the quantitative methods was used. The results revealed that four out of seven explanatory variables were statistically significant and had a unique contribution for the relationships with health policy implementation performance ordering as per the strength: implementer's disposition (ID); clarity of goals and objectives (COGAO); management dynamics (MD) and coordination (COORD). The three other explanatory variables resources (equipment, human resources, infrastructure, REHI), adequate budget and financial autonomy (ABFA) and micro level support from local stakeholders (MLSLS) were found positive but not statistically significant. Hence, the study revealed that implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD) were the most determining factors in terms of influencing health

policy implementation performance in primary health care in Bangladesh. The study also envisioned to recommend policy implications such as (a) the policy makers ought to revise the goals and objectives of the health policy that must be specific measurable achievable realistic and timebound (SMART), and should disseminate the policy goals and objectives among the service providers; (b) the government should allocate more financial resources, employ more health human resources and use modern technology and infrastructure for successful implementation of primary health care policies; (c) the government should emphasis on strengthening the interorganizational coordination specially between health and family planning departments; (d) the policy makers should prominence on innovation for effective health care delivery using technology, research and development and health and well-being management; (e) the policy makers would emphasis to motivate health providers regarding their responsibility, devotion and attitude to the services and recipients as the most significant determinant of health policy implementation performance in Bangladesh; (f) it is recommended the policymakers take steps to obtain adequate local levels of support from the stakeholders especially from the local government, administration or community leaders for successful implementation of health policy and (g) the policy makers think about the gender equality in order to deploy female doctors as UH&FPOs at the sub-district level health facilities. Finally, the findings expected to benefit the society considering the contribution of knowledge generated in the field of policy implementation.

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ABBREVIATIONS AND SYMBOLS

Abbreviations	Equivalence
AIDS	Acquired Immune Deficiency Syndrome
ANOVA	Analysis of Variance
BBS	Bangladesh Bureau of Statistics
BCC	Behaviour Change Communication
BDHS	Bangladesh Demographic and Health Survey
CC	Community Clinic
CDC	Centers for Disease Control
EDA	Economic Development Administration
EFA	Exploratory Factor Analysis
ESD	Essential Service Delivery
ESP	Essential Service Package
et al.	*at alia* meaning 'and others'
FA	Factor Analysis
GDP	Gross Domestic Product
GOB	Government of Bangladesh
GRIPS	National Graduate Institute for Policy Studies
GSPA	Graduate School of Public Administration
HIV	Human Immune Virus
HNPSP	Health, Nutrition and Population Sector Program
HPSP	Health and Population Sector Program
ICT	Information and Communication Technology
IOC	Item-Objective Congruence
KMO	Kaiser-Meyer Olkin

MoHFW	Ministry of Health and Family Welfare
NGOs	Non-Government Organizations
NIDA	National Institute of Development Administration
PCA	Principal Components Analysis
Ph.D.	Doctor of Philosophy
PHC	Primary Health Care
PRB	Population Reference Bureau
R^2	The R-Squared
RH	Reproductive Health
SDGs	Sustainable Development Goals
SMART	Specific Measurable Achievable Realistic Time bound
SPSS	Statistical Package for Social science
STDs	Sexually transmitted Diseases
TFR	Total Fertility Rate
UH&FPO	Upazilla Health & Family Planning Officer
UHC	Upazilla Health Complex
UN	United Nations
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNO	Upazilla Nirbahi Officer
USAID	US Agency for International Development
VIF	Variance Inflation Factor
WB	World Bank
WHO	World Health Organization
ΔR^2	The Change R-Squared

CHAPTER 1

INTRODUCTION

1.1 Background

The state of health of humans can be considered not only important to an individual person but for the progress of any government. Human capital is key for development purposes and this requires a healthy citizenry. Health care is indispensable for increasing the productivity of human beings. In order to sustain a heathy nation, various governments all over the world have incorporated health budgets in their expenditures through enabling policies. The Americans came with their first health policy in 1854 and the purpose of this health policy was to be a benefit to the indigent insane. In Britain, their health policy was introduced in 1948 with the foundation of the national health system. In German health policy was instituted in 1880. The French health policy was very instituted in 1880 requiring the registration of people with infectious diseases, to mandate quarantines, and to improve deficiencies in health. In Asia, China's health policy was introduced on 1949 while in Japan it was carried out in 1927 (Wikipedia, 2017). However, in Bangladesh it was introduced in 2000 and the policy was redefined in 2011 (Ministry of Health and Family Welfare, 2012). The international community through the World Health Organization (WHO) has also been very concerned about the state of health worldwide, with many conferences and agreements held resulting into the adoption of policies in member nations. Examples are the Alma Ata Declaration (1978), the World Summit for Children (1990), the International Conference on Population and Development (1994), Beijing Women's Conference (1995), the World Health Summit held annually in Berlin, Germany, the international classification of functioning, disability, and health, the international classification of health interventions, international codes for marketing breast milk (1981), a framework convention on tobacco control (2003), global code practices on the international recruitment of health personnel (2010).

The notion of coming up with relevant policies on health among governments has been embraced and instituted by various governments; however, the problem of policy implementation performance has been one of the serious handicaps in various governments and more so in developing countries. Stewart et al. (2008) stated that implementation is a stage of policy cycle and it means the administration of the law in which actors, organisations, procedures, and techniques work together to put polices into effect to attain policy goals. Van Meter and Van Horn (1975:p 447) have defined policy implementation as the actions by public and private individuals that are directed at the achievement of objectives set forth in prior policy decisions. Van Meter and Van Horn (1975) observed that among the factors affecting policy implementation performance in most countries are policy standards and objectives; policy resources; interorganizational communication and enforcement activities; characteristics of the implementing agencies; economic, social, and political conditions; and the disposition of implementers. Bardach (1977) on his part noted factors such as the deflection of goals, the number of agencies involved, resources allocated by using implementation game, the compliance of implementers, and politics-administration interaction that affect policy implementation performance. Edwards (1980: pp.10-12) stated that resources and well-trained, responsible, motivated frontline public employees to serve the community. Brynard (2009: p.572), quoting Nakamura and Smallwood (1980: pp.47-65) stated that "clarity of policy, technical limitations, actors, arenas, organizational structures, bureaucratic norms, resources, motivations, communication networks, compliance mechanisms are the factors for policy implementation." Lipsky (1980) noted that policy implementation success hinges on street level bureaucrats' attitudes. Voradej Chandarasorn (2005), on the other hand, identified the factors for policy implementation performance as clear objectives and goals, monitoring and evaluation, utilization of human resources (citizen as co-producer), effective budgets, people's participation, leadership, and bureaucratic-political management and level of support. While studying the factors affecting policy implementation performance in America, Pressman and Wildavsky (1973: pp.125-146) observed that the factors affecting implementation performance included: 1. formation of formal stakeholder; 2. strong coordination with professionals and officials; 3. understanding the needs of the community; 4. practicing flexibility in technical details; 5. strong determination of the

key stakeholders; 6. commitment and 7. the stakeholder's participation in implementation. Further, they indicated that policy implementation failed because of complicated technical details, lack of coordinated planning, conflict of interest, inexperienced agencies or staff, multiple program goals, less support from the local community, less autonomy on the part of the implementing agency, delays (intentional and unintentional), theoretical defects, problems with funding or fund release procedures and cost overruns, dependency on many actors, red tape, inter-agency jealousy, and multi-layer and cumbersome processes of decision-making. Bardach (1977: p.66) on the other side noted that there are many factors that adversely affect implementation failure in the American context and those are generally of four types: "(1) the diversion of resources, (2) the deflection of policy goals, (3) the dilemmas of administration and, (4) the dissipation of personal and political energies in playing political and bureaucratic games." In Bangladesh the factors affecting health policy implementation performance are not very clear because there has been no previous empirical study in this area of study.

1.2 Statement of the Problem

The magnitude of how health policy implementation performance is taking route at the national level is a very important issue as far as world population levels in relation to future work forces are concerned. This is supported by the way in which countries have been affected by various world killer diseases, such as HIV/AIDS, cancer, tuberculosis, malaria, heart disease, etc., and this is sometimes coupled by poverty and an aging population, where health policy implementation is seen to be vital for sustained development. To date, the world population is at 7.5 billion (United Nations, 2017). One point six million people suffering from cancer die every year, 35 million people are infected by HIV/AIDs, about 900 thousand people lose their lives to tuberculosis every year, 6.7 million die for stroke, 7.4 million die for heart disease, 1.5 million people die every year from diabetes-related causes, and the aged are at 8.5% and those below the age of 0-14 are at 26.11% (WHO, 2016). All of these cohorts require proper implementation of health policy by the respective governments. However, it is noteworthy that not all countries have the same factors affecting health

policy implementation. This study concerns the examination of the situation of primary health care at the sub-district level in Bangladesh. Generally, the country has a population of 158.9 million and the maternal mortality and child mortality rate have been cited at 1.7 and 33 per thousand live births respectively, while the total fertility rate was 2.11 and the ageing rate was 6% etc. (NIPORT and Associates, BDHS, 2014 and BBS, 2016). There is also growing concern regarding the plateauing of the total fertility level (TFR), aging, adolescent reproductive health, maternal health, the threat of HIV/AIDS/STD, child health, morbidity, nutrition, early pregnancy, unwanted pregnancy, unmet contraceptive needs, and health hazards due to climate change. This has been for the most part experienced in the United Kingdom, the United States of America, France, Canada, Japan, Malaysia, and Thailand. However, in Bangladesh this can only be achieved if the factors affecting policy implementation performance are known and the rate of their effectiveness is determined. It is in light of that that the international community has shown health as a very important ingredient and it is included among the goal of 17 sustainable development goals (SDGs) to be achieved by 2030 (UN and UNDP, 2015). This study is interested in unearthing these factors related to the Bangladesh situation in the arena of primary health care as a major part of national health services. The study was intended to ascertain the factors affecting implementation performance in primary health care and the perceived level of implementation performance by sub-districts level health administrators (UH&FPOs) in primary health care facilities in Bangladesh.

1.3 Significance and Benefit of the Study

Health policy implementation performance in primary health care is a great challenge considering the factors affecting the implementation performance in public facilities of primary level for better, equitable, and efficient health services and coverage for the entire citizenry of Bangladesh. There are limited studies yet to identify the influencing factors that affect primary health care policy implementation performance, especially in government primary level health facilities in Bangladesh. Therefore, this research study has made an effort to assess the factors affecting health policy implementation performance in primary health care in Bangladesh. The study

is also intended to be an endeavor to create an understanding on the part of policymakers and implementers so that they can better implement the performance of health policy, especially for the poor people in rural areas. The study is also expected to contribute in the literature on public health policy implementation research in primary health care in Bangladesh and will be available for scholars, researchers, health management personnel, and the policy planners and implementers. The study is focused on the perceived level of health policy implementation performance in primary health care in Bangladesh.

1.4 Purpose of the Study

This research examines the level of health policy implementation performance in primary health care and the factors affecting health policy implementation performance in primary health care in Bangladesh. Hence, the specific purpose of the study was to assess the factors affecting health policy implementation performance in primary health care in Bangladesh.

1.5 Research Objectives

The underlying objectives of the study of the factors affecting health policy implementation performance in primary health care, including an empirical study of the sub-district level health facilities in Bangladesh, are given below:

i. To assess the level of health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh

ii. To examine the policy related, organization related, individual level, and local level support factors affecting health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh

iii. To determine the most influencing factors affecting health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh

iv. To recommend policy implications from the findings for policy makers, implementers, and for future research

1.6 Research Questions

In order to attain the objectives of the study, the specific research questions was made as follows:

i. What is the level of health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh?

ii. What are the policy related, organization related, individual level and local level support factors affecting health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh?

iii. What are the factors that mostly determine health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh?

iv. What are the policy implications for policymakers, implementers, and for future research?

1.7 Scope of the Study

The research study focuses on the factors affecting health policy implementation performance in primary health care in Bangladesh. The study concentrated on the assessment of factors affecting health policy implementation performance in the primary health care and the perceived level of overall implementation performance in primary health care facilities in Bangladesh.

1.8 Limitations of the Research Study

The research study on the factors affecting health policy implementation performance in primary health care in Bangladesh is a relatively new area of studies in terms of Bangladesh. It is a topic that has been rarely dealt with in previous literature on health policy implementation performance in the context of Bangladesh. Policy

implementation performance research is important and relevant for every public policy for every country but for this study only primary health care of national health policy of Bangladesh has been selected. There are two tiers of primary health care in the government sector, including the community clinic (CC) and the sub-district level health facilities and district hospitals, which also provide primary health care facilities. Besides government primary health care facilities there are private hospitals, clinics, and NGOs that provide primary health care facilities in urban and rural areas. This study concentrated and covered only government facilitated sub-district level health facilities in Bangladesh for examining and evaluating the factors affecting health policy implementation performance.

The unit of analysis was the organization of the Upazila Health Complex and the data were collected from the UH&FPOs (Upazilla Health & Family Planning Officers), the administrative head at the sub-district level health centers. The sample size was the entire population of 421 Upazila Health Complexs (UHC). The respondents were the entire population of UH&FPOs and the perceived opinions were collected from the UH&FPOs, the principal health administrators at the sub-district level. It was very difficult to collect data from every sub-district personally from all over the country. For the pragmatism of the data collection and to increase the response rate of the respondents multi methods for the data collection were used such as postal and electronic mail survey, and direct communication for surveys and engaging colleagues. The health policy implementation performance in primary health care was also measured from the perceived view of the service recipients. However, due to limitation of time and resources, the service recipients were not included in this study. Hence, the results of the study may not indicate the real picture of health policy implementation performance in primary health care in Bangladesh. Thus, the results of the study are carefully conveyed for validity and generalizability.

1.9 Organization of the Study

The study has been structured into five chapters: 1. background introduction, 2. literature review and conceptual framework, 3. research methods, 4. presentation and analysis of the data, and 5. summary of findings, conclusions, and recommendations,

followed by the author's profile, bibliography, appendices for questionnaires, and miscellaneous. At the outset of the paper is the abstract followed by acknowledgements, a table of contents, a list of tables, a list of figures, and abbreviations and symbols. In the first chapter (1. background introduction), the background, statement of the problem, significance and benefits of the study, purpose of the study, research objectives, research questions, scope of the study, limitations of the study, and chapter summary are discussed. In the following chapter (2. literature review, theoretical and conceptual framework), a review and discussion of public policy and analysis, policy performance, the implementation process and dimensions, implementation evaluation and policy evaluation, health policy and primary health care in Bangladesh, policy implementation performance in health care and measurement, related policy implementation theories, models, approaches, relevant empirical studies, and the theoretical and conceptual framework of the study, and the model equations and hypotheses are described. In the next chapter (3. research methods), the research design, the population and target population, the unit of analysis, variables and operational definitions, measurements, data collection methods and instruments, pre-testing of the questionnaires, and data management and methods of analysis are presented. In the succeeding chapter (4. presentation and analysis of data) the data are analyzed and presented. In the final chapter (5. findings and discussion, conclusions, and recommendations) the findings, discussion, conclusions and recommendations are presented. Lastly, the study report followed by author's profile, bibliography and appendices that include the questionnaires and results are presented.

1.10 Chapter Summary

Chapter one presents the organization of the study. The background and a description of the research are discussed about what the research is focused on. In doing so, the chapter offers a brief discussion of the content and contextual background of the implementation, policy implementation, health policy implementation, the world scenario of health policy implementation, policy implementation performance, and health policy implementation in Bangladesh. The introductory chapter states the problem and benefit and significance of the study. This section describes the policy

problems and the reasons for the policy problems and what the significant specific policy problems are in the context of Bangladesh and their academic significance in the context of Bangladesh. The chapter describes the most important parts of the study, the research objectives, and research questions. Finally, the chapter discusses the scope, organization, and limitations of the study.

CHAPTER 2

LITERATURE REVIEW, THEORETICAL AND CONCEPTUAL FRAMEWORK

This chapter begins by reviewing the policy implementation, then critically reviews the theoretical and empirical aspect of policy implementation as per the objectives. The study has been anchored on the bottom-up, top-down, and hybrid theories of policy implementation which are related situation. The chapter further highlights the various models of policy implementation and concepts of public policy, policy performance, and policy implementation processes and evaluation. This chapter also covers the measurement of health policy implementation performance and the measurement of health policy implementation performance in primary health care. After reviewing the literature, the theoretical framework and the relationships of the factors affecting policy implementation performance, a summary, the literature gaps, and the conceptual framework along with models are discussed for analysis.

2.1 Policy Implementation

Policy implementation has been well-defined by many academics from different viewpoints. Pressman and Wildavsky (1973: p.143) have stated that "implementation is the process of carrying out and accomplishing a policy." Fixsen, Naoom, Blase, Friedman, and Wallace (2005: p.5) have defined "implementation as a specified set of activities designed to put into practice an activity or program of known dimensions." This looks honestly straightforward, though policy implementation can be multifaceted. More precisely Nakamura and Smallwood (1980: p.1) pointed out that "policy implementation is the set of activities and operations undertaken by various stakeholders toward the achievement of goals and objectives defined in an authorized policy." Walt and Gilson (1994: p.353), on the other hand, mentioned that "various factors influence policy implementation including the contend of the policy, the nature

of the policy process, the actors involved in the process and the context in which the policy is designed and must be implemented." In addition Sabatier and Mazmanian (1980) and Nakamura and Smallwood (1980: pp.47-65) have indicated that "implementation is evolutionary and is influenced by the ideological, political and economic climates in which it occurs and it becomes harder and more varied as the policy objectives filter down through the bureaucratic structure of the implementing organization." Palumbo and Harder (1981) in Copeland & Wexler (1995: p.52) stated that "the implementation process can facilitate or hinder program development and once the program development phase is complete what is implemented may vary substantially from the original policy directives." Stewart et al. (2008: p.104) indicated "implementation is a stage of policy making process in which actors, organizations, procedures techniques of control and techniques work together to put policies into effect to attain policy goals and they also refers implementation can be viewed as a process, an output and an outcome." Simon, Christopher (2010: p.102) view "implementation as the application of the policy by government administrative machinery to achieving the goals." Anderson (1994; p.113), on the other hand, state "that though administrative agencies are the primary implementers of the public policy, other actors may also be directly involved in policy implementation or act to influence administrative agencies or the both." Meter, Horn, Van Meter, and Van Horn (1975) mentioned that "policy implementation incorporates those actions by public and private individuals that are directed at the attainment of objectives set forth in prior policy decisions." Dye (2012: p.61) explains that "it involves activities to carry out the policies that enacted by the legislative branch and implementation involves activities for the creation of new departments, agencies, bureaus, and so on." Goggin et al. (1990: p.13) noted that "implementation is authoritative federal legislative decision or mandate into effect." Howlett, Ramesh, and Perl (2009) viewed that "it takes place when any action occurs, but they do not care about either process of implementation or achievement of policy goals." Lasswell (1971: p.28) identified seven stages of policy implementation as intelligence, promotion, prescription, innovation, application, termination and appraisal. Likewise, Brewer (1974: p.3) introduced six stages that included initiation, estimation, selection, implementation, evaluation and termination. Edwards (1980: p.1) considers that "implementation is the stage of policy making between the establishment

of a policy and the consequences of the policy for the people whom it affects." Meter, Horn, Van Meter, and Van Horn (1975) refers not only public body but also private individuals or groups those actions directed to achieve policy objectives. Hill and Hupe (2002: p.42) refers to policy implementation as partially a political process.

DeGroff and Cargo (2009: p.47) mentioned that "policy implementation reflects a complex change process where government decisions are transformed into programs, procedures, regulations, or practices aimed at social betterment." J. E. Lane (1993: p.93 and 2000) indicated that "there is a persistent myth or perhaps naive assumption that politician make policy and public servants implement it rationally as if implementation is something utterly simple and automatic." DeGroff and Cargo (2009: p.4) quoting Paul Berman (1978: p.4) noted that "in general, policy implementation can be considered the process of carrying out a government decision." Berman (1978: p.4) also stated that "implementation is the carrying out of an authoritative decision i.e. a policy choice." O'Toole Jr. (2000) noted that "policy implementation as it is useful to make the conceptual distinction between the policy implementation process and policy outcomes, even though these are interactive in practice." Ottoson and Green (1987: p.354) have stated that "the success of an adopted public policy depends on who successfully it is implemented and even the very best policy is of little worth if it has not been implemented successfully."

2.2 Policy Implementation Theories

Policy implementation discipline suffers from a viable, valid and unanimously accepted outstanding or good theory and concerning policy implementation theories, there is no such grand theory like Weberian bureaucracy, Durkheim's theory of suicide, or Marx's theory of dialectical materialism (Khan and Khandaker, 2016 discussed refering Hill and Hupe, 2009). Goggin et al. (1990: p.9) has stated that "the reason why there is no such grand theory in implementation because as a separate discipline it is still in its infancy." In this connection, Goggin et al. (1990: p.9) also commented that "the lack of grand theory obscures what implementation is and is not." Stewart et al. (2008: p.109) mentioned otherwise: "over a span of time, different theoretical models,

at least two theoretical approaches (top-down and bottom-up) and case studies have been developed in the discipline of policy implementation."

Pulzl and Treib (2007: p.89) mentioned that "distinguished scholars like Van Meter and Van Horn (1975) and Sabatier & Mazmanian (1980) illustrated top-down model in explaining implementation, while bottom-up scholars like Elmore (1993: pp 96-124), Lipsky (1980) emphasized that implementation consist of the everyday problem-solving strategies of street-level bureaucrats." Meter, Horn, Van Meter, and Van Horn's (1975) "top down model comprised of six variables to shape the linkage between policy and performance which includes: (a) policy standards and objectives; (b) resources; (c) intergovernmental communication and enforcement activities; (d) characteristics of implementing agencies; economic, social and political conditions and (e) the disposition of the implementers." Sabatier and Mazmanian's (1980: p.22) "top down approach involved 16 independent variables in the implementation process within 3 categores including (i) the tractability of the problem; (ii) the ability of the statute to structure implementation and (iii) non-statutory variables affecting implementation." Again Pulzl and Treib, (2007: p.92) also mentioned that "overall opinion were given by top down researchers are (1) to have clear and consitent policy goals (Sabatier and Mazmanian's, 1983), (2) minimize the number of actors involved (Pressman and Wildavsky, 1973), (3) limit the extent of change in content (Sabatier and Mazmanian's, (1983), and (4) have implementation done through agency which is sympathetic to policy goals (P A Sabatier, 1988)."

On the other hand, Stewart et al. (2008) and Matland (1995: p.149) mentioned that the "bottom-up approach identifies the network of actors in service delivery in one or more local areas and asks them about goals, strategies and activities and contacts." They also mentioned that bottom-up designers begin their implementation strategy formation with target groups and services deliveries because they found that the target groups are the actual implementation of policy. Moreover, Matland (1995: p.148) also mentioned that "bottom uppers contend that if local bureaucrats are not allowed discretion in the implementation process with respect to local conditions, then the policy will likely fail." Accordingly, Matland (1995: p.149) mentioned that "goals, strategies and activities must be deployed with special attention to the people the policy will directly impact. Thus, evaluation based upon the street level bureaucrat would be

the best practice." Matland, (1995: pp.149-150) noted that "bottom uppers sometimes blamed of two criticisms referring those first, street-level bureaucrats are usually not accountable to the people and second, bottom-uppers ignore the fact that many policies are created in a top-down manner and likely in a manner which reinforces top-down authority." De Leon and De Leon (2002: p.478) contend that "bottom-uppers are more aligned with participatory democracy than top-downers, primarily because local officials must be responsive to their constituents and hence instruct bureaucrats on implementation processes." Matland (1995: p.148) quoting Paul Berman (1978) assumed that "policy implementation occurs at two levels: (i) macro implementation where the centrally located actors devise a government program, and (ii) micro implementation where local actors react to these plans and develop their own plans and implement them."

Goggin et al. (1990: p.15) has stated that "further scholars tend to unify the two approaches to provide a hybrid one and argue that policy makers should employ policy instruments based on the structure of target groups." As per the hybrid approach, the implementation outcome is influenced by the central and local factors (Goggin et al. 1990: p.15). Stewart et al. (2008: p.111) contended that "both the top-down and bottom-up approaches are criticized for their limited explanatory ability of the implementation dynamics from their respective analytical frameworks." De Leon and De Leon (2002: pp.477-478) found that "bottom uppers are more likely to be reflective of community interest, while top-downers are more likely to impose policy narrowly upon focused interest groups." Stewart et al. (2008: p.116) discussed the notion that "many scholars of policy implementation now agree that the future phase of research in implementation must be directed towards theory development." Therefore, there are some state-of-the art theoretical models and approaches in the literature on policy implementation. Edwards (1980: pp.9-11) mentioned in his study of policy implementation and ask what the preconditions for successful policy implementation and identified four important variables or factors in implementing public policy: communication, resources, dispositions or attitudes and bureaucratic structure.

Pulzl andTreib (2007: p.91) identified that "the major contributors of top-down theories are Pressman and Wildavsky (1973), Sabatier and Mazmanian (1983), Meter, Horn, Van Meter, and Van Horn (1975), Bardach (1977) and top contributor of hybrid

theories are Majone and Wildavsky (1978), Scharpf (1978), Mayntz (1977), Windhoff-Heritier (1980), Ripley and Franklin (1982), Elmore (1985), Sabatier (1986), (Goggin et al. 1990) and Winter (1990).” On the other hand, Pulzl, H. and Treib (2007: p.91) identified, “the main contributors of bottom-up theories are Lipsky (1980), Elmore (1980), Hjern and Porter (1981), Hjern (1982) and Hjern and Hull (1982).” They also identified that top-down theory is characterized by policy recommendations, hierarchical guidance, and elitist models of democracy, while on the other hand the bottom-up approach embodies description, explanation, decentralized problem-solving, and a participatory model of democracy.

2.3 Review of Deductive Theoretical Models of Policy Implementation

The study of policy implementation models is an effort to explore the relationships among various factors which may cause the success or failure of policy implementation. The implementation of policy would be better logical in terms of methodology and modeling. Each model will emphasize the aspect of the study that desire to construct a general model to explain the entire implementation process. Until the 1970s implementation was considered trouble-free and was viewed as simply pushing policy into practice. This viewing platform changed with the writings of Pressman and Wildavsky (1973) on program “implementation” in 1973 and Bardach's (1977) work on “implementation games.”. Bardach (1977: pp.55-56) mentioned the metaphors that the people concerned with carrying out a policy as playing separate games within the process of policy implementation. Pressman and Wildavsky (1973) examined the outcomes of an economic development program implemented in Oakland, California. The result of their research showed that, despite substantial expenditure and the support of key stakeholders and extensive agreement on the value and wisdom of the project, the program was unsuccessful in producing any useful outcomes. Stewart et al. (2008: p.109) mentioned that “the research has resulted in obvious progress in at least two respects; firstly; there is now a better understanding of what implementation is and how it diverges across time, policies and government and secondly; it links between policy design and implementation performance.” The implementation process translates a policy mandate into action or practice. It

emphasized the operationalization of policy. There have been a few theoretical models of policy implementation, providing us with important guidelines on how to successfully implement a policy or how to develop the performance of implementation.

2.3.1 Sabatier and Mazmanian's Model of Policy Implementation

Sabatier and Mazmanian (1980: p.8) defined "policy implementation as the carrying out of a basic policy decision, usually incorporated in a statute, but which can also take the form of important executive orders or court decision." Paudel (2009: p.37) stated that "the starting point is the authoritative decision that implies centrally located actors, such as politicians, top-level bureaucrats and others, who are the most relevant to producing the desired effects." Hupe, Hill, and Nangia (2014: p.51) notion that "they categorized three types of variables (independent variables) affecting the achievement of legal objectives throughout the entire process of policy implementation affecting the 'tractability of the problems being addressed; non-statutory variables affecting implementation-the net effect of a variety of political variables on the balance of support for statutory objectives; and the ability of the statute to structure implementation."

Pulzl and Treib (2007: p.92) stated that Sabatier and Mazmanian (1979) "started their analysis with a policy decision that was made by governmental representatives. So, they anticipated a clear separation of policy formation from policy implementation." Pulzl and Treib (2007: p.92) and Sabatier and Mazmanian (1979) recognized that "perfect hierarchical control over the implementation process was hard to achieve in practice and that unfavorable conditions could cause implementation failure and they also claimed that policy makers could confirm effective implementation through suitable program design and clever construction of the implementation process."

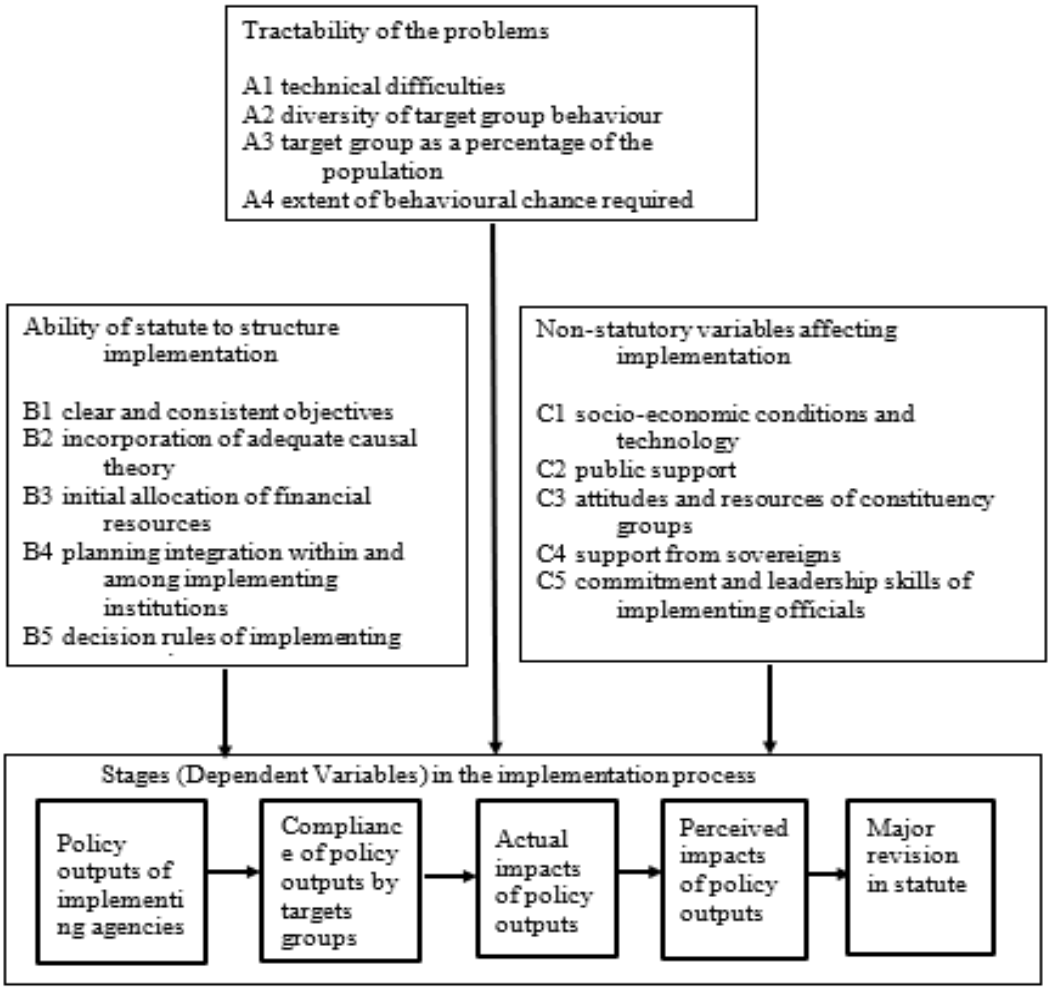

Figure 2.1 Sabatier and Mazmanian Model of Policy Implementation
Source: Paul A. Sabatier and Mazmanian in Pulzl, H. and Treib (2007)

2.3.2 Van Horn and Van Meter's Model of Policy Implementation Process

This model focuses on how the factors affect policy implementation performance. The model introduces six factors or independent variables that influence effective policy implementation. These factors are policy standards and objectives; policy resources; interorganizational communication and enforcement activities; characteristics of the implementing agencies; economic; social and political conditions; and the disposition of implementers. This model not only specifies the relationships between the independent variables and the dependent variable but also the nature of the policy itself and how it can determine policy implementation and even the achievement of policy goals. Meter, Horn, Van Meter, and Van Horn (1975) stated that "the

implementation process would be influenced by the amount of organizational change that is required as drastic reorganization required by implementation less likely have an effective implementation." They also indicated that "the other features of nature of the policy that may influence to policy implementation is the degree of conflict or consensus over its goals and objectives." There are some factors that affect goal consensus and thus implementation. One of these factors is the extent to which implementers have participated in the policy decision. Hupe, Hill, and Nangia (2014: p.48) mentioned that "six groups of variables identified in the model are; policy standards and objectives, the resources and incentives available, the quality of interorganizational relationships, the characteristics of the implementing agencies, the agency's formal and informal linkages with the policy-making or policy-enforcing body, the economic, social and political environment; and the disposition or response of the implementers, involving three elements: their cognition (comprehension, understanding) of the policy, the direction of their response to it (acceptance, neutrality, rejection) and the intensity of that response."

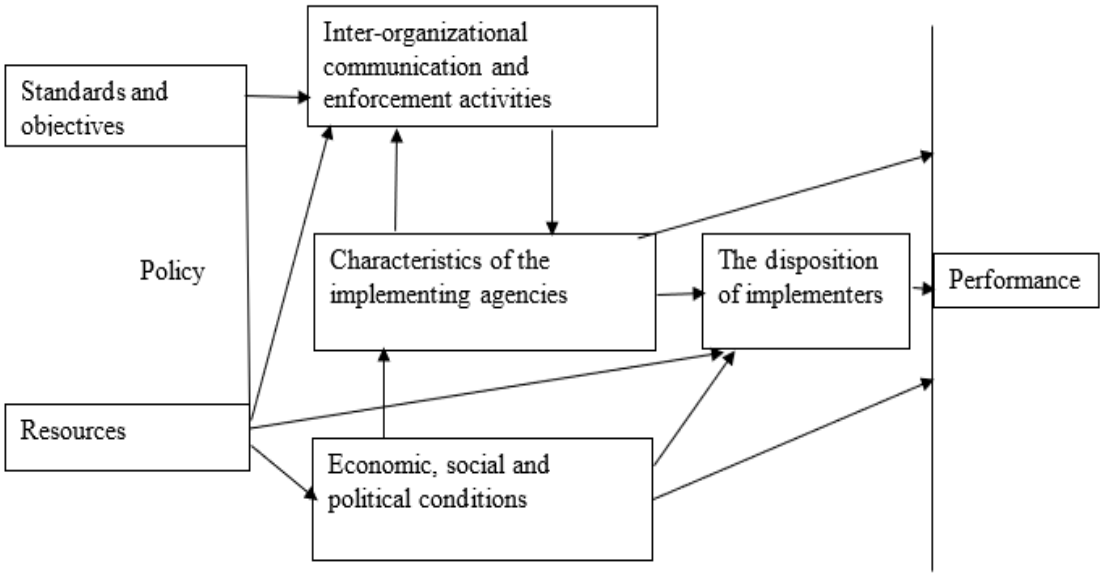

Figure 2.2 Van Horn and Van Meter's model of policy implementation process
Source: Van Meter and Van Horn, 1975 in Hupe et al. (2014)

2.3.3 Weimer and Vining's Mechanism of Policy Implementation

Weimer and Vining (2005: p.30) stated that "there are two basic mechanisms in coordinating joint action into conquering societal objectives." Weimer and Vining (2005: p.30) also indicated "that one is through market mechanism and the other is by state intervention." They discussed and contended that "joint action enables society to produce, distribute, and consume a great variety and plenty of goods and services." Most joint action arises from charitable agreements among people, including within families, private organizations, and exchange relations. Nevertheless, Freidson (2001: pp.2-3) has contended that "besides market and state, there is the third logic at work in public policy implementation process in modern society, namely professional power." They also noted that "for decades now, the popular mottos driving policy formation and implementation have been competition and efficiency, the first referring to competition in a free market, and the second to the benefit of the skilled management of government agencies." Hence, Freidson (2001: p.180) also indicated that "like Max Weber's model of rational-legal bureaucracy which represents managerialism and Adam Smith's model of the free market which represents consumerism and professionalism which was apprehended of as one of the three rationally distinct methods of organizing and controlling."

2.3.4 Michael Lipsky's Street-Level Bureaucracy Model

Lipsky's (1980) street-level bureaucracy has been regarded as "the leading challenge to the top-down model of policy implementation and the foundational point of bottom-up model." Lipsky (1980) argued that "public policy is not best understood as made in legislatures or top-floor suites of high ranking administrators, because in significant ways it is made in the crowded offices and daily encounters in street-level employees." The street-level bureaucrats, the procedures they create, and the plans they invent to cope with uncertainties and work pressures, efficiently become the public policies they carry out. Lipsky (1980: p.3) examined "the behaviour of front-line staff in policy delivery agencies and refers to these front-line employees as street-level bureaucrats." They are the public workers who work directly with peoples and have great discretion in the implementation of their work. Tummers and Bekkers (2014: p.3)

stated that “these street-level bureaucrats implement public policies.” Lipsky (1980: p.14) emphasized that “in implementing policy at street level, front line workers are confronted with conflict and ambiguities and they try to cope strategies or even survival approaches to deal with the uncooperative working situations along with these confronted inadequacies and uncertainties and in daily client processing routines, street-level bureaucrats in fact have substantial amount of powers and discretions at their disposal, which may lead to large deviations from.”

2.3.5 The Down-Ward Puzzlement Model of Martin Rein’s

Martin Rein (1983: p.118) has put into view “a theoretical perspective of implementation by questioning the controllability of the implementation of policy and injecting the concept of puzzlement and conflict into the study of policy implementation.” Rein (1983: p.118) contends that “implementation is understood as (1) a declaration of government preferences, (2) mediated by a number of actors, who (3) create a circular process characterised by reciprocal power relations and negotiations, then the actors must take into account three potentially conflicting imperatives (a) the legal imperative to do what is legally required, (b) the rational-bureaucratic imperative to do what is rationally defensible, and (c) the consensual imperative to do what can help to establish agreement among contending influential parties who have a stake in the outcome.” He also indicated that “there are three definite types of primary actors in the implementation process including guideline developers, interest groups, and program administrators.” Again Rein (1983: p.117) stated that “policy implementation is a matter not only of power but of puzzlement of men collectively wondering what to do.” He further mentioned that “the puzzlement is mainly resultant from the scenarios of (1) the program administrators and front-line workers do not know what is required of them (by the legislation or executive policy) since they are asked either to pursue uncertain or evolving goals or reconcile incompatible requirements; (2) the resources at hand are insufficient for the task; and (3) the workers lack knowledge, skills and technology to act.” Rein has further specified that regarding the downward spiral puzzlement “when the purposes of policy are unclear and mismatched, each successive stage in the process of implementation provides a new context for seeking further explanation. One of the consequences of

passing vagueness an inconsistent legislation is that the arena of decision making shifts to a lower level. The everyday practitioners become the ones who resolve the lack of consensus through their concrete actions."

2.3.6 Organizational Model of Richard Elmore

Elmore (1993: p.313) stated that "one of the vital features of policy implementation is the process by which policies are translated into administrative actions and the translation of an idea into action involve certain crucial simplification." Elmore (1993: p.313) further pointed out that "virtually all public policies are implemented by large public organization are simplifiers; they work on problems by breaking them into discrete, manageable tasks and allocating responsibility for those tasks to specialized units." Elmore (1993: pp.96-124) explained this in different words: "organizations assigned with the mission to carry out policies and programs may modify, simplify or even re-orient the policies measures to outfit the internal structures and straight procedures of the organization." He also mentioned that "miscellaneous organizational models will translate a given policy in different ways, but they will simplify or localize in accordance with their fundamental principle, power structure, decision making procedure, and implementation process."

2.3.7 Edward's Administrative Influence Model

Edwards (1980: pp.147-149) stated regarding communication that "the first requirement for effective implementation is that those responsible for carrying out a decision must know what they are supposed to do and others, to implement a policy must be consistent, clear and accurate in specifying the aims of the decision-makers." Effective policy implementation requires resources and well trained, responsible, motivated frontline public employees to serve the society. Beyond these, the administrative leaders are prerequisite behind the political leaders for the excellent implementation of public policy.

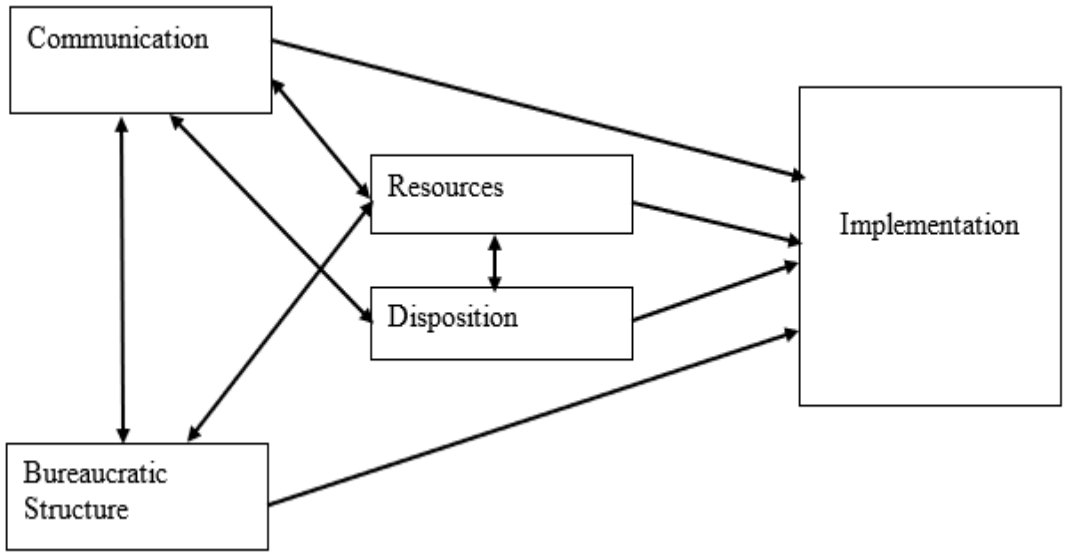

Figure 2.3 Edward's Administrative Influence Model
Source: Edwards (1980: p.148)

2.3.8 Paul A. Sabatier's Advocacy Coalition Framework

P. Sabatier (1988) created the "advocacy coalition framework" "to synthesize the top-down and bottom-up models in policy implementation." By the advocacy coalition framework, Sabatier mentioned that "the actors from various public and private organizations who were shared a set of beliefs and who seek to realize their mutual goals over time in a definite policy system." Through this definition, "four indispensable features of advocacy coalition can be assumed including (1) the composition of an advocacy coalition is made up of a variety of groupings: administrative agencies, legislative committee, interest groups, journalists, researchers, policy analysts, and actors at all levels of active government in policy formulation and implementation; (2) the unit of analysis of policy implementation is neither the top-down officials and their policy directives nor the street-level bureaucrats and their accommodating strategies, but is the advocacy coalition in a specific policy problem or issue, i.e. policy subsystem, such as higher education or air pollution control; (3) the delineative line or the integrative force of an advocacy coalition is its belief system, which can be separate out into three levels: the deep core; fundamental normative and ontological proverbs, the policy core; fundamental policy position about the basic tactics for achieving core values within the subsystem. Instrumental decisions and

information searches for necessary to implement policy core; (4) a longer time frame, i.e. a decade or more should be adopted in policy implementation to allow the policy process to complete at least one formulation, implementation and reformulation cycle, to obtain a reasonably precise picture of success and failure, and to appreciate the variety of tactics actors pursue over time." Based on the conception of advocacy coalition, Sabatier created an advocacy coalition framework for policy implementation initially in three dimensions those are; "the exogenous factors the intermediate factors and policy subsystem."

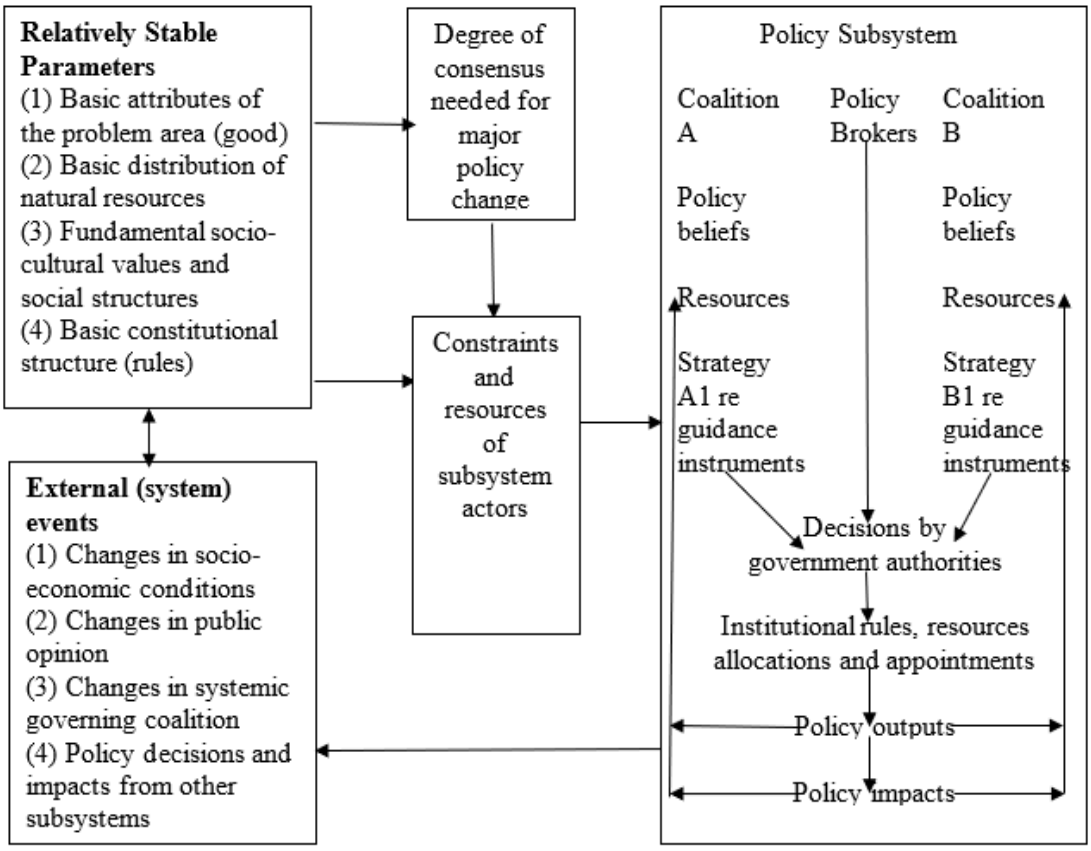

Figure 2.4 Paul A. Sabatier's Advocacy Coalition Framework
Source: Paul A Sabatier

2.3.9 Voradej Chandarasorn's Models of Policy Implementation

Voradej Chandarasorn (2005) has specifically discussed some of the important models, such as the rational model, the management model, the organizational development model, the bureaucratic model, and the political model. The key indicators of those models and their impact on policy performance have been explained in the following manner. First, the rational model of policy implementation is primarily based

on the assumption that policy implementation requires the clarification of goals, missions and objectives, detailed planning, appropriate job assignments, proper monitoring and evaluation, rewards and punishment, and comprehensive and efficient standard operating procedures and techniques required to assist implementers to define the scope of their responsibilities. Basically, this policy implementation model is the process of realizing problems, establishing and evaluating planning and controlling criteria, creating and implementing alternatives, and monitoring the process of the policy. The rational model of policy implementation comes from the multi-disciplinary approach of economics (cost-benefit analysis), planning (assignments), engineering and architect, management (how to evaluate rewards and punishments). The dependent variable of this model is policy implementation performance and the independent variables mentioned above show how those variables have an impact on policy implementation performance. Second, the management model of policy implementation is based on the belief that policy implementation performance depends on organization structure specially decentralization of organization, personnel and human resources management, budget, equipment, level of authority, innovation and adoption of technology and digital management of place as infrastructure and involvement of people as co-producer. The model considers appropriate unlimited location through digital management and innovation and the adoption of technology as important determinants of policy implementation. The management model of policy implementation, to some extent, is quite similar to Edward's (1980) model. The main theme is that the implementing agency should have a clear organizational structure supported by the frontline implementers with desired skills and competency. The underlying assumptions of the model come from the multi-disciplinary approach of economics and finance, organization theory, business administration, technology, human resource management, and digital management Three, the organization development model of policy implementation assumes that the performance of policy implementation relies on the participation or engagement of the parties involved, i.e. coordination, teamwork, development of organizational culture, effective leadership, motivation and incentives, people’s participation, loyalty and compliance with policy, and the commitment and accuracy of the decisions of the leaders. Policy implementation is a process that requires implementers to engage in policy formulation

and decisions to let them feel that the success of policy implementation is also their success. The underlying assumptions of the model come from the multi-disciplinary approach of organization theory, economics, management (how to evaluate rewards and punishment). Four is the bureaucratic process model of policy implementation, which considers the role of the frontline staff members in policy implementation and the understanding ability of street level bureaucrats' behaviors from the top hierarchy. It explains that successful policy implementation relies heavily on the role of the frontline staff that directly meets people and other stakeholders. This model is intended to ascertain social reality in terms of the discretionary power of frontline implementers. Successful policy implementation relies on the degree of the policy compliance of frontline persons. In other words, it depends on both the service provider's capacity and the level of acceptance of the policy implementers. This model is based on the bottom-up theory of policy implementation. Regarding policy compliance, the behavior of the implementer is manifold. First, intentional compliance, if the implementers have good knowledge of public policy, they can comply with the tasks easily. Secondly, regarding unintentional noncompliance, sometimes the frontline implementer tends to comply, but he or she cannot do so and in this case he/she needs training. Thirdly, in terms of intentional non-compliance, the implementer intentionally tends not to comply. Finally, regarding unintentional compliance, the implementers unintentionally comply with the task. The implementer's behavior is very important for policy success. The incompetency and lack of commitment of frontline implementers are the major barriers to the successful implementation of policy. The underlying assumptions of the model come from the multi-disciplinary approach of sociology, anthropology, public administration and technology, Five the political model of policy implementation hypothesizes that policy implementation performance depends on the interaction outcomes among the agent's capacity, either institutional or representative, and his or her bargaining power, conflict resolution power, and outside environmental factors; namely, economic, political, and social. Policy implementation performance is the outcome of the degree of conflict and efficiency of conflict management in society. The implications of this model regarding policy implementation depend on the interplay among agencies, actors, and interest groups. The underlying assumptions of the model come from the multi-disciplinary approach of conflict management, management,

organization theory, political science, and public policy. The independent variables of this model are complexity of joint actions, negotiation management, level of support and bureaucratic political management, and how those variables have an impact on the dependent variable policy implementation performance have been expressed in the model. Six is the integrated general model of policy implementation Voradej Chandarasorn (2005) mentioned that the theoretical models of rationality, management, organization development, bureaucratic processes, and political can be combined as various independent variables and one main dependent variable, "policy implementation performance." All the factors identified by Pressman and Wildavsky (1973) and Bardach (1977) invariably fall under the framework of these five models. It is not rational to say that no model is self-contained and cannot fit in every context, and that every model has strengths and some weaknesses and so Voradej Chandarasorn (2005) suggested an integrated model of policy implementation performance containing the independent variables of clear objectives and goals, monitoring and evaluation, the utilization of human resources, effective budget, digital management, people's participations, leadership, and political management and level of support.

2.4 Concept of Public Policy, Policy Performance, and Policy Evaluation

2.4.1 Public Policy

Dewey (1927) discussed the idea that public policy emphasized the public and its problems. Dye Thomas R (1976: p.1) defined public policy "as what governments do, why they do it, and what difference does it make, and public policy is whatever government choose to do or not to do." Heidenheimer and Heclo (1990: p.3) demarcated public policy "as the study of how, why and to what effect government pursue courses of action and inaction." Nagel (1980: p.3) on the other hand stated that public policy is "the study of the nature, causes, and effects of public policies designed to cope with specific social problem." Easton (1971: p.7) noted that "the authoritative allocation of values for the whole society which means only the government can authoritatively act on the whole society, and everything the government chooses to do or not do results on the allocation of values." On the other hand, Lasswell (1971: p.20) stated that "as a projected program goals, values and practices which means that there

need to be a clear direction with clear objective with both moral and economical attributes with clear action plan." Wildavsky (1979: p.387) defined "policy [as] a process as well as a product. It is used to refer to a process of decision-making and the product of that process." Fischer (2003: p.69) defined "public policy [as] a discursive construct rather than a self-defining phenomenon." Anderson (1994: p.3) defined public policy "as a purposive course of action followed by an actor or set of actors in dealing with a problem or matter of concern." Stewart et al. (2008: p.4) defined public policy "as a series or pattern of government activities or decisions that are designed to remedy some social problems and it is the guide to action and it connotes a broader framework to operationalize a philosophy, principle, vision or decision, mandate etc. which are translated into various programs, projects and actions." Stewart et al. (2008: p.4) also mentioned that "a policy entails the broad statement of future goals and actions and expresses the ways and means of attaining them and it is a framework of government intervention covers a variety of activities."

Policy analysis is a technique of public administration that enables civil servants to examine and evaluate the available options to implement the goals of elected officials. It is a process of determining which of various policies will achieve a given set of goals considering the relation between the policies and the goals. The content of policy analysis includes defining the problem, establishing goals, selecting a policy, implementation and evaluation of the policy. Bardach (2011: p.xvi) discoursed on the effective and efficient eight-step process to follow when conducting "a policy analysis including define the problem, assemble some evidence, construct the alternatives, select the evaluation criteria, project the outcomes, confront the tradeoffs, decide and tell your story." Dunn (1981: pp.47-48) developed "an integrated framework for policy analysis based on the definition of policy analysis and components including applied social science discipline, multiple methods of inquiry and elements of policy systems." The integrated framework provides us with a methodology for policy analysis that is a means for systematically and critically studying methods and techniques of policy analysis.

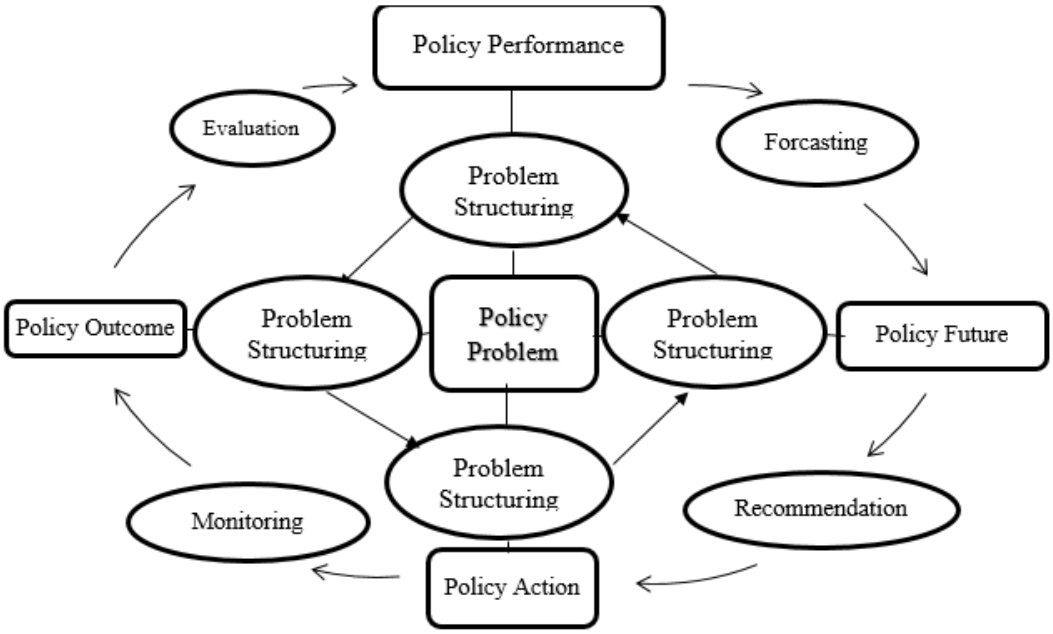

Figure 2.5 Dunn's Integrated Framework for Policy Analysis

2.4.2 Policy Performance

Dunn (2011: p.60) defined policy performance "as finding the degree to which some observed policy outcomes contributes to the attainment of values, goals, or objectives useful in forecasting expected policy outcomes in future." Howlett, Ramesh, and Perl (2009) noted that "policy implementation was initially considered as an unproblematic notion in a policy perception, but since some studies indicated that the intended objectives were not achieved due to the problem in policy implementation, it became an important issue in the public policy arena." Palumbo and Calista (1990: p.xiii) pointed out that "policy outcomes cannot be evaluated unless the policy has been implemented and services delivered the delivery of services shapes policy outcomes more than the design of the policy." Goggin et al. (1990: p.31) indicated "outcomes [as] the degree to which the policy's goals are achieved and since implementation is a process related to outcome, it is central to the policy cycle." Moreover, the CDC, the National Center for Injury Prevention and Control, US Department of Health, (2012), acknowledged that "policy implementation evaluation may focus on several different areas, including (a) components of the logic model, such as inputs, activities and outputs, (b) stakeholder's attitudes, knowledge and awareness, and (c) facilitators of

and barriers to implementation." It also briefed that "policy process deals with problem identification, policy analysis, strategy and policy development, policy enactment, policy implementation and policy evaluation (content evaluation, implementation evaluation and impact evaluation)." Therefore, the policy implementation performance encompasses both policy content and implementation evaluations. Dunn (1981: p.59) noted that "monitoring is a policy analytic procedure used to produce information about the causes and consequences of policies and programs and evaluation by contrast, is a policy analytic procedure used to produce information about the performance of policies in satisfying needs, values, or opportunities that constitute a problem." Dunn (1981: p.356) also mentioned that "monitoring answers the question: what happened, how, and why? Evaluation by contrast, answer the question: what difference does it make?" He further pointed out that "the main function of policy evaluation in policy analysis are the provision of reliable and valid information about policy performance, the clarification and critique of values that underlie the choice of goals and objectives, and the provision of information for problem structuring and practical inference." The functions of evaluation in the policy analysis may be viewed in terms of four types of cycles: adjustment cycles, communication cycles, termination cycles and restructuring cycles.

2.4.3 Implementation Process and Dimensions

Bardach (1977: p.36) in his book 'implementation game' indicates that the policy or program implementation process is an assembly process. It is like a machine. The machine must sometimes be assembled from the scratch. It can sometimes be created by overhauling and reconstructing an older machine or pre-existing machine. Putting the machine together and making it run is understood as the implementation process. If any policy has scratch as something established wrong in the previous stage, it must sometimes be assembled from it. Bardach (1977: p.36) mentioned that "implementation problems are control problems, but they are specific to the assembly activities that constitute some implementation process." The implementation process is grounded in the fact that the elements of implementation are in the hands of many different parties, most of whom are in important ways independent of each other. The only way that such parties can include others to contribute to the program elements is using persuasion and

bargaining. The implementation process is a system of loosely-related implementation games. Games can be separated conferring to the nature of their risks. The elements are games, and their interrelations are manifold and complicated. The outcomes of certain games set the conditions for the play of other games. He noted that "the implementation process is a process of assembling the elements required to produce a programmatic outcome, and even, the playing out of several loosely interrelated games whereby these elements are withheld from or delivered to the program assembly process on terms." Bardach (1977: p.36) also indicated that the "conceptual analysis of implementation process includes (a) administrative and financial accountability mechanism, (b) participation of beneficiaries, (c) private providers of goods and services, (d) clearness or permit by public regulatory agencies, (e) innovation in conception and design, (f) sources of funds, (g) trouble-shooters, (h) political support, (i) budget and reimbursement and (j) strategy and tactics."

Bardach (1977: p.38) stated "the implementation case of mental health reform in California, USA and viewed implementation process as a pressure politics (pressure and counter pressures), messing of assent, administrative control process, intergovernmental bargaining, and complexity of joint actions, and features associated with each of the factors headed towards conceptualization the process as a system of loosely related games." Bardach (1977) was worried about these games—that they might have antagonistic effects on policy implementation or issues that cause implementation interruption or implementation failure. Bardach (1977: p.66) identified "many factors for adversely affecting implementation failure those are generally four types and many factors inside them: (1) the diversion of resources, especially money, which should properly to be used to obtain or to create, certain program elements; (2) the deflection of policy goals stipulated in the original machine; (3) resistance of explicit, and usually institutionalized, efforts to control behaviour administratively, and (4) the dissipation of personal and political energies in playing political and bureaucratic games that might otherwise be channeled into constructive program action." Sixteen factors have been identified that can cause implementation failure covering the whole range of the 'Implementation Game' by Bardach (1977: pp.66-172); namely, easy money, easy life, the budget game, pork barrel, pilling on, up for grabs, keeping the peace, tokenism, massive resistance, social entropy, the management game,

tenacity, territory, not our problem, odd man out, reputation, and delay in the game. As first identified by Pressman and Wildavsky (1973), and many others that study policy implementation, the policy impact often does not reflect the intention or goals of the policy. Many researchers such as Pressman and Wildavsky (1973), Sabatier and Mazmanian (1979), and others have identified in their work the factors that contribute to implementation failure. Pressman and Wildavsky's (1973: p.xxiv) study began with the assumption that policy objectives are set out by central policymakers. Implementation, then, was viewed as the task of analyzing the difficulties in achieving these policy objectives. They saw implementation as the interaction between setting of goals and actions geared to achieve them. They both underlined the "linear relationship between agreed policy goals and their implementation and implementation therefore implied the establishment of adequate bureaucratic procedures to ensure that policies are executed as accurately as possible." To this end, Fischer, Miller, and Sidney (2006) suggested that "the implementation agencies should have sufficient resources at their disposal and their needs to be a system of clear responsibilities and hierarchical control to supervise the actions of implementers."

2.4.4 Implementation Evaluation and Policy Evaluation

Howlett, Ramesh, and Perl (2009a) noted that "policy evaluation is the stage of the policy process at which it is determined how a public policy has fared in action implies that evaluation of means being employed, and objectives being served." Poister (2004: pp. 98-122) discussed the notion that "there are no universal and fixed criteria and eventually it suffered as spectacular failures, substantive failure and procedural failures." She also mentioned that "evaluate output in function of expectations and goals but failure or success is a judgement of events not inherent to the event." Goals are often vague, multiple, no ranking, shifting throughout policy stages. Policy evaluation includes as effort evaluation, performance, effectiveness, efficiency and process evaluation. Policy implementation evaluation is one part of a performance-based management process. Poister (2004: p.98) stated that "performance measurement systems can be thought of as both evaluation tools and management systems that are designed to provide useful feedback on performance to strengthen decision making and improve program and organizational performance." Poister (2004: p.99) also

mentioned that “the purpose is to provide objective information to managers and policy makers to improve decision making and thereby strengthen performance and to provide accountability to a range of stakeholders, such as higher-level management, central executive agencies, government bodies, funding agencies, accrediting organizations, clients and customers, advocacy groups, and the public at large.” Love (2004: p.67) categorized “the methods of evaluating implementation as formative evaluation, process evaluation, descriptive evaluation, performance monitoring, implementation analysis and also mentioned the stages of implementation evaluation as access need and feasibility, plan and design the program, deliver the program, improve the program, identifying the core components of implementation can be challenging, but doing so can be essential to focusing the evaluation.” Love (2004: p.88) also mentioned that “implementation evaluation often relies on non-experimental descriptive or exploratory designs such as case studies and cross-sectional designs and the focus of the design is on accurately describing the implementation process rather than on proving any specific hypothesis or demonstrating relations between variables.” The CDC (2012) indicated that “the evaluation design may also include exploration of differences in implementation in different contexts or for different variations of the policy and identifying the core components of implementation can be challenges, but this step is vital when developing the evaluation questions and measures.” On the other hand, Bhuyan, Jorgensen, and Sharma (2010: p.1) discussed the idea that “assessing policy implementation is essential because it promotes accountability by holding policymakers and implementers accountable for achieving stated goals and by reinvigorating commitment.” They also stated that it “enhances effectiveness because understanding and addressing barriers to policy implementation can improve program delivery and fosters equity and equality, because effective policy implementation can establish minimum standards for quality and promote access, reducing inconsistencies among service providers and regions."

2.5 Measurement of Health Policy Implementation Performance in the Context of Bangladesh

2.5.1 Health Policy and Primary Health Care in Bangladesh

Policy planning in Bangladesh is the fundamental duty of the central government. The national health care facilities are under the direct control of the Ministry of Health and Family Welfare (MoHFW) which is the apex agent of health policy planning and implementation by street level health facilities providers. Bangladesh formulated its first national health policy in 2000. The key objectives of the national health policy comprised: providing rudimentary health facilities to the people at all levels; ensuring the availability of primary health care facilities at the Union and Upazila levels; enlightening maternal and child health; reproductive health services; and strengthening family planning facilities. Emphasizing primary and rural health care, the national health policy was revised in 2011, with some new issues such as health insurance schemes for formal sectors and a health card for the ultra-poor. The foundation of the national health policy was to deliver health care services to the people as far as possible, at their door steps, at an affordable cost. It has been specified in the preamble of the policy of the national health policy 2011 that "health is a complete physical, mental and social stature; not only absence of diseases and sickness." The mission, goals, and objectives of the national health policy 2011 are as follows: the mission is to create conditions whereby its people can reach and maintain the highest attainable level of health as a fundamental human right and social justice. To primary goal is to ensure emergency health services and primary health care for all. The goal is to ensure quality and equitable health care for all citizens in Bangladesh by improving access to and utilization of health, population, and nutrition services, and to encourage people to receive health services with rights and esteem and to strengthen preventive approaches as well as control programs. The basic objectives of the national health policy are as follows: (1) to create health care services as fundamental rights as per the constitution and international treaties and to make available health facilities and the expansion of related services, nutrition and public health at the door step of all the citizens; (2) to ensure quality and affordable health services to the population, especially the poor and geographically marginalized population of rural and urban areas; (3) to ensure the

establishment of a community clinic for every six thousand people for primary health services for all citizens; (4) to give priority to emergency health services; (5) to undertake programs to reduce reasonably the child and maternal mortality rate by the year 2021 on the event of the 50 years of independence; (6) to strengthen and expedite the various family planning interventions to attain a replacement level of fertility by the year 2021; (7) to adopt satisfactory measures for streamlined, expanded access and quality of maternal and child health services and the instillation of facilities for safe and clean delivery in all the villages; (8) to ensure supply of affordable and acceptable family planning programs to the poor and ultra-poor; (9) to ensure gender equality in health services; (10) to ensure the use of information and communication technology in health services and overall management; (11) to ensure human resources for health and other supplies for the public health centers and hospitals and improving the quality of care through the dynamism of management; (12) to ensure the quality of services and educational expenses under the affordability of the general people offered by private medical colleges, nursing education and training institutions, hospitals, clinics, and diagnostics centers; (13) to encourage the modernization of health education, nursing training and education, medical technologist and health assistance; (14) to increase the coverage and quality of services by strengthening coordination with the concerned ministry and department of public health service providers, and medical education and private sector service providers; (15) to strengthen disease control and prevention activities and for carry-on immunization programs; (16) to ensure the rights of people for obtaining health-related information; (17) to control the price and availability of essential drugs; (18) to keep vigilant concerning the vulnerability of health hazards due to climate change and exploring remedial measures; and (19) to arrange alternative health services procedures and education. In the national health policy, the government has recognized health as a human right, and preventive measures, non-communicable disease control, the vulnerability of health hazard due to climate change, nutrition, maternal and child health, family planning and special emphasis on primary health care for all. In addition to these preventive measures, providing quality primary health care services to all the citizens of Bangladesh is one of the assertive features of the policy.

Bangladesh has a widespread public health care infrastructure facility covering the whole country and comprising primary, secondary, and tertiary levels of health service. The key of the primary health care services is the community clinics at the community level, the union level, and the Upazila Health Complex at the sub-district level, connecting them with the districts as part of the government health facilities. Primary health care is the first level of contact that individuals, families, and communities have with the health care system in Bangladesh. It includes personal care with health promotion, and the prevention of illness and community development. The Upazila Health Complex is the first inpatient apex health facility and provides primary level health services. The upazila health system comprises a three-tier structure, including (i) a health facility (=UHC with 31-50 beds), (ii) health centers (with or without beds), and (iii) community clinics (MoHFW, 2011). The combined tier of the primary health care provides the available service delivery facilities to the primary care receiver, especially the rural people of Bangladesh, and each facility has a combination of diverse health providers (paramedics, nurses and doctors,). The primary health care services in Bangladesh have focused on eight features as a countersigner to the announcement in the international conference on primary health care held at Alma Ata in 1978. These primary health care features include adequate and safe water and sanitation, health education, nutrition, immunization, maternal and child health, prevention and control of endemic diseases, treatment of common ailments and injuries, and the provision of essential drugs. The Ministry of Health and Family Welfare (2012) stated that the current primary health care approach, already in place, "includes (a) child health care, safe motherhood, family planning, menstrual regulation (MR), post abortion care, and management of sexually transmitted infections; (b) communicable diseases (including TB, Malaria, others); (c) emerging non-communicable diseases (diabetes, mental health, cardio-vascular diseases); and (d) limited curative care and behavioral change communication (BCC)." Through the moving political and socio-economic condition, the concept of primary health care would remain to reinforce primary health care at the community and sub-district level as proper tools for attaining the goals and objectives of the national health policy in Bangladesh.

2.5.2 Organizational Structure of Health Service Delivery in Bangladesh

The Government of Bangladesh is the sole responsible entity for ensuring health care services to the peoples through the Ministry of Health and Family Welfare (MoHFW). The ministry provides health services with different implementing agencies at the directorate, district, sub-district and community levels. Besides the MoHFW, the Ministry of Local Government Rural Development and Cooperatives also provides health care services, especially primary health care. Figure (2.6) below shows the health service delivery organizational structure in Bangladesh.

Figure 2.6 Organizational Structure of Government Health Services Delivery in Bangladesh

Table 2.1 Health Indicators of Bangladesh

tors	Status
Human Development Index (HDI)	0.579 (2016) 139th
Crude Birth Rate	19.2
Crude Death Rate	5.5/1000
Population growth rate	1.37%

Table 2.1 (Continued)

tors	Status
Maternal mortality rate	1.94/1000 live births (BMMS 2014)
Infant mortality rate	43/1000
Under 5 mortality rates	53/1000
Total Fertility Rate (TFR)	2.11
Contraceptive prevalence rate (CPR)	62%
Life expectancy at birth	70.65
Average age of marriage	24.9 (M) 18.6 (F)
Fully immunized children	92% less than 2 and 81% less than 1
TB (smear positive new) detection rate	100% and curable 91%
Low weight child birth	35%
Stunned child birth	39%
Breast feeding rate	64%
Skill birth attendance	34% (2013)
Community clinic	12815
Community health care provider	13240
Union health family welfare center	4300
Upazila health center (31-50 beds)	421
Government hospital at district and tertiary	125
Medical university	2
Total medical college	100 (31 governmnet+69 private)
Total dental college	35 (9 government+26 private)
Registered doctors + dental surgeon	93763
Doctor to population ratio	1:1871
Registered nurse	56884
Nurse to population ratio	10000/2.996
Hospital beds	94328 (over 48833 in GOB)
Hospital bed to population (2009-2010)	1655
Emergency obstetrics care unit (EOC)	630
HPNSDP	56993.54 crore taka
Private hospital, clinic and diagnostic	5384 (diagnostic) 2983 (hospital)
PPP for modernization and expansion	2
Safe drinking water intake (2011)	87.55%
Sanitary latrine users (2011)	66.6%

Sources: Compiled from Bangladesh Economic Review, Finance Division, (2015) and Budget 2015-2016, Health Bulletin, DGHS, (2016 and 2017), BDHS, World Bank, World Health Organization.

2.5.3 Policy Implementation Performance in Health Care

Policy implementation performance implies policy implementation assessment that measures how well a specific policy is being implemented. Health policy implementation performance does not emphasize the impact or outcome of the policy, but relatively it focuses on the process, extent, and nature of its implementation. The reason is that it is unlikely the policy goals will be achieved if effective implementation does not exist. The key informants should provide insight into the factors that obstruct and expedite effective policy implementation. Bhuyan, Jorgensen, and Sharma (2010: p.5) have dealt with "designing and measuring the framework for health policy implementation assessment and suggested seven dimensions that influence policy implementation including (1) the policy, its formulation, and dissemination; (2) social, political, and economic context; (3) leadership for policy implementation; (4) stakeholder's involvement in policy implementation; (5) implementation planning and resource mobilization; (6) operations and services and (7) feedback on progress and results." The Health Policy Initiative (2010) has developed a framework for policy implementation assessment tools and has suggested mixed methods for policy implementation assessment tools. In doing so, the Health Policy Initiative (2010: p.20) has "collaborated within country core teams and carried out four applications of the policy implementation assessment tools and these applications have assessed national Reproductive Health (RH) and HIV policies in Guatemala, the state health and population policy in Uttarakhand, India, and the national HIV/AIDS strategic plan in El Salvador." Chandarasorn (2005) has categorized "the performance of policy implementation into three dimension such as; (i) output, outcome and ultimate outcome of policy implementation; (ii) impact of policy, and (iii) measurement whether the policy leads to the development of country or society." Based on these three dimensions one can easily measure the success or failure of policy implementation. Ivan Pavletic (2010: p.33) stated that "successful policy outcomes depend not only upon designing good policies but also upon managing their implementation." The Economist Intelligence Unit (2010) suggested that policy implementation needs an all-inclusive approach, just throwing money to the problem is not sufficient, and it necessitates

sufficient resources, monitoring, communication with all stakeholders, the ability to include the stakeholders in the implementation design, and to gain from their insight.

2.5.4 Measuring Policy Implementation Performance in Primary Health Care in Bangladesh

The effectiveness of an organization in terms of policy implementation performance depends on its ability to execute the concerned policies efficiently. Hence, the implementation performance of health policy in primary care in Bangladesh depends on the capability of primary health facilities to implement the policies effectively. Dunn (1981: pp.342-343) has recommended "six criteria for evaluating policy performance, including effectiveness, efficiency, adequacy, equity, responsiveness and appropriateness." Dunn (1981: p.356) has indicated that the criteria for policy evaluation are the same as those for policy recommendations, such as effectiveness, efficiency, adequacy, equity, responsiveness and appropriateness. Poister (2004: p.99) has listed seven types of performance measures together with resources, outputs, productivity, efficiency, service quality, outcomes, cost effectiveness, and customer satisfaction. Based on the World Bank's framework, the US Agency for International Development (USAID, 2007) developed criteria for health system performance assessment that included equity, access, quality, efficiency and sustainability. Peters, Tran, and Adam (2013) in their WHO's practical guide to implementation research in health, stated that to evaluate the success or failure of implementation as implementation outcome variables which serves as indicators of how well a given implementation is actually working and the outcome variables that mostly reflects by the perception amongst stakeholders (i.e. policy makers, providers, consumers, managers) are-acceptability, appropriateness, adoption, feasibility, fidelity, cost, coverage and sustainability. Likewise, the Economist Intelligence Unit (2010) in its study on enabling policy implementation, reported that it used perceived opinion regarding how effective the organizations were at implementing the mandated policy (e.g. very effective, somewhat effective). The national health policy of Bangladesh regarding primary health care has emphasized the objectives of health policy comprising quality health care, equal care for all citizens, access to health care services, affordability, availability of essential drugs and services, efficient management using information and communication technology (ICT), and the sustainability of health care

services. This study will measure the perceived policy implementation performance, and success or failure in primary health care, using the policy implementation performance evaluation criteria of equity, quality of primary health services, access to health care, availability, appropriateness, and satisfaction. In order to measure health policy implementation performance, the criteria of equity, quality of services, accessibility, availability of services, appropriateness, and satisfaction will be used to ask the respondents (UH&FPOs) for their perceived opinion regarding policy implementation performance regarding primary health care in Bangladesh.

2.6 Theoretical Framework and Relationships of the Factors Affecting Policy Implementation Performance

A theoretical framework is a structure and description of the research approach to answer the research questions and to hold or support and connect the research study to the theory. It indicates how related theories, models, and contextual knowledge fit together to back the objectives of the study. The University of Southern California (2017: p.3) has defined "theoretical framework that is used to limit the scope of the relevant data by concentrating on exact variables and defining the specific viewpoint the framework and relationship of variables." The aforementioned sections of this chapter, relevant theories of policy implementation, deductive theoretical models, the concept of public policy, policy performance, implementation evaluation and policy evaluation, measuring health policy implementation performance, health policy regarding the primary health care of Bangladesh, and several empirical studies are reviewed in order to develop the relationships among the variables as known in the literature. Subsequently, a conceptual framework of the factors affecting health policy implementation performance in primary health care has been developed: an empirical study of the sub-district level health facilities in Bangladesh.

It has been synthesized the previous work of prominent scholars on policy implementation theories, deductive theoretical models, the concept of public policy, policy performance, implementation evaluation and policy evaluation, measuring health policy implementation performance that demands for finding the relationships of variables with policy implementation performance. Hence in this study, the

following sections attempt to briefly review the empirical study of eminent scholars with reference to the identified variables regarding policy implementation performance for developing a conceptual framework.

2.6.1 Policy Related Factors and Policy Implementation Performance

2.6.1.1 Clarity of Goals and Objectives and Policy Implementation Performance

The clarity goals and objectives of any policy are considered as important determining factors for successful policy implementation performance. Many of the previous studies on successful policy implementation have described the positive effects of the clarity of goals and objectives of public policy on policy implementation performance. The following section is a short discussion of the earlier studies and findings regarding the clarity of policy goals and objectives and policy implementation performance.

Van Meter and Van Horn (1975) stated that "the characteristic of nature of the policy that may influence to policy implementation is the degree of conflict or consensus over its goals and objectives." Additionally, Matland (1995: p.155) noted that "if in a policy it is not incorporate specific policy goals and objectives it fails to provide realistic yardsticks with which to measure policy outcomes and implementation success is the loyalty to the policy goals and objectives. Policy implementation requires clear policy goals to achieve objectives."

Likewise, Berman (1978) reported "the clarity of goals, targets and objectives encourages and fosters prompt implementation." If the goals or objectives of public policy are not clear, well-defined, well-specified and compatible, it is very likely that the implementers would understand and interpret them in different or wrong ways, and as such, these might lead to unintended consequences regarding policy performance. Edwards (1980: pp.147-149) stated that "orders to implement a policy must be consistent, clear and accurate in specifying the aims of the decision-makers." Further, Martin Rein (1983) stated that "policy implementation is a matter not only of power but of puzzlement, of men collectively wondering what to do."

Similarly, Nakamura and Smallwood (1980: p.33) stated that "the lack of specific variable leads to a less focused analysis and clear policy goals and objectives

are a foundation of effective implementation." Pressman and Wildavsky (1973: p.xxiv) asserted that, "when objectives are not realised, one explanation is the assertion of faulty implementation." Palumbo and Harder (1981: p.29) stated that many recent case studies of implementation failure suggest the confusion over goals is a significant part of the implementation problem. Sabatier and Mazmanian (1980: pp.21-22) emphasized sixteen important variables for ensuring effective policy implementation, including clear and consistent goals. On the other hand, Hongoro et al. (2004) discussed in their health system development program for the poor and transitional countries that policy implementation success depends on to what extent the implementer has a clear understanding of the policy objectives. Moreover, Mugwagwa, Edwards, and de Haan (2015) discussed in their study on assessing the implementation and influence of health policies for the case of Mozambique, Senegal and Tanzania and found that policy implementation was rated in poor because of lack of policy coherence and lack of financing for the health policy implementation.Therefore, the clarity of policy goals and objectives has a positive effect on policy implementation performance.

2.6.1.2 Adequate Budget, Utilization and Autonomy of Financial Power and Policy Implementation Performance

Several of the preceding studies on successful policy implementation have labelled the positive effects of adequate budget, utilization, and autonomy of financial power on the policy implementation performance. A sufficient budget is a precondition for successful policy implementation. A programme might get struck or disbursed if a sufficient or required budget is not allocated, and the effective utilisation of the budget in a timely manner is very important for successful implementation. The next section is a discussion of the previous studies and findings concerning the adequate budget, utilization, and autonomy of financial power and policy implementation performance.

Van Meter and Van Horn (1975) reported that "the implementation process would be influenced by the amount of resources required for effective implementation of policy." In addition, Sabatier and Mazmanian (1980: p.22) identified the key independent variable of initial allocation of financial resources for successful policy implementation performance. Equally, Edwards (1980: p.147) mentioned that for effective implementation of policy, resources are needed to serve the communities.

Correspondingly, Voradej Chandarasorn (2005) noted that the decentralization of the organization, an effective budget, and financial management are very important for successful policy implementation. Similarly, Emmanuel (2014) indicated in his study on implementing sustainable health care delivery in Nigeria that the adequate budget is the key to the successful implementation of health care services. On the other hand, Jha (2014) stated that financial and health human resources were the most challenging factors for revitalizing the primary health care in Nepal. Moreover, Van Weel et al. (2016) discussed in their primary health care policy implementation studies on South Asia and found low investment, poor planning and lack of understanding of the importance of primary health care hampered the development of these countries.

Hence, proper safeguards should also be taken to prevent misuse, underutilization, and overutilization of budgetary allocation. It is believed that the decentralization and delegation of the financial authority will enhance the capability of the organization to be proactive and innovative. Therefore, the required budget, and the efficient utilization and autonomy of financial power, have a positive effect on policy implementation performance.

2.6.1.3 Adequate Level of Equipment, Health Human Resources, Infrastructure and Policy Implementation Performance

Resources (health human resources, equipment, infrastructure) have a positive impact on successful policy implementation. Using adequate equipment and appropriate or sophisticated new technology and innovation helps make the policy implementation process faster. All policy implementation requires adequate and qualified human resources as well as good infrastructure for service delivery.

Berman (1978) and Lipsky (1980) in their separate study emphasized all types of resources, especially adequate and well-trained street level or micro-level implementers. Additionally, Edwards (1980: pp.10-12) reported that for effective implementation of policy, resources and well trained, responsible, motivated frontline public employees are needed in order to serve the communities and beyond these, administrative leaders are prerequisite behind the political leaders in order to effectively implement public policy.

On the other hand, Dussault and Dubois (2003) contends that “the lack of appropriate health human resources and policies is responsible in many countries for a chronic imbalance with multifaced effects of health workforces like mismatch, unequal distribution and lack of coordination between human resources management and health policy needs for delivering services.” Similarly, Voradej Chandarasorn (2005) in his management model, states that policy implementation performance depends on personnel and human resources management and adequate budget, equipment, and infrastructure. Moreover, Kress, Su, and Wang (2016: p.302) in their study found that the performance of primary health care was hampered by a lack of infrastructure, drugs, equipment, and vaccines at the facility level, and financial access and poor health provider performance. Furthermore, Lassi et al. (2016: p.1) in a study on low- and middle-income countries showed that all of the human resources for health interventions implemented individually or in combination had a positive impact on health policy implementation with reference to maternal health. On the other hand, Kelly, Garvey, and Palcic (2016) stated in their case studies on primary health care in Ireland and identified three categories of factors- power, resources and capability that can strongly influence successful policy implementation. Moreover, very recently Tangcharoensathien et al. (2018) stated in their study on successful implementation of universal health coverage that Thailand has invested in key health policy and system areas like postgraduate training and created exceptionally strong public health experts in primary health care sectors for successful implementation of universal health coverage. Therefore, it is assumed that enough equipment, qualified health human resources, and proper infrastructure have a positive effect on successful implementation of policy.

2.6.2 Organization Related Factors and Policy Implementation Performance

2.6.2.1 Interorganizational Coordination and Policy Implementation Performance

Interorganizational coordination and policy implementation performance have a significant relationship regarding successful policy implementation. Many of the earlier studies found that there were positive relationships between coordination and

policy implementation performance. The subsequent section is a brief description with reference to coordination and policy implementation performance

Pressman and Wildavsky (1973: p.87-143) in their classic study, revealed that coordination among agencies involved was linked with policy formulation and implementation. The large number of agencies working in an implementation process would lead to complexity of joint action, hence greater implementation delay. The greater the implementation delay the greater is the possibility of implementation failure. When many parties are involved in an intervention, there must be some contradictory criteria, intra-agency antipathies, differences of opinions, fractions, divisions, and antagonistic relationships among participants and stakeholders. These might lead to implementation delays as well as implementation failure. The policy coordination among the policy-implementing agencies is essential for implementation success. For example, the complexity of joint actions was one of the major causes of the failure of the EDA programs.

Laurence et al. (1984: p.491) in their study noted that as the relative importance of coordination increases sequential and reciprocal interdependence and become more attractive that lead to the successful policy implementation. Copeland and Wexler (1995: p.63) pointed out that "inter-organizational procedures such as communications, administrative distance, and administrative complexity influence the bureaucratic structure and thereby influence the functional procedures of policy implementation." Peterlin (2012: p.4), quoting Peters (1998: p.4), noted that "coordination in policy analysis need to ensure that various organization charged with delivering public policy work together and do not produce either redundancy or gaps in services." Similarly, Jennings and Ewalt (1998: p.417) in a study examined the effect of coordination patterns and administrative arrangement and found that the increased level of coordination led to some degree of correlation with the level of performance, with five out of ten outcome variables. Moreover, Bryson, Crosby, and Middleton Stone (2006: p.44) stated that organizations that share information, undertake coordinated initiatives, or develop shared power arrangements, such as collaborations to pool their capabilities to address the challenge and problems that lead successful implementation of policies. In addition, Bouckaert, Peters, and Verhoest (2010) stated that governments are inherently multi-organizational and coordination is one of the oldest problems facing

the public sector. Government organizations those are providing the same services coordination became an issue for successful implementation of public policy. Similarly, Magnussen, Ehiri, and Jolly (2004) have indicated that various sectors need to work together such as health, agriculture, education, food, sanitation and housing for achieving health settings. On the other hand, Adeleye and Ofili (2010) discussed in their study on primary health care in developing countries and specified that strengthening intersectoral collaboration was required for successful implementation of primary health care. Furthermore, Health Policy Project (2014) stated in their capacity development resource guide to the developing countries that policies to contribute to the effective health system, it must be successfully implemented with coordination and teamwork between the parties accountable for implementation. Moreover, Van Weel et al. (2018) discussed in their study on primary health care policy implementation in Eastern Mediterranean countries that the successful primary health care policy implementation hinges on coordination at the community level and trained physicians at the community level. Hence, a sound interorganizational coordination has a positive effect on policy implementation performance.

2.6.2.2 Management Dynamics and Policy Implementation Performance

Management dynamics and policy implementation performance have a strong relationship with reference to effective policy implementation. The next section provides insight into the relationship between management dynamics and policy implementation performance. Stronger and more diligent, enthusiastic adoption of new technology and optimistic behaviour on the part of the manager for good management of the organization are needed for the successful implementation of policy. Teamwork with skilled and expert workers is essential for reaching towards a common goal. If the implementation process is established in the wrong place a lot of money and time will be wasted and finally the end will be failure.

Giacchino and Kakabadse (2003: p.139) in their study found that three decisive factors were responsible for successful policy implementation, including political responsibility, the presence of strong management and team dynamics, and the type and level of commitment. At the same time, Meier and O'Toole (2003: p.689) indicated that

“public policies are increasingly implemented in a complex network of organizations and target population and effective action requires managers deal with arrays of other actors to procure resources, build support, coproduce results and overcome hindrance to implementation of policy.” On the other hand, Voradej Chandarasorn (2005) noted in his management model that the main theme was that the implementing agency should have a clear organizational structure supported by the frontline implementers with desired skills and competency. In addition, Horn and Thiel (2014) discussed “the management of implementation and implementing agents, also known as public management for the governance and control, the financial management and the use of management techniques to measure and improve performance for policy implementation.” Therefore, various alternatives must be taken into consideration in selecting the implementation location through digital management using ICT to reach unbounded locations and creating facilities for all the citizens. On the other hand, Kruk and Freedman (2008) discussed in their study on assessing health system performance in developing countries that administrative efficiency, well managed health system and properly funded are necessary for successful implementation. Furthermore, Chimezie (2015) stated in his study on the failure of primary health care in Africa that bad leadership, management and poor funding were the problems of policy implementation in primary health care. Moreover, Sadhu Charan and Paramita (2016) have stated that unsatisfactory management, lack of financial resources and inadequate coordination with other organizations were found to lead to unsuccessful policy implementation in a developing country like India. Hence, good management dynamics together with digital management have a positive effect on policy implementation performance.

2.6.3 Individual Level Factor and Policy Implementation Performance

McLaughlin (1987: p.171) indicated that “policy cannot always mandate what matters to the outcomes at the local level and individual beliefs is central to the local response.”

2.6.3.1 The Disposition or Response of Implementers and Policy Implementation Performance

The disposition of implementers and policy implementation performance are among the factors related to the successful implementation of policy. The implementer's disposition is the acceptance of the actors at the stage of implementation, which affects effective implementation. The following section is a brief examination of the association between the disposition of implementers and policy implementation performance.

Van Meter and Van Horn (1975) indicated that "the disposition of implementers may affect their ability and willingness to affect policy in the following ways; implementer's cognition (comprehension or understanding) of the policy, the direction of response toward it (acceptance, neutrality, rejection), and the intensity of response." There might be an intentional tendency by frontline implementers not to comply with the decisions that were passed on to them regarding policy implementation and consequently this might lead to implementation delays and failure. Front-line implementers must be accountable for their work. Imparting proper training, manuals, monitoring, supervision, adequate budgets, and equipment and technology to the frontline implementers can expedite the implementation process and guard against unintentional non-compliance. It requires the establishment of good technology and training in order to control the behaviour of street-level bureaucrats, as with closed-circuit cameras. Therefore, compliance behaviour is very important for policy implementation.

In the same way, Berman (1978: p.25), in a study of macro and micro-implementation, reported that "in micro-implementation the local organization has to devise and carry out their own internal policies." Accordingly, Edwards (1980: p.10) stated that **"t**he first requirement for effective implementation is that those responsible for carrying out a decision must know what they are supposed to do and identified four interacting and simultaneously operating factors including communication, resources, dispositions and bureaucratic structure." Meanwhile, Najam (1995: p.5) stated that "if responsible for carrying out are unwilling or unable to do so little will happen and responsibility or disposition is considered to be a critical variable to effective policy implementation." On the other hand, Spratt (2009) stated in a report of a pilot test in

three countries of China, Vietnam and Indonesia on the health policy implementation and found that personal, organizational, or institutional motivation and commitment can smooth the policy implementation process. Moreover, (Blanco-Mancilla, 2011) has found that the ideas, values and beliefs of implementers are relevant throughout the implementation of health services delivery in Mexico. Furthermore, (Yamey, 2011) indicated that the active engagement of implementers and of the target community, strong leadership and governance can scale up the health policy implementation success East African low-income countries. Hence, the positive attitude and responsibility for policy compliance of the implementers have a significant effect on policy implementation performance.

2.6.4 Local Level Support and Policy Implementation Performance

According to McLaughlin (1987: p.171) successful implementation requires planned and steady pressure and support.

2.6.4.1 The Micro Level Support from Local Stakeholders and Policy Implementation Performance

Many previous studies on policy implementation have indicated the relationship between the micro level support from stakeholders and policy implementation performance. The following section attempts to review the work of prominent scholars. The prominent scholars Pressman and Wildavsky (1973) described in their book 'Implementation' that the implementation process is a system of pressures and counter pressures. Pressman and Wildavsky (1973: p.102) noted that "even minor disagreements between just a few actors can cause delays and a vicious cycle of delay, fair of ultimate failure or high salvage costs, withdrawal of previous commitments and increased anxiety can cause implementation failure." The Economic Development Administration (EDA) is a perfect example of pressure politics. Many of the policies and programmes are implemented out of political motivations. These programmes and policies are often the outcome of pressure politics. When a policy is implemented out of political motivation without a proper needs assessment, it might end in failure or might not bring the desired outcomes. It is also evident that when a government

changes, the policies and programmes taken by the earlier government are also stopped. In both cases, implementation might be doomed to failure.

Nassera Touati et al. (2007: p.98) reported, referring to Sabatier and Mazmanian (1980: p.21), that a "general analytical framework, which has identified three types of variables that affect policy implementation performance and among the variables the 'non-statutory' variables related to implementation context (e.g. socio-economic condition, support from interest group and stakeholders and stakeholders leadership affect implementation performance." Similarly, USAID (2007) conducted a policy reform report and indicated that "stakeholders must participate in the determination of feasible policy options, appropriate time frames and implementation approaches for successful policy implementation." Equally, Voradej Chandarasorn (2005) in his political model of policy implementation, stated that four independent variables, including the level of support from different stakeholders, are important for successful policy implementation. Franke and Guidero (2012: p.8) on the other hand, in their study state that effective and sustained engagement and support of stakeholders are required in the implementation process at every stage for effective and successful implementation. Moreover, Mugwagwa et al. (2015) also stated that for the case of Mozambique, Senegal and Tanzania even the increased stakeholder's participation and political leadership cannot guarantee the policy implementation success. Furthermore, Gaitonde et al. (2017) discussed about community action for health in India that community participation as a strategy for health system performance is an omnipresent policy prescription for successful implementation.

The sub-district or the Upazila is the second tier of administrative structures in Bangladesh. There are about 35 departments or offices working and providing services at the sub-district levels. The Upazilla Nirbahi Officer (UNO) is the chief coordinating and administrative officer and represents the central government and the chairman of the sub-district is the head of the upazilla council representing the people of the sub-district. The support of the upazilla administration, the upazilla council, and union council is vital for successful implementation of health policy regarding primary health care. They have great roles in the implementation of government policy in rural areas. Beyond the government administrative structures, NGO, civil society, and private sector support also remarkably contributes to successful policy implementation. The

motivation and awareness of the people regarding primary health care may be strengthened through the local administration, and the NGOs and other stakeholders. Therefore, the greater support and positive attitudes from local stakeholders have a significant effect on health policy implementation performance in primary health care in Bangladesh.

2.7 Summary of the Literature Review

Reviewing the relevant literature on policy implementation, policy implementation performance, health policy implementation performance, and theories and models has revealed numerous variables that can affect policy implementation performance. Almost all of the variables are relevant and important in different country contexts and different policy implementation contexts. I have not found any literature on the context of Bangladesh, especially regarding the context of health policy implementation performance.

For this study, a single dependent variable and seven predictor variables were identified, assuming them to be the most relevant for both the country and the health policy implementation performance context of Bangladesh. The identified and selected variables for this study cover the most pertinent and significant factors of policy implementation performance in primary health care in Bangladesh, including policy content, budget, autonomy and resource availability, stakeholders and local level support, management contextual factors, implementers or the street level bureaucrats' attitudes, and organizational engagement and participation by coordination.

The selected factors have a strong deductive theoretical and contextual background on policy implementation performance according to the work of world famous classical researchers and professionals such as Pressman and Wildavsky (1973), Allison (1971), Van Meter and Van Horn (1975), Bardach (1977), Sabatier and Mazmanian (1980) and Voradej Chandarasorn (2005).

Table 2.2 Summary of Important Factors Influencing Policy Implementation

Scholars/Authors	**Factors Influencing Policy Implementation**
Bardach (1977)	Deflection of goals, the number of agencies involved, resources is allocated by using implementation game, the compliance of implementers, politics- administration.
Berman (1978)	Local institutional context has major impact, especially 1. organizational climate and motivations. 2. participants (materials development, staff training, planning, frequent meetings); 3. federal policy, technology, and 4. resources: little influence.
Berman (1980)	1.organizational, political, social and legal context. 2. Clarity of policy goals 3. number of actors participating. 4. implementers' degree of resistance. 5. ineffectiveness or inefficiency. 6. degree of control exerted from top.
Chandarasorn's Bureaucratic Process Model of Implementation (2005)	understanding ability of street-level bureaucrats' behaviour (from the top hierarchy), Compliance behaviour of street level bureaucrats 1.Intentional compliance. 2. Unintentional Non-Compliance. 3. Intentional Non-Compliance. 4. Unintentional compliance.
Chandarasorn's Integrated Model of Implementation Model (2005)	Clear objectives and goals, Monitoring and Evaluation, Utilization of Human Resources (citizen as co-producer), Effective budget, People's participation, Leadership, Bureaucratic-political management, Level of support.
Chandarasorn's Management Model of Implementation Model (2005)	Decentralization of Organization, Utilization of Human Resources (Citizen as co-producer), Effective budget and financial management, Innovation and adoption of technology, Digital management (unlimited location and facility management)

Table 2.2 (Continued)

Scholars/Authors	**Factors Influencing Policy Implementation**
Chandarasorn's Organizational Development Model of Implementation (2005)	Effective leadership, People's participation, Appropriate motivation and incentives, Loyalty and compliance with policy, Team development and org culture development, Coordination.
Chandarasorn's Political Model of Implementation (2005)	Complexity of joint actions, Negotiation management, Level of support, Bureaucratic political management.
Chandarasorn's Rational Model of Implementation (2005)	clarity of policy goals and objectives, clarity of mission task and assignment, monitoring and evaluation, Standardization in work process and behaviour, Rewards and Punishment.
Edwards (1980)	1.Communication (transmission, clarity, consistency) 2. resources (staff, information, authority, facilities). 3. disposition or attitudes of implementers 4. bureaucratic structure (standard procedures, fragmentation). 5. complexity.
Elmore (1993)	1.Structure of power relationships and incentives. 2. Discretion. 3.resources.
Goggin et al. (1987)	Federal-level inducements and constraints. 2. state and local-level inducements and constraints. 3. decisional outcomes. 4. Feedback. 5. policy design.
Lipsky (1980)	The problem of limited resources, the continuous negotiation, the relations with clients.

Table 2.2 (continued)

Scholars/Authors	Factors Influencing Policy Implementation
Mazmanian and Sabatier (1980)	Tractability of the problems Technical difficulties 2. Diversity of target group behaviour 3. Target group as a percentage of the population 4. Extent of behaviour change required. Ability of Statute to Structure Implementation Clear and consistent objectives. 2. Incorporation of of adequate causal theory 3. Initial allocation of financial resources 4. Planning integration within and among implementing institutions 5. Decision-rules of implementing agencies 6. Availability of recruitment of implementing staff 7. Formal access by outsiders. Non-statutory variables affecting implementation. Socio-economic conditions and technology 2. Public support 3. Attitudes or dispositions and resources of constituency groups 4. support from sovereigns 5. Commitment and leadership skill of implementing officials.
Nakamura and Smallwood (1980)	Specificity of policy. 2. technical limitations. 3. Actors. 4. Arenas. 5. organizational structure. 6.bureaucratic norms. 7. Resources. 8. Motivation. 9. communication networks. 10. compliance mechanisms.
Van Meter and Van Horn (1975)	Policy standards and objectives. 2. policy resources. 3. interorganizational communication. 4. enforcement activities. 5. characteristics of the implementing agencies. 6. Socio-economic and political conditions. 7. disposition of implementers.

Table 2.2 (Continued)

Scholars/Authors	Factors Influencing Policy Implementation
Pressman and Wildavsky (1973)	Factors affecting policy formulation The suitability of target group 2. Targeted society and cooperation from local agencies 3. Coordination among agencies involved 4. The existence of key actors. The complexity of joint action Ability about coordination among agencies 2. The complexity of decision making process from the number of any joined action or agencies involved 3. Ability to fix the lateness of the project 4. Level of clear and feasible goals of the project Factors that links policy and implementation Learning ability of organization from existence 2. Understanding and acceptance of the relationship between goals and means, and the continuity of the policy life cycle.
Pressman and Wildavsky (1984)	Diversity of participants. 2. Perspectives. 3. Decision points. 4. Intensity of preferences and 5. Resources.
Weimer (1983)	Time, civil service system and bureaucratic environment

Source: Adapted from L. J. J. O'Toole (1986) in Brynard (2009) and own compilation.

2.8 Literature Gaps

The gap or the missing portion or fragments in the literature is a segment that has not been studied and explored or is under study and is being explored and this gap could be a population or sample (size, type, location, etc.), research methodology and design, data collection and analysis, content and context, etc. (Northcentral University Library, 2017). In this section it has been attempted to find the gaps in the literature.

Brynard (2009: p.576) conducted a study and indicated that all the progress in policy implementation research points to a wider base of knowledge and it has reached a mature stage, but this does not imply that there are no longer weaknesses or issues that need to be addressed. He also mentioned that it is now clear that policy implementation differs from one situation to the next and that there are numerous unreciprocated queries such as varieties of implementation, causal designs related with outcomes, relative importance, and the distinctive effects of several factors that affect policy implementation performance. O'Toole (2004: p.310) on the other hand stated that the theories on policy implementation are uncomfortably abundant, but theoretical harmony is not yet on the skyline. Accordingly, Goggin (1990: p.10) has discussed that "all the studies into the performance of policy implementation indicate the complex and dynamic nature of policy implementation subject and investigation have constantly been plagued by the problem of too many variables."

Most of the former work done in the arena of policy implementation is based on qualitative methods, such as case studies, empirical case studies, conceptual papers and review papers, and the case study method, which have dominated implementation research study. It is worth noting the names of the scholars in the field of policy implementation that have used the qualitative method: Pressman and Wildavsky (1973) case study method; Van Meter and Van Horn (1975) conceptual paper; P. A. Sabatier and Mazmanian (1980) top-down case studies; Nakamura and Smallwood (1980) analytical concept; Martin Rein (1983) conceptual paper; P. Sabatier (1988) framework; Matland (1995) conceptual paper; Rainey and Steinbauer (1999) conceptual paper; Grantham (2001) empirical single case studies; Zahariadis and Morgan (2005) empirical single case studies; Brinkerhoff (1999) multiple case studies; Tadlock et al. (2005) multiple case studies; and O'Toole Jr. (2000 and 2004) case study methods and review. Beyond the aforementioned work of the scholars, Meier and O'toole (2001) and Meier and O 'Toole (2002) used empirical quantitative methods, testing the program performance of the organization. However, in this study, the use of the quantitative research method has been systematized based on grounded deductive theories, models, and frameworks.

Researchers usually use service receivers in order to determine performance; however, this study has looked at the perceived performance of policy implementation

on the part of street-level implementers. The sampling method for this study was used, the total population or census, while most of the previous studies used single and multiple case study methods, and very few used quantitative sampling methods. Many of the previous studies used frameworks and models to explain implementation performance or success, but in this study some suitable working models have been developed and an integrated model based on the deductive theoretical background. Moreover, most of the previous research studies have been done on policy implementation performance in the developed country context. This study, however, has looked at the developing country perspectives regarding health policy implementation performance in primary health care in Bangladesh.

2.9 Conceptual Framework and Research Hypothesises of the Study

Policy implementation lacks in creating outstanding theory, but it has different theoretical approaches and models. No theory or model or approach regarding public policy implementation and evaluation has yet gained universal acceptance; rather, they are context specific and situation dependent. Therefore, an integrated mixed model developed based on theories and models is useful for the study and analysis of policy implementation and implementation performance. The theoretical models of policy implementation have been developed based on quite a lot of studies together with the research study of eminent academics such as Allison (1971), Pressman and Wildavsky (1973), Van Meter and Van Horn (1975), Bardach (1977), and Sabatier and Mazmanian (1980) and the variables associated with the models can distinctively determine the success or failure of policy implementation. The conceptual framework of the study has been established from Allison's (1971) ‘essence of decision’, Pressman and Wildavsky's (1973) ‘implementation’, Bardach's (1977) ‘implementation game’, Van Meter and Van Horn's (1975) ‘policy implementation process’, Voradej Chandarasorn's (2005) five models, and other theories and models of policy implementation. The conceptual framework of health policy implementation performance in primary health care in Bangladesh has been developed based on the context, content, and importance of the theoretical models of policy implementation discussed earlier. One main dependent variable, “health policy implementation performance in primary health care

in Bangladesh," has been identified with the following independent variables: 1. clarity of goals and objectives; 2. adequate budget and financial autonomy; 3. resources (human, infrastructure, equipment); 4. Coordination; 5. management dynamics; 6. implementers' disposition, and 7. micro level support of stakeholders.

2.9.1 Research Hypothesises

The multivariate research hypotheses of the research study were framed based on the theoretical and conceptual framework, which was derived from the literature review and empirical studies.

H1: The clearer the goals and objectives, the greater is the possibility of successful implementation of policy regarding primary health care in Bangladesh.

Policy implementation requires clear policy goals in order to achieve objectives. If the goals or objectives of public policy are not clear, well-defined, well-specified, or compatible, it is very likely that the implementers will understand and interpret them in different or wrong ways, and as such, this lead to unintended consequences regarding policy performance. Pressman and Wildavsky (1979: p.xxiv) asserted that, "when objectives are not realised, one explanation is the assertion of faulty implementation." Further, Palumbo and Harder (1981: p.29) stated that many recent case studies of implementation failure suggest that confusion over goals is a significant part of implementation problems. Therefore, the clarity of policy goals and objectives has a positive effect on health policy implementation performance in primary health care in Bangladesh.

H2: An adequate budget and effective utilization and autonomy of financial power create the opportunity for the implementation success of primary health care in Bangladesh.

A sufficient budget is a precondition for successful policy implementation. A programme might get struck or disbursed if a sufficient or the required budget is not allocated; therefore, effective utilisation of the budget in a timely manner is of paramount importance in the implementation success. Therefore, proper safeguards should also be taken to prevent misuse, underutilization, and overutilization of budgetary allocations. It is believed that decentralization and delegation of financial

authority will enhance the capability of the organization to be proactive and innovative. Therefore, the required budget and the efficient utilization and autonomy of financial power have a positive effect on health policy implementation performance in primary health care in Bangladesh.

H3: The more adequate is the level of equipment, human health resources, and infrastructure, the greater is the possibility of policy implementation success in primary health care in Bangladesh.

Using adequate equipment and appropriate or sophisticated new technology and innovation helps to bring about policy implementation more quickly. All policy implementation requires adequate and qualified human resources as well as good infrastructure for service delivery. Therefore, it is assumed that enough equipment, qualified human health resources, and proper infrastructure have a positive effect on successful implementation of health policy in primary health care in Bangladesh.

H4: The greater is the interorganizational cooperation and coordination, the greater is the chance of successful implementation of health policy in primary health care.

A large number of agencies working on the implementation process would lead to the complexity of joint action, hence more implementation delays, and the greater the implementation delays, the greater is the possibility of implementation failure. When many parties are involved in an intervention, there must be some contradictory criteria, intra-agency antipathies, differences of opinions, fractions, divisions, and antagonistic relationships among participants and stakeholders. This might lead to implementation delays as well as implementation failure. Policy coordination among the policy implementing agencies is essential for implementation success. Pressman and Wildavsky (1973: p.87) have stated that “one of the reasons for failure of the EDA programmes was its complexity of joint actions.” Hence, sound interorganizational policy coordination has a positive effect on health policy implementation performance in primary health care in Bangladesh.

H5: Good management leads to policy implementation success in primary health care in Bangladesh.

Strong, diligent, enthusiastic, adoption of new technology and optimistic behaviour on the part of the manager in terms of the good management of the

organization are needed for successful implementation of policy. Teamwork members with skills and expertise are essential for reaching towards a common goal. If the implementation process established in the wrong place it will spend a lot of money and time and finally end in failure. Therefore, various alternatives must be taken into consideration in selecting implementation locations through digital management using ICT to reach unbounded locations and creating facilities for all citizens. Hence, good management dynamics together with digital management have a positive effect on health policy implementation performance in primary health care in Bangladesh.

H6: The positive disposition or response of implementers leads to policy implementation success.

The implementers' disposition is the acceptance of the actors at the stage of implementation, which affects successful implementation. Van Meter and Van Horn (1975) indicated that "the deposition of implementers may affect their ability and willingness to affect policy in the following ways; implementer's cognition (comprehension or understanding) of the policy, the direction of response toward it (acceptance, neutrality, rejection), and the intensity of response." There might be an intentional tendency by frontline implementers not to comply with the decisions that have been passed on to them regarding policy implementation and consequently this might lead to implementation delays and failure. Front-line implementers must be accountable for their work. Imparting proper training, manuals, monitoring, supervision, an adequate budget, equipment and technology to the frontline implementers can vibrate the implementation process and guard against unintentional non-compliance. The establishment of good technology and training is required in order to control the behaviour of the street-level bureaucrats like closed-circuit cameras. Accordingly, compliance behaviour is very important in terms of policy implementation. Hence, a positive attitude regarding policy compliance on the part of implementers has a significant effect on health policy implementation performance in primary health care in Bangladesh.

H7: Micro level support from local stakeholders has a positive effect on health policy implementation performance in primary health care in Bangladesh.

The sub-district or the upazila is the second tier of administrative structures in Bangladesh. There are about 35 departments or offices working and providing services

at the sub-district levels. The Upazilla Nirbahi Officer (UNO) is the chief coordinating and administrative officer and represents the central government, and the chairman of the sub-district is the head of the upazilla council representing the people of the sub-district. The support the of the upazilla administration, the upazilla council, and the union council is vital for successful implementation of health policy in primary health care. They have a great role in the implementation of government policy in rural areas. Beyond the government administrative structures, NGO's, civil society, and private sectors support are also remarkably contribute for successful policy implementation. Motivation and awareness of the people regrading primary health care may be strengthened trough local administration, NGO's and other stakeholders. Therefore, the greater the support and positive attitudes from local stakeholders have a significant effect on health policy implementation performance in primary health care in Bangladesh.

2.9.2 Development of a Conceptual Framework of the Study

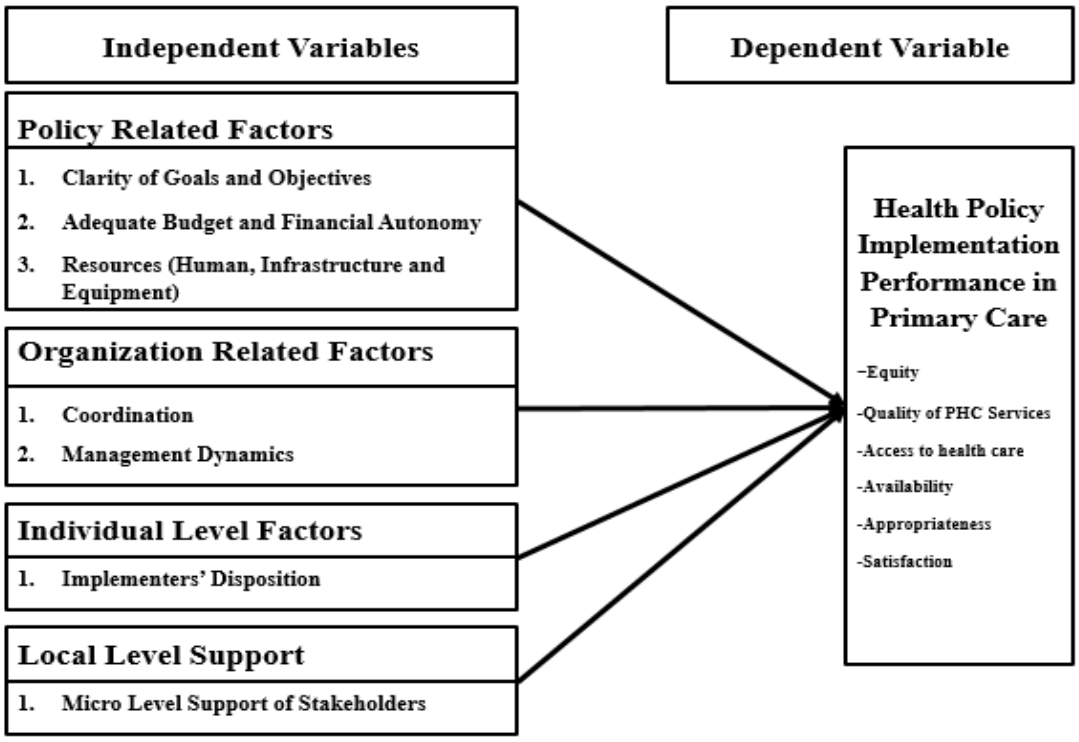

Figure 2.7 Conceptual Framework of the Study

2.9.3 Models Specification

The empirically testable models have been developed based on the conceptual framework of the factors affecting health policy implementation performance in primary health care in order to see the influence of the independent variables on the dependent variable.

Model-1: $HPIPPHC=\beta_0+COGAO\beta_1+ABFA\beta_2+REHI\beta_3+\varepsilon_i$

Model-2: $HPIPPHC=\beta_0+COGAO\beta_1+ABFA\beta_2+REHI\beta_3+COORD\beta_4+MD\beta_5+\varepsilon_i$

Model-3: $HPIPPHC=\beta_0+COGAO\beta_1+ABFA\beta_2+REHI\beta_3+COORD\beta_4+MD\beta_5+ID\beta_6+\varepsilon_i$

Model-4:

$HPIPPHC=\beta_0+COGAO\beta_1+ABFA\beta_2+REHI\beta_3+COORD\beta_4+MD\beta_5+ID\beta_6+MLSS\beta_7+\varepsilon_i$

Where,

HPIPPHC= Health Policy Implementation Performance in Primary Health Care

COGAO= Clarity of Goals and Objectives

ABFA= Adequate Budget and Financial Autonomy

REHI= Resources (Equipment, Human Resources, Infrastructure)

COORD= Coordination

MD= Management Dynamics

ID= Implementer's Disposition

MLSLS= Micro Level Support from Local Stakeholders

ε_i = Refers to a random error term that characterises the influence of other variables not contained within the model.

β: = β_0 is a statistical symbol that indicates the constant or intercept, whereas, β with other independent variables designates the regression beta coefficient for the corresponding independent variables.

2.10 Chapter Summary

This second chapter contains the literature review, theoretical and conceptual framework presented the literature review of related theories, models, case studies, empirical findings in the different context and content of policy implementation and policy implementation performance. At the beginning of the chapter, the concept of policy implementation, policy implementation theories, models of policy

implementation, the concept of public policy, policy performance and policy evaluation, and the implementation process and dimensions were reviewed. Further, the measurement of health policy implementation performance in primary health care in the context of Bangladesh has been discussed as the main dependent variable of the research study. Grounded on the review of the literature, the chapter then discussed the relationships of the factors affecting policy implementation performance based on theories, models, and empirical findings on policy implementation performance. Moreover, the chapter presented a summary of literature review and literature gaps. Finally, as the fundamental objective of the chapter was to develop the theoretical and conceptual frameworks, the chapter presented the conceptual framework, models specifications and hypothesises grounded on policy implementation theories, models, and empirical research findings.

CHAPTER 3

RESEARCH METHODS

3.1 Research Design

This study has been conducted using the quantitative methods, especially using primary data. In order to collect the primary data from the field, a structured survey questionnaire was constructed (Appendix-A) based on the conceptual framework of the study. Feedback on the survey questionnaires were designed on a six-point Likert-type scale, designed to collect primary data from the survey on sub-district level health center headed by the UH&FPO, the key health personnel at the sub-district level health facilities in Bangladesh. There are 421 sub-district level health centres in Bangladesh. The whole population of the sub-districts was employed in order to collect the perceived opinions of individuals at the sub-district level health centres. Based on the primary data, descriptive statistics, ANOVA, factor analysis, Pearson correlation matrix, and hierarchical multiple regression were used to measure the indicators developed under the factors influencing health policy implementation performance in primary health care. The structured self-administered questionnaire and multi methods for data collection were used, such as postal and electronic mail survey and direct communication, for the survey.

3.2 Unit of Analysis

According to Trochim (2006: p.356), “it is the first step in deciding how one will analyze the data is to define the unit of analysis.” Trochim (2006: p.356) also mentioned that “the unit of analysis is one of the most important designs of research study and it is the major entity that are analyzed in the research study.” The unit of analysis is the “who” or “what” that researchers analyze in the study. Babbie (2013: p.97) contends that “the unit of analysis are fundamentally the things researchers

examine to create summary descriptions of them and explain differences among them." Babbie (2013: p.97) has given the example that "any of the one might be the unit of analysis; individual, group, organization, social artifacts (any product of social beings or their behavior), geographical units (town, states), social interactions (divorces, arrests)." It is the analysis that researchers do his or her study that determines what it is. Yin, Robert (2009: p.31) pointed out that "the unit of analysis is related to the way that the initial research questions have been defined." In doing the present research the data were collected from the administrative heads of the sub-district level health facilities that represented the managerial head of the sub-district level health centers. Therefore, the unit of analysis was the organization of the Upazila Health Complex and data were collected from the UH&FPOs (Upazilla Health and Family Planning Officers), the administrative head of the sub-district level health centers.

3.3 Quantitative Methods

Quantitative methodology as a statistical technical issue is normally represented as an approach to the conduct of social research and a positivist approach of social and epistemological phenomena (Bryman, 1984). Bryman (1984) further discusses the philosophical issues related to the question of epistemology and the choice of epistemological base leads to preference for particular methodology. Lancaster (2005: p.26) and Crowther, D., and Lancaster (2008: p.1) have noted that "the quantitative method espouses positivist approach and it usually adopt deductive method and the role of scholar is restricted to data collection and interpretation through objective approach and the research findings are observable and quantifiable." In this study, the quantitative method was used to label the demographic characteristic of the UH&FPOs and to examine the influence of the factors affecting health policy implementation performance and to determine the degree of implementation performance of the sub-district level health facilities in Bangladesh. The important and relevant aspects and techniques of quantitative methods are briefly presented below.

3.3.1 Population and Target Population

A population is the whole set of elements (objects or persons) that possesses some common features defined by the sampling criteria by the researchers are of two types: target population and accessible population. Mclean, Campbell, and Cornish, (2003) have stated that "one of the critical challenges of a research is ascertaining population correctly and designing of sample properly and representatively and this step of research is so important that can 'make' or 'break the whole research program." Lavrakas, (2008) further has indicated that "the target population for a survey is the entire set of units for which the survey data are to be used for making an interference and hence, the target population, defines those units for the findings of the survey are meant to generalize." The study has covered all 421 sub-districts level health centers in Bangladesh. For this study, the sub-districts level health centers were the unit of observation and the data were collected from the administrative head or the UH&FPOs at the sub-district level health facilities. Thus, the target population was 421 Upazila Health Complexes (UHC) and the total number of respondents of 421 was from each sub-district level health facilities from all over the country. For this study, a total of 240 respondents responded.

3.4 Variables, Operational Definitions, Indicators and Measurements

3.4.1 Dependent Variable-Policy Implementation Performance in Primary Healthcare in Bangladesh

The policy or program implementation process is an assembly process. It is like a machine. The machine must every now and then be assembled from scratch. It can occasionally be shaped by renovating and reconstructing an older machine or a pre-existing machine. Putting the machine together and making it run is understood as the implementation process. If any policy has scratch as something established wrong in the previous stage, it must sometimes be assembled from it. Implementation difficulties are control problems, but they are definite to the assembly events that establish the implementation process. The implementation process is grounded in the fact that the elements of implementation are in the hands of many different parties, most of whom are in important ways independent of each other. The only way that

such parties can include others to contribute to the programme elements is using persuasion and bargaining (Bardach, 1977). The implementation process is a system of loosely-related implementation games. Bardach (1977: p.66) identified the factors affecting implementation failure and policy implementation strategy to overcome problems regarding successful implementation covering the whole gamut of the "implementation game." There are many factors that adversely affect implementation failure and those are generally of four types and many factors inside them: (1) the diversion of resources, especially money, which should properly to be used to obtain, or to create, certain program elements; (2) the deflection of policy goals stipulated in the original mandate; (3) resistance of explicit, and usually institutionalized, efforts to control behaviour administratively; and (4) the dissipation of personal and political energies in playing political and bureaucratic games that might otherwise be channeled into constructive programmatic action. Games can be classified according to the nature of their stakes. Here, these are classified basically descriptive, purposes, relying on the idea of stakes appears far more useful. Bardach (1977) stated that system means a collection of structural elements related to one another through an ongoing process. The elements are games, and their interrelations are manifold and convoluted. The outcomes of certain games set the conditions for the play of other games. The implementation process is a method of accumulating the elements essential to produce a programmatic result, and even the playing out of numerous loosely interrelated games whereby these elements are withdrawn from or delivered to the program assembly process on terms.

The dependent variable, health policy implementation performance in primary health care, was measured based on the perceived opinions regarding implementation performance by the Upazilla Health and Family Planning Officers from 421 sub-district level health facilities in Bangladesh. Poister (2004: p.99), has mentioned seven types of performance measures together with resources, outputs, productivity, efficiency, service quality, outcomes, cost effectiveness, and customer satisfaction. Based on the World Banks's framework, the US Agency for International Development, USAID (2007) developed criteria for health system performance assessment includes equity, access, quality, efficiency and sustainability. D. H. Peters, Tran, and Adam (2013) in their WHO's practical guide to implementation research in

health refers that to evaluate the success or failure of implementation as implementation outcome variables which serves as indicators of how well a given implementation is actually working and the outcome variables that mostly reflects by the perception among stakeholders (e.g. policy makers, providers, consumers, managers,) are-acceptability, appropriateness, adoption, feasibility, fidelity, cost, coverage and sustainability.

Likewise, the Economist Intelligence Unit (2010), in its study on enabling policy implementation, reported that it used perceived opinions regarding how effective the organizations were at implementing the mandated policy (e.g. very effective, somewhat effective). The study measured perceived policy implementation performance, success or failure of primary health care using the policy implementation performance evaluation criteria of equity, quality of primary health services, access to health care, availability, appropriateness and satisfaction. In order to measure health policy implementation performance, the criteria of equity, quality of services, accessibility, availability of services, and appropriateness and satisfaction were used to ask the respondents (the UH&FPOs) about their perceived opinion regarding policy implementation performance in primary health care in Bangladesh.

Table 3.1 Operational Definitions of Dependent and Independent Variables

Variables	**Operational Definitions**
Dependent Variable	
Policy Implementation Performance in Primary Health Care	The dependent variable, health policy implementation performance in primary health care, was defined as the perceived opinion of the UH&FPOs on policy implementation performance, success or failure, using the policy implementation performance evaluation criteria of equity, quality of primary health care services, accessibility, availability of services, and appropriateness and satisfaction.

Table 3.1 (Continued)

Variables	**Operational Definitions**
Independent Variables	
Clarity of goals and objectives	The goals and objectives of public policy should be SMART (Specific Measurable Achievable Realistic Timebound) and they should simply describe clear, well-defined, well-specified and compatible goals and objectives that all concerned parties can comprehend and use to work together for achieving goals within stipulated time. It is likely that if the implementers would understand and interpret them in different or wrong ways, this might lead to unintended consequences regarding policy implementation performance.
Adequate budget and financial autonomy	Policy implementation requires simplification and fulfillment in terms of adequate funds and financial autonomy for effective implementation. Effective utilization of the budget in a timely manner is of paramount importance in the implementation success.
Resources (human, infrastructure, equipment)	Human resources for health refers the foundations those produces the services to the people, and infrastructure refers to the essential physical facilities and structures for the health facility and equipment. On the other hand, equipment refers to both medical and office equipment. The policy implementation success requires appropriate human resources, equipment, and proper infrastructure.
Coordination	Policy implementation requires policy coordination among inter-organizations. It refers to ensuring that various organizations need to work together for providing public services to the people and need to deliver the equilibrium of services.

Table 3.1 (Continued)

Variables	Operational Definitions
Management dynamics	The policy implementation process requires good management and proper interventions in proper places. Therefore, various alternatives must be taken into consideration in selecting implementation locations through proper management using information communication technology (ICT) for unlimited locations and creating facilities.
Implementers' disposition	The implementers' disposition refers to the loyalty, attitude, responsibility, responsiveness, compliance and commitment to the policy by front-line implementers.
Micro level support from local stakeholders	It is expected that policy implementation performance depends not only on the front-line implementers but also the people (key stakeholders or beneficiaries) surrounding the complex. In the case of Bangladesh, the health policy implementation performance requires the support of the local government, local administration, NGOs, civil society, and the private sectors.

3.5 Measurement and Scale Construction

3.5.1 Scale Construction

Scale construction is defined as any combination of two or more indicators intended to measure one general concept or construct. Operationally this generally means an addition of two or more individual questionnaire items, with the composite becoming a new variable in the data set. Babbie (2013: pp.198-219) pointed out that "scale is constructed by assigning scores to patterns of responses, recognizing that some items reflect a weak degree of variable while other reflect something stronger." Babbie (2013: pp.198-219) also indicated that "the scale construction is a composite measure based upon multiple continuous-level indicators that might be the sum of

response to the indicator items or some other calculation such as mean and responses to each indicator vary in their strength and therefore in their contribution to the total score for the construct." Decoster and Hall (2005: p.1) have stated that "the purpose of scale construction is to design a questionnaire that provides quantitative measurement of an abstract theoretical variable and a scale uses a moderately large number of items to measure a single construct." Decoster and Hall (2005: p.1) also mentioned that "the good scales possess both validity and reliability where a scale has validity if it properly represents the theoretical construct it is meant to measure, and a scale has reliability if repeated measurement under the same circumstances tend to produce the same result."

This section enables the constructs, items, and scales to measure the construct and its sources. For this study, the items used to measure each construct were taken from the review of related literature or previous studies on various policy implementations in different areas and different country contexts. Babbie (2013: p.215) suggested that "many techniques of scaling are available including Bogardus social distance scale, Thurston scales, Likert scaling, Semantic differential, Guttman scaling." Likert scaling was used for the study.

3.6 Measuring the Dependent Variable

The dependent variable, health policy implementation performance in primary health care, was measured based on the perceived opinions regarding implementation performance by the Upazilla Health and Family Planning Officers (UH&FPOs) from 421 sub-district level health facilities in Bangladesh. The study measured the perceived policy implementation performance in primary health care using the policy implementation performance evaluation criteria of equity, quality of primary health services, access to health care, availability, appropriateness and satisfaction.

In order to measure the health policy implementation performance, the criteria of equity, quality of services, accessibility, availability of services, appropriateness, and satisfaction were used to ask the respondents (UH&FPOs) about their perceived opinions regarding policy implementation performance in primary health care in Bangladesh. For measuring the dependent variable and its corresponding indicators,

a six-point Likert scale questionnaire was constructed that denoted (6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low) to obtain the perceived level of opinion regarding the implementation performance of health policy in primary health care from the UH&FPOs at the sub-district level health facilities in Bangladesh.

3.7 Measuring the Independent Variables

The explanatory or independent variables for the study were drawn from the review of related and pertinent literature on policy implementation theories and models of different aspects and contexts**.** The conceptual framework of the study was developed based on quite a lot of studies together with the study of well-known academicians: Allison (1971), Pressman and Wildavsky (1973), Van Meter and Van Horn (1975), Bardach (1977), Sabatier and Mazmanian (1980) and Voradej Chandarasorn (2005), and other theories and models of policy implementation.

The independent variables have been identified for the study together with the following: 1. clarity of goals and objectives; 2. adequate budget and financial autonomy; 3. resources (human, infrastructure, equipment); 4. Coordination; 5. management dynamics; 6. implementers' disposition, and 7. micro level support of stakeholders. In order to obtain the perceived opinions of the respondents (UH&FPOs) regarding the understanding of health policy implementation performance in primary health care in Bangladesh for each of the independent variables and their corresponding indicators, a six-point Likert scale questionnaire was constructed that symbolized (6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low).

Table 3.2 Variables, Level of Measurement, Indicators, and Measurement Scale

Variables	**Corresponding Indicators**	**Level of Measurement**	**Scale of Measurement**	**Quest-ions**
Policy implementation performance in primary health care	Equity, quality of primary health services, access to health care, availability, appropriateness and satisfaction	Ordinal and Interval	Likert Scaling	60-67
clarity of goals and objectives	Clarity, understanding, relevance, appropriateness	Ordinal and Interval	Likert Scaling	4-10
Adequate budget and financial autonomy	Adequate budget, autonomy, utilization, financial management, quality of procurement	Ordinal and Interval	Likert Scaling	11-17
Resources (human, infrastructure, equipment)	Quality and quantity, skills and experience, training, availability of health personnel	Ordinal and Interval	Likert Scaling	18-27
Coordination	Coordination, effectiveness, implementation effectiveness, knowledge sharing, team supremacy in leading	Ordinal and Interval	Likert Scaling	28-34

Table 3.2 (Continued)

Variables	Corresponding Indicators	Level of Measurement	Measurement Scale	Questions
Management dynamics	Good management, interaction, ICT use, mass awareness, service dissemination, target, innovation, capacity, competency	Ordinal and Interval	Likert Scaling	35-43
Implementers' disposition	Understanding, performing, attitude with colleague, respect to rules and procedure, team dedication, commitment, attitude with recipients, team discipline and rely on	Ordinal and Interval	Likert Scaling	44-52
Micro Level support from local stakeholders	Local government support, local administration, private sector, civil society, NGO's and community leader's support	Ordinal and Interval	Likert Scaling	53-59

3.8 Data Collection Approach, Questionnaire and Response Rate

Gathering evidence for the collection of data and data analysis can be practically separated into two broad arrays: field research and document research, and alternatively primary and secondary data. For this study, the field research technique was employed to gather the necessary data from the UH&FPOs of Upazila Health Complexes in Bangladesh. The structured self-administered questionnaire and multi methods for the data collection were used, such as postal and electronic mail survey, and direct communication for the survey. The secondary data and information were

collected from a wide variety of literature, including: i) journal articles, books and dissertations; ii) publications and reports; iii) government publications and research documents; iv) online resources; and v) relevant policy documents.

3.8.1 Survey Questionnaire and Response Rate

The methods of the study were hierarchical multiple regression and descriptive statistical analysis. In doing so, a self-administered questionnaire using six-point Likert scales was constructed to collect the data from the UH&FPOs. The most important part of the questionnaire was structured for obtaining the overall perception of the respondents concerning the health policy implementation performance in primary health care with each influencing factor affecting the health policy implementation performance in primary health care in Bangladesh. There were some questionnaires for general information of the respondents. The structured questionnaire was administered through postal and electronic mail survey, and direct communication for survey. Therefore, for each of the dependent and independent variables and their corresponding indicators, a six-point Likert scale, close-ended questionnaire was constructed (Appendix-A). The scales of the questionnaire for each item were based on Likert scales of 1-6 that represented (6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low) developed by Rensis Likert in 1932, which uses standardized response categories. The Likert scale was originally 5 points and over time the scale has occupied many forms and points. For this study, it has been used 6 points even numbered Likert scaling in different forms. With odd numbers of options for a Likert scale, the middle option is often used as a substitution for “no comment” or “no opinion” that would necessitate further thinking. The even numbered Likert scales are immensely superior to the odd numbered ones as they ask the respondents to designate at least to some extent their preference even though the respondents contemplate neutral about the item. Chomeya (2010: p.401) found that if the respondents are lazy in terms of answering, in that case choose the middle point in odd numbered scales without bearing in mind the effect of data analysis of the research and 6 points scale lean towards to use time and contemplate and decide and it also tend to give appropriateness and reliability values as it has several variables. Bargeron and Moscovich (2003: p.390), on the other hand, noted that the evaluation

research of the product use of Microsoft company, and to reduce risk and desiring high reliability, the researchers chose to use the 6 points even numbered Likert scales instead of odd numbered. The questionnaire was prepared in the English language only, as the respondents were members of the Bangladesh Civil Service and the medium of instruction in their school was English. Hence, the respondents knew English very well and felt comfortable with the English language for the questionnaire response. In order increase the response rate of the respondents, a letter of request, using postal and email communication, telephonic communication, direct presence, or support from the local administration as senior colleagues, was made. Two hundred and forty out of 421 respondents responded, and the response rate was 57% (see Table 4.1).

3.8.2 Pre-Testing of the Questionnaires

Prior to conducting the survey for this research, 50 samples were collected from the total population of the Upazila Health Complex (UHC) and the respondents' UH&FPOs for determination of the reliability and validity of the questionnaire item scale construction. For reliability analysis, Cronbach's alpha is the most popular measure of internal consistency, and factor analysis is the most common method for construct validity, and these were used for this study. For the determination of the content validity of the questionnaire, expert opinions using the Index of Item-Objective Congruence (IOC) developed by Rovinelli and Hambleton (1977) were taken from four content experts from both Thailand and Bangladesh. After conducting all of the procedures for the pre-testing of the questionnaires, the final survey for the research was conducted.

3.8.3 Reliability Analysis

Reliability and factor analysis are statistical methods of data reduction. Babbie (2013: p.188) stated that "reliability refers to the matter of whether a technique applied repeatedly to the same object yields the same result each time." Reliability is concerned with quantitative research as it refers to the question of whether a measure is stable or not, and both reliability and measurement validity are concerned with the adequacy of measures (Bryman, 2016: p.41). Reliability means consistency and it

provides a measure of how well a group of observed variables go together as a group. It is the degree to which an instrument will give similar results for the same individuals at different times. Cronbach's alpha is the most common measure of internal consistency or reliability. The reliability analysis is most frequently used when there are multiple Likert scale questions in a survey questionnaire that form a scale and when it is desired to determine if the scale is reliable. Preferably as a rule of thumb the Cronbach alpha coefficient of a scale reliability must be above 0.7 and a high coefficient refers to the internal consistency of a set of variables (suggested by DeVellis, 2003 in Pallant, 2010: p.97). Cronbach's alpha values are quite sensitive to the number of items in the scale. George and Mallery (2016 : p.279) explained that most scholars suggest that the lowest acceptable score for a Cronbach alpha is 0.70, below this value for internal consistency is low and the maximum expected value is 0.90. A Cronbach alpha value between 0.80 to 0.90 is most preferred as a high level of internal consistency for a scale. Patten (2011) suggested that a Cronbach alpha value above 0.90 is a high or excellent level but that is shows redundancy or duplication of some items that is several items enquiring the same questions in diverse ways, and Cronbach alpha below .70 is questionable, and less than .50 is unacceptable. Multiple scale measurements for general questions and questions related to the indicators were used for this study to measure the variables. In order to assess the reliability of each influencing factor for health policy implementation performance in primary health care, a Cronbach alpha was determined in order to ascertain the potential for scale purification. For this study, for the pre-test of the reliability of scales for internal consistency of the scales was verified by Cronbach alpha value in SPSS using 50-real samples from the population. Table 3.3 and 3.4 represents a summary and details of the results of the reliability analysis of the scales for the internal consistency of the variables and items. The Cronbach alpha value for all of the variables was greater than .70 and confirmed the internal consistency of the scales constructed for the pre-test. Five of the Cronbach alpha value of variables (No. 1, 3, 4, 5 and 8) were within the most preferred level of .80 to .90, and three Cronbach alpha values of variables (No. 2, 6 and 7) were above .90, which was an excellent level. The Inter-Item Correlation should be positive and if any item is found to be negative then the Corrected Item-Total Correlation should be checked for negative

values (Pallant, 2010: p.100). The Inter-Item Correlation Matrix was checked for negative values. Except for item number 22, the Inter-Item Correlations were all found to be positive values that direct the items were measuring the same fundamental characteristics. The Corrected Item-Total Correlation values were also checked that give the indication of the degree to which each item correlates. In the Corrected Item-Total Correlations, there were no negative values and no values below .3, the suggested level that confirms that the items are measuring the same scale (Pallant, 2010: p.100). Moreover, the Cronbach alpha values for all of the variables was within the most preferred and excellent level and above the suggested level of .70 (suggested by DeVellis, 2003 in Pallant, 2010: p.97). Hence, the scales of the items constructed in the questionnaire were highly reliable.

Table 3.3 Summary Results of Reliability Analysis of the Scales (N=50)

Sl. Number	Variables	Average Inter-Item Correlation	Range of Inter-Item correlation	Cronbach Alpha (α)
01	Clarity of goals and objectives	.444	.548	.846
02	Adequate budget and financial autonomy	.645	.375	.926
03	Resources (human, infrastructure and equipment)	.424	.795	.879
04	Coordination	.494	.530	.872
05	Management dynamics	.504	.687	.896
06	Implementers' disposition	.581	.500	.924
07	Micro level support of stakeholders	.688	.389	.939
08	Overall perceived level of health policy implementation performance in primary health care	.399	.652	.841

Table 3.4 Detail Results of Reliability Analysis of the Scales for Items (N=50)

Item No.	Items	Mean	SD	Corrected Item-Total correlation	Cronbach Alpha (α)
	Clarity of goals and objectives (No. of Items 7)				
4	The national health policy in primary care is clear.	4.36	1.139	.701	
5	What is your rating on clarity of health policy goals in primary care?	4.20	1.088	.719	
6	What is your rating on clarity of health policy objectives in primary care?	4.38	.967	.624	
7	How do you rate your staff has complete understanding of health policy goals?	3.36	.973	.698	.846
8	How do you rate your staff has complete understanding of health policy objectives?	3.62	1.105	.520	
9	How do you rate the policy goals and objectives are relevant to people's health care need?	4.16	1.057	.549	
10	How do you rate the appropriateness of strategies and interventions to achieve the policy goals and objectives?	3.80	1.125	.438	
	Adequate budget and financial autonomy (No. of Items 7)				
11	How do you rate the adequacy of budget you receive?	2.74	1.175	.792	
12	what is the level of autonomy of financial power?	2.76	1.349	.769	
13	How do you rate the effectiveness of funds utilization?	3.86	1.262	.780	
14	What is the level of quality of financial management practices?	3.58	1.230	.867	.926

Table 3.4 (Continued)

Item No.	Items	Mean	SD	Corrected Item-Total correlation	Cronbach Alpha (α)
15	How do you rate the capabilities to ensure the quality of public procurement?	3.52	1.359	.719	
16	How do you rate the adequacy of allocation of budget for procurement of medical supplies?	2.94	1.300	.689	
17	How do you rate the adequacy of allocation of budget for procurement of administrative goods?	3.18	1.351	.764	
	Resources (human, infrastructure and equipment) (No. of Items 10)				
18	Rate the quality of hospital premise.	3.36	1.274	.340	
19	How do you rate quantity of infrastructure?	3.08	1.175	.628	
20	Rate the quality of medical equipment.	3.26	1.046	.325	
21	Rate the availability of medical equipment in your hospital.	3.26	1.121	.617	
22	Rate the availability of medical personnel in your hospital.	2.64	1.382	.618	.879
23	Rate the level of skilled health personal available.	3.02	1.097	.762	
24	Rate the level of experienced health personal available.	2.84	1.167	.686	
25	How do you rate the level of skilled support staff available?	2.88	1.136	.783	
26	How do you rate the level of experienced support staff available?	2.98	1.152	.732	
27	How do you rate the level of staff training for implementation of health policy in primary care?	3.12	1.172	.605	

Table 3.4 (Continued)

Item No.	Items	Mean	SD	Corrected Item-Total correlation	Cronbach Alpha (α)
	Coordination (No. of Items 7)				
28	Rate the level of coordination with the other programs and agencies.	3.48	1.015	.665	
29	Rate the effectiveness of cooperation and coordination between health and family Planning.	3.58	1.197	.586	
30	How do you rate interdepartmental implementation effectiveness?	3.70	1.093	.546	
31	How do you rate the coordination with other government organizations?	2.70	1.266	.798	.872
32	Rate the level of sharing knowledge and experiences with other sub-districts?	3.36	1.174	.691	
33	How do you rate the knowledge and experiences sharing among yourselves?	3.98	.979	.670	
34	Rate the supremacy of your team to coordination and leadership with other departments in the upazila.	3.94	1.038	.606	
	Management dynamics (No. of Items 9)				
35	What is your rating about management of the health facility in primary care?	4.16	1.017	.663	
36	How do you rate the service provider coordinate among yourselves?	3.84	1.057	.437	
37	What is the level of ICT use for patient management?	3.14	1.178	.639	
38	Rate your facility for making aware the mass people for disease prevention and well-being.	4.00	1.069	.730	.896

Table 3.4 (Continued)

Item No.	Items	Mean	SD	Corrected Item-Total correlation	Cronbach Alpha (α)
39	Rate the level of ICT use for dissemination of health-related information for unbounded services.	3.50	1.111	.641	
40	Rate the facility serving the right target people as per the policy content?	3.96	.925	.822	
41	Rate the level of innovation for better services and management.	3.60	1.212	.553	
42	Rate the level of capacity to ensure primary health care services.	3.86	.948	.786	
43	Rate the level of competency to ensure successful implementation of health policy in primary care.	4.08	.966	.752	
	Implementers' disposition (No. of Items 9)				
44	How do you rate the members of the implementation squad understand personal roles and responsibilities?	3.94	1.058	.772	
45	How do you measure the members of the implementation squad serves as per work 390responsibility?	3.96	1.106	.745	.924
46	How do you rate the provider's attitudes and interactions with other colleagues?	3.94	.913	.702	
47	How do you rate the implementation team's respects to the rules and procedures?	3.66	1.206	.659	

Table 3.4 (Continued)

Item No.	Items	Mean	SD	Corrected Item-Total correlation	Cronbach Alpha (α)
48	How do you rate your team's dedication to implementation of health policy in primary care?	4.06	1.096	.800	
49	How do you rate the commitment of health personnel to implement health policy in primary care?	3.88	1.081	.639	
50	Rate the level of attitude of service providers with the recipients.	3.78	1.075	.741	
51	Rate the level of disciplines of your team.	4.56	.993	.785	
52	Rate the extent you rely on the implementation team.	4.44	.837	.722	
	Micro level support of stakeholders (No. of Items 7)				
53	Rate the level of adequate support received from local government at sub-district level.	3.20	1.385	.832	
54	Rate the level of appropriate support received from local government at union level.	3.18	1.320	.802	.939
55	Rate the satisfactory support received from local administration for implementation of primary health care.	3.66	1.334	.819	
56	Rate the level of reasonable support received from private sectors.	3.02	1.363	.760	
57	How do you rate the level of support received from civil society?	3.10	1.446	.840	
58	What is the level of support from NGO's?	3.50	1.389	.767	
59	How do you rate the rational support from local community leader?	3.38	1.338	.779	

Table 3.4 (Continued)

Item No.	Items	Mean	SD	Corrected Item-Total correlation	Cronbach Alpha (α)
	Overall perceived level of health policy implementation performance in primary health care (No. of Items 8)				
60	How do you rate the level of satisfaction for health policy implementation performance in primary health care?	3.74	1.084	.677	
61	Rate the level of achievement of government health policy implementation in primary care.	4.10	.863	.624	
62	How do you rate the equitability of health facilities in primary health care?	3.92	1.066	.606	.841
63	How do you rate the quality of services that you are providing to the recipients of primary health care?	3.98	.937	.623	
64	How do you rate the access to the health facilities in your territory?	4.24	.894	.557	
65	Rate the availability of health care services in primary health care facilities.	4.00	.969	.509	
66	How do you rate the appropriateness of health interventions?	3.90	.909	.525	
67	How do you rate the level of satisfaction of the service recipients?	4.00	.990	.475	

3.8.4 Validity

Babbie (2013: p.191) stated that "the term validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration and validity means that we are actually measuring we say we are measuring." Babbie (2013: p.191) also mentioned that "the relative validity might be

used based on face validity, criterion-related validity, construct validity, content validity, internal validation and external validation as the ultimate validity of a measure can never be proved." It administers the accuracy, adequacy and truthfulness of the research results. Bryman (1984) stated that construct validity "often refer to measurement validity refers whether a measure that is devised of a concept really does reflect the concept that it is supposed to be denoting." Trochim (2006: p.1450) defined face validity that "refers to the operationalization to see "on its face" whether it seems like a good translation of the construct." Pallant (2010: p.7) noted that "content validity that refers to the adequacy with which a measure or scale has sampled from the intended universe or domain of content and criterion validity on the other hand, concerns the relationship between scale scores and some specified measurable criterion that represent measurement accuracy." Bryman (2016: p.42) stated that external validity is "concerned with the question of whether the results of a study can be generalized beyond the specific research context and internal validity relates mainly to the issue of causality." In this study, the scales were used for the variables grounded on related theories, models and relevant well-known studies on policy implementation performance in different contexts.

3.8.4.1 Content Validity by Experts

For this study, the face and content validity of the questionnaire items the Index of Item-Objective Congruence (IOC) developed by Rovinelli and Hambleton (1977) have been used. The content experts rated the items regarding how well they did or did not tap the objectives, the research questions, or the recognized variables in the conceptual framework. The ratings were -1, 0, and +1 where -1 designated Totally Invalid, 0 denoted No Comment, and +1 symbolized a Totally Valid item. For this study, the questionnaire items were validated by four content experts, two from Thailand and two from Bangladesh (see Table 3.5) and result of the IOC index (see Appendix-B).

Table 3.5 List of Content Experts from Thailand and Bangladesh

Sl. No.	Name	Present position and affiliation
1	Dr. Ubaidur Rob	Senior Associate and Bangladesh Country Director Population Council, Dhaka, Bangladesh Email: urob@popcouncil.org
2	Professor Syed Abdul Hamid, Ph.D.	Director, Institute of Health Economics University of Dhaka, Bangladesh. Email: s.a.hamid@ihe.ac.bd, s.a.hamid73@gmail.com
3	Associate Professor Prapon Sahapattana, Ph.D.	Vice President and Associate Professor Graduate School of Public Administration, NIDA, Bangkok, Thailand. Email: prapon.s@gmail.com
4	Asst. Professor Kasemsarn Chotchakornpant Ph.D.	Vice President and Asst. Professor Graduate School of Public Administration, NIDA, Bangkok, Thailand. Email: kasemsarn@hotmail.com, kasems.c@nida.ac.th

By referring to the suggestions of Rovinelli and Hambleton (1977), Turner and Carlson (2003: p.163) explained that in the IOC index, the items should have reserved and acceptable as valid those belongs the index value of equal to .75 or higher when three of four experts have perfect agreement, although the cutoff value is a floating criterion. There were 3 items that had IOC scores below .75 and that were removed from the questionnaire, and 8 items were revised (rewritten sentences) as per the suggestions of the experts. One item regarding demographic information was added according to the advice of the chairperson at the dissertation proposal defense. This result of the IOC index added to the degree of validity and generalizability of the research findings.

3.8.4.2 Factor Analysis for Construct Validity

Pallant (2010: p.181) stated that the factor analytic technique has many diverse uses and is widely used by scholars involved in the development and evaluation of tests and scales. Moreover, Pallant (2010: p.181) explained by using factor analysis, scholars can refine and reduce lager individual scale items to form a lesser quantity of comprehensible subscales. Babbie (2013: p.192) on the other hand, stated that it is a method used to discover patterns among the variations in values of several variables and done through the generation of artificial dimensions or factors that correlate highly with several of the real variables and that are independent of each other and should be grouped together. Hence, both factor analysis and reliability are statistical techniques used to reduce a larger set of observed items (i.e. observed variables) into a smaller set of latent constructs, and researchers use reliability analysis first to determine how well the construct holds together and then factor analysis is used to organize the items into a construct.

In this study, for the pre-testing, 50 questionnaires from the total population were collected before conducting the final survey and factor analysis, and a reliability analysis was done in order to assess the validity and reliability of the measurement of the model. Two statistical tests were done on the factorability of the intercorrelation matrix: (i) the Kaiser-Meyer Olkin (KMO) measures for sampling adequacy; and (ii) Bartlett's test of sphericity for the sufficient presence of correlations. Meyers, Gamst, and Guarino (2013: p.691) stated that for the Kaiser-Meyer Olkin (KMO) measures for sampling adequacy, a value of 0.70 or above is considered adequate and that the data are suitable for factor analysis. Likewise, Pallant (2010: p.187) suggested that a value of 0.60 or above is better for factor analysis. A Kaiser-Meyer Olkin (KMO) value of 0.90 to 1.00 represents marvelous, 0.80 to 0.90 depicts meritorious, 0.70 to 0.79 shows middling, 0.60 to 0.69 describes mediocre, 0.50 to 0.59 is miserable, and 0.00 to 049 is a don't factor. Hence, a KMO value of 0.50 or above is useful for factor analysis.

Bartlett's test of sphericity is done in order to see if sufficient correlations exist among variables. It measures multivariate normality and ensures that the sample intercorrelation matrix does not come from a population in which the intercorrelation is an identity matrix. Meyers, Gamst, and Guarino (2013: p.691) stated that it

investigates a test of null hypothesis that none of the variables are significantly correlated. This test should be significant before proceeding to the factor analysis. The null hypothesis should be rejected at the $p<.0.05$ level of significance. This means that data are factorable as there is correlation. Meyers et al. (2005: p.526) explained that factor loading is used to determine what the factors measure. It represents the degree of correspondence or correlation of each variable and factors with higher loading making the variable better representative of the factors. Tabachnick, B. G., and Fidell (2013: p.654) suggested that only factors loading at .32 and greater should be interpreted. The factor loadings of .30 to .40 are marginally acceptable and be interpreted (Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, 2009: p.117). Meyers, Gamst, and Guarino (2013: p.708) mentioned that a robust solution should account for at least 50% of the variance represented by the cumulative percentage of total variance extracted by successive factors. Pallant (2010: p.184) stated that there are two approaches to factor rotation; namely, (a) orthogonal (uncorrelated or independent), i.e. varimax, quartimax and equamax, and (b) oblique (correlated) factor solution, i.e. direct oblimin, and promax.

For this study, there were factors influencing the health policy implementation performance in primary health care together with clarity of goals and objectives, adequate budget and financial autonomy, resources (human, infrastructure and equipment), coordination, management dynamics, implementers' disposition, micro level support of stakeholders and perceived level of health policy implementation performance in primary health care are the latent factors that were amounted by the observed variables. In order to examine the distribution of the observe variables, descriptive statistics were generated, and to examine the correlations among the items or variables, correlation metrics were produced. For factor extraction, principal components analysis (PCA) was used as the method. Two statistical tests were done for the factorability of the intercorrelation matrix: (i) the Kaiser-Meyer Olkin test (KMO) measures the sampling adequacy; and (ii) Bartlett's test of sphericity measure the multivariate normality and that ensures that the sample intercorrelation matrix did not come from a population in which the intercorrelation was an identity matrix. For all of the observed items, factor loadings were checked for usefulness of the factors as like regression coefficient that represents the relationship accounted for changing one unit

upon the other items. Referring Pett, M.A., Lackey, N.R. and Sullivan (2003), Pallant (2010: p.187) suggested that communalities that represent how much of the variance in each item explained and low values less than .30 indicate that the item does not fit well with the other items in its components and it has been suggested for factor rotation. For the factor rotation, varimax as a method of orthogonal, which attempts to minimize the number of items that have high loadings on each factor and the underlying constructs are independent or uncorrelated were used to check the change and improvement of factor loadings. Hence, in this analysis no observed rotated items loaded below .50. and a substantial number of items were loaded remarkably high. Moreover, no communalities value was found below .30.

1) Factor Analysis of Clarity of Goals and objectives

Principal component analysis as a form of factor analysis were subjected for the scale development and evaluation of 7 items of the variable "Clarity of Goals and objectives" using SPSS version 23. The suitability of the data was assessed by sampling requirements with the suggestion that five cases for each item are adequate in most cases, as discussed in Tabachnick and Fidell (2007) and mentioned in Pallant (2010: pp.187-201). Prior to the factor analysis, the descriptive statistics and correlation matrix were examined and existence of many coefficients of .30 and above was revealed, as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of data for factor analysis.

The KMO measures of sampling adequacy statistics of .740 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett's test of sphericity was significant at the $p<.005$ level and established the multivariate normality and sufficient presence of correlation exists among items that also confirmed the factor analysis was appropriate. Table 3.6 depicts the results of the different required statistics of the factor analysis of the 7-item scale for the variable "clarity of goals and objectives." The rotated lodgings for all the items being loaded greater than .50 confirmed the effectiveness of the observed items for the factor analysis, and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained that 53.012% were above the suggested level of at least a 50% cumulative

percentage of the total variance extracted by the successive factors, which confirmed a robust solution.

Table 3.6 Factor Matrix for Clarity of Goals and Objectives

Item No.	Items	Communalities	Factor Loadings
4	The national health policy in primary care is clear.	.674	.821
5	What is your rating on clarity of health policy goals in primary care?	.685	.828
6	What is your rating on clarity of health policy objectives in primary care?	.535	.732
7	How do you rate your staff has complete understanding of health policy goals?	.637	.798
8	How do you rate your staff has complete understanding of health policy objectives?	.427	.653
9	How do you rate the policy goals and objectives are relevant to people's health care need?	.440	.664
10	How do you rate the appropriateness of strategies and interventions to achieve the policy goals and objectives?	.312	.558

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .740, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =153.311, df=21, p<.005; Variance Explained 53.012%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

2) Factor Analysis of Adequate Budget and Financial Autonomy

Principal component analysis as a form of factor analysis was used for the scale development and the evaluation of 7 items of the variable "adequate budget and financial autonomy" using SPSS version 23. The suitability of the data was assessed by

sampling requirements with the suggestions that five cases for each item are adequate in most cases as discussed in Tabachnick, B. G., and Fidell (2007) and mentioned in Pallant (2010: pp.187-201). Prior to the factor analysis, the descriptive statistics and correlation matrix were examined and the existence of many coefficients of .3 and above was revealed, as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of the data for the factor analysis.

The KMO measures of sampling adequacy statistics of .861 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett's test of sphericity was significant at the $p<.005$ level and established the multivariate normality and that the sufficient presence of a correlation existed among items, which also confirmed that the factor analysis was appropriate. Table 3.7 depicts the results of the different required statistics of the factor analysis of the 7-item scale of the variable "adequate budget and financial autonomy." The factor lodgings of all the items being loaded greater than .50 ensured the effectiveness of the observed items for the factor analysis and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained 69.738% being above the suggested level of at least a 50% cumulative percentage of the total variance extracted by the successive factors that confirmed the robust solution.

Table 3.7 Factor Matrix for Adequate Budget and Financial Autonomy

Item No.	Items	Communalities	Factor Loadings
11	How do you rate the adequacy of budget you receive?	.725	.852
12	what is the level of autonomy of financial power?	.704	.839
13	How do you rate the effectiveness of funds utilization?	.715	.845
14	What is the level of quality of financial management practices?	.827	.910

Table 3.7 (Continued)

15	How do you rate the capabilities to ensure the quality of public procurement?	.636	.797
16	How do you rate the adequacy of allocation of budget for procurement of medical supplies?	.585	.765
17	How do you rate the adequacy of allocation of budget for procurement of administrative goods?	.689	.830

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .861, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =276.708, df=21, p<.005; Variance Explained 69.738%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

3) Factor Analysis of Resources (Human, Infrastructure and Equipment)

Principal component analysis as a form of factor analysis was subjected for the scale development and evaluation of the 10 items of the variable "Resources (Human, Infrastructure and Equipment)" using SPSS version 23. The suitability of the data was assessed by sampling requirements with the suggestion that five cases for each item were adequate in most cases as discussed in Tabachnick, B. G., and Fidell (2007) and mentioned in Pallant (2010: pp.187-201). Prior to the factor analysis the descriptive statistics and correlation matrix were examined and the existence of many coefficients of .3 and above was revealed, as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of the data for the factor analysis.

The KMO measure of the sampling adequacy statistics of .838 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett's test of sphericity was significant at the p<.005 level and established the multivariate normality and that the sufficient presence of a correlation existed among the items, which also confirmed that the factor analysis was appropriate. Table 3.8 depicts the results of the

different required statistics for the factor analysis of the 10-item scale for the variable "resources (human, infrastructure, and equipment)." The factor lodgings for all of the items being loaded greater than .50 ensured the effectiveness of the observed items for the factor analysis and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained 69.439% being above the suggested level of at least a 50% cumulative percentage of the total variance extracted by the successive factors, which confirmed a robust solution.

Table 3.8 Factor Matrix for Resources (Human, Infrastructure and Equipment)

Item No.	**Items**	**Communalities**	**Factor Loadings**
18	Rate the quality of hospital premise.	.636	.796
19	How do you rate quantity of infrastructure?	.799	.833
20	Rate the quality of medical equipment.	.705	.840
21	Rate the availability of medical equipment in your hospital.	.521	.516
22	Rate the availability of medical personnel in your hospital.	.727	.852
23	Rate the level of skilled health personal available.	.805	.889
24	Rate the level of experienced health personal available.	.632	.764
25	How do you rate the level of skilled support staff available?	.756	.830
26	How do you rate the level of experienced support staff available?	.806	.895
27	How do you rate the level of staff training for implementation of health policy in primary care?	.556	.732

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .838, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =304.877, df=45, p<.005; Variance Explained 69.439%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

4) Factor Analysis of Coordination

Principal component analysis as a form of factor analysis was subjected for the scale development and evaluation of the 7 items of the variable "coordination" using SPSS version 23. The suitability of the data was assessed by sampling requirements

with the suggestion that five cases for each item were adequate in most cases as discussed in Tabachnick, B. G., and Fidell (2007) and mentioned in Pallant (2010: pp.187-201). Prior to the factor analysis the descriptive statistics and correlation matrix were examined and the existence of many coefficients of .3 and above was revealed, as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of the data for the factor analysis.

The KMO measure of sampling adequacy statistics of .770 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett's test of sphericity was significant at the $p<.005$ level and established the multivariate normality and that a sufficient presence of a correlation existed among the items, which also confirmed that the factor analysis was appropriate. Table 3.9 depicts the results of the different required statistics of the factor analysis of the 7-item scale of the variable "Coordination." The factor lodgings of all the items being loaded greater than .50 ensured the effectiveness of the observed items for the factor analysis, and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained 56.999% being above the suggested level of at least a 50% cumulative percentage of the total variance extracted by the successive factors, which confirmed the robust solution.

Table 3.9 Factor Matrix for Coordination

Item No.	**Items**	**Communalities**	**Factor Loadings**
28	Rate the level of coordination with the other programs and agencies.	.575	.758
29	Rate the effectiveness of cooperation and coordination between health and family Planning.	.479	.692
30	How do you rate interdepartmental implementation effectiveness?	.431	.657
31	How do you rate the coordination with other government organizations?	.756	.870

Table 3.9 (Continued)

Item No.	Items	Communalities	Factor Loadings
32	Rate the level of sharing knowledge and experiences with other sub-districts?	.629	.793
33	How do you rate the knowledge and experiences sharing among yourselves?	.597	.773
34	Rate the supremacy of your team to coordination and leadership with other departments in the upazila.	.522	.723

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .770, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =169.199, df=21, p<.005; Variance Explained 56.999%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

5) Factor Analysis of Management Dynamics

Principal component analysis as a form of factor analysis was subjected for the scale development and evaluation of the 9 items of the variable "management dynamics" using SPSS version 23. The suitability of the data was assessed by sampling requirements with the suggestions that five cases for each item were adequate in most cases as discussed in Tabachnick, B. G., and Fidell (2007) and mentioned in Pallant (2010: pp.187-201). Prior to the factor analysis, the descriptive statistics and correlation matrix were examined and the existence of many coefficients of .3 and above was revealed as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of the data for the factor analysis.

The KMO measure of sampling adequacy statistics of .796 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett's test of sphericity was significant at the p<.005 level and established the multivariate normality and that a sufficient presence of a correlation existed among items, which also confirmed that the factor analysis was appropriate. Table 3.10 depicts the results of the different required statistics of the factor analysis of the 9-item scale of the variable "management dynamics." The factor lodgings of all the items being loaded greater than

.50 ensured the effectiveness of the observed items for the factor analysis, and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained 72.989% being above the suggested level of at least a 50% cumulative percentage of the total variance extracted by the successive factors, which confirmed the robust solution.

Table 3.10 Factor Matrix for Management Dynamics

Items Number	**Items**	**Communalities**	**Factor Loadings**
35	What is your rating about management of the health facility in primary care?	.562	.624
36	How do you rate the service provider coordinate among yourselves?	.772	.878
37	What is the level of ICT use for patient management?	.740	.859
38	Rate your facility for making aware the mass people for disease prevention and well-being.	.721	.810
39	Rate the level of ICT use for dissemination of health-related information for unbounded services.	.800	.894
40	Rate the facility serving the right target people as per the policy content?	.763	.717
41	Rate the level of innovation for better services and management.	.720	.826
42	Rate the level of capacity to ensure primary health care services.	.800	.737
43	Rate the level of competency to ensure successful implementation of health policy in primary care.	.693	.725

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .796, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =280.426, df=36, p<.005; Variance Explained 72.989%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

6) Factor Analysis of Implementers' Disposition

Principal component analysis as a form of factor analysis was subjected for the scale development and evaluation of the 9 items of the variable "implementers' disposition" using SPSS version 23. The suitability of the data was assessed by sampling requirements with the suggestions that five cases for each item were adequate in most cases as discussed in Tabachnick, B. G., and Fidell (2007) and mentioned in Pallant (2010: pp.187-201). Prior to the factor analysis, the descriptive statistics and correlation matrix were examined and the existence of many coefficients of .3 and above was revealed, as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of the data for the factor analysis.

The KMO measure of sampling adequacy statistics of .822 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett's Test of sphericity was significant at the $p<.005$ level and established the multivariate normality and that a sufficient presence of a correlation existed among the items, which also confirmed that the factor analysis was appropriate. Table 3.11 depicts the results of the different required statistics of the factor analysis of the 9-item scale of the variable "Implementers' Disposition." The rotated factor lodgings of all the items being loaded greater than .50 ensured the effectiveness of the observed items for the factor analysis, and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained 74.867% being above the suggested level of at least a 50% cumulative percentage of the total variance extracted by the successive factors, which confirmed the robust solution.

Table 3.11 Factor Matrix for Implementers' Disposition

Item No.	Items	Communalities	Factor Loadings
44	How do you rate the members of the implementation squad understand personal roles and responsibilities?	.826	.883
45	How do you measure the members of the implementation squad serves as per work responsibility?	.828	.894
46	How do you rate the provider's attitudes and interactions with other colleagues?	.598	.663
47	How do you rate the implementation team's respects to the rules and procedures?	.779	.840
48	How do you rate your team's dedication to implementation of health policy in primary care?	.782	.814
49	How do you rate the commitment of health personnel to implement health policy in primary care?	.788	.859
50	Rate the level of attitude of service providers with the recipients.	.773	.780
51	Rate the level of disciplines of your team.	.727	.740
52	Rate the extent you rely on the implementation team.	.636	.694

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .822, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =337.869, df=36, p<.000; Variance Explained 74.867%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

7) Factor Analysis of Micro Level Support of Stakeholders

Principal component analysis as a form of factor analysis was subjected for the scale development and evaluation of the 7 items of the variable “micro level support of stakeholders” using SPSS version 23.

The suitability of the data was assessed by sampling requirements with the suggestions that five cases for each item were adequate in most cases, as discussed in Tabachnick and Fidell (2007) and mentioned in Pallant (2010: pp.187-201). Prior to the factor analysis, the descriptive statistics and correlation matrix were examined and the existence of many coefficients of .3 and above was revealed as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of the data for the factor analysis.

The KMO measure of sampling adequacy statistics of .859 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett’s test of sphericity was significant at the $p<.005$ level and established the multivariate normality and that a sufficient presence of a correlation existed among the items, which also confirmed that the factor analysis was appropriate.

Table 3.12 depicts the results of the different required statistics of the factor analysis of the 7-item scale of the variable “micro level support of stakeholders.” The rotated factor lodgings of all the items being loaded greater than .50 ensured the effectiveness of the observed items for the factor analysis, and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained 73.286% being above the suggested level of at least a 50% cumulative percentage of the total variance extracted by the successive factors, which confirmed the robust solution.

Table 3.12 Factor Matrix for Micro Level Support of Stakeholders

Item No.	Items	Communalities	Factor Loadings
53	Rate the level of adequate support received from local government at sub-district level.	.782	.884
54	Rate the level of appropriate support received from local government at union level.	.740	.860
55	Rate the satisfactory support received from local administration for implementation of primary health care.	.760	.872
56	Rate the level of reasonable support received from private sectors.	.675	.822
57	How do you rate the level of support received from civil society?	.784	.886
58	What is the level of support from NGO's?	.682	.826
59	How do you rate the rational support from local community leader?	.705	.840

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .859, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =316.217, df=21, p<.005; Variance Explained 73.286%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

8) Factor Analysis of Overall Perceived Level of Health Policy Implementation Performance in Primary Health Care

Principal component analysis as a form of factor analysis was subjected for the scale development and evaluation of the 8 items of the variable "overall perceived level of health policy implementation performance in primary health care" using SPSS version 23. The suitability of the data was assessed by the sampling requirements with the suggestions that five cases for each item were adequate in most cases as discussed in Tabachnick, B. G., and Fidell (2007) and mentioned in Pallant (2010: pp.187-201).

Prior to the factor analysis the descriptive statistics and correlation matrix were examined and the existence of many coefficients of .3 and above was revealed as recommended by Tabachnick, B. G., and Fidell (2013: p.619). Two statistical tests were done for the suitability of data for factor analysis.

The KMO measures of sampling adequacy statistics of .728 ensured that the samples were adequate and suitable for the factor analysis. Likewise, Bartlett's test of sphericity was significant at the $p<.005$ level and established the multivariate normality and that the sufficient presence of a correlation existed among the items, which also confirmed that the factor analysis was appropriate.

Table 3.13 depicts the results of the different required statistics of the factor analysis of the 8-item scale of the variable "Overall perceived level of health policy implementation performance in primary health care." The rotated factor lodgings of all the items being loaded greater than .50 ensured the effectiveness of the observed items for the factor analysis, and many of the items were loaded sufficiently for the latent factors. Moreover, the variance explained 68.460% being above the suggested level of at least a 50% cumulative percentage of the total variance extracted by the successive factors, which confirmed the robust solution.

Table 3.13 Factor Matrix for Overall Perceived Level of Health Policy Implementation Performance in Primary Health Care

Item No.	**Items**	**Communalities**	**Factor Loadings**
60	How do you rate the level of satisfaction for health policy implementation performance in primary health care?	.659	.752
61	Rate the level of achievement of government health policy implementation in primary care.	.615	.754

Table 3.13 (Continued)

Item No.	Items	Communalities	Factor Loadings
62	How do you rate the equitability of health facilities in primary health care?	.690	.824
63	How do you rate the quality of services that you are providing to the recipients of primary health care?	.694	.825
64	How do you rate the access to the health facilities in your territory?	.662	.770
65	Rate the availability of health care services in primary health care facilities.	.859	.922
66	How do you rate the appropriateness of health interventions?	.815	.893
67	How do you rate the level of satisfaction of the service recipients?	.483	.692

Goodness of Fit of Factor Solution: Kaiser-Meyer-Olkin (KMO) measures for sampling adequacy statistics= .728, Bartlett's Test of Sphericity for Multivariate Normality and Absence of Identity Matrix: Approx. Chi-Square (χ^2) =189.282, df=28, p<.000; Variance Explained 68.460%; Rotation method: Varimax and Extraction Method: Principal Components Analysis.

Table 3.14 Summary Results of Factor Analysis

Sl. No	Variables	Kaiser-Meyer Olkin (KMO)	Bartlett's test of Sphericity & Variance Explained
1	Clarity of goals and objectives (7 items)	.740	Chi-Square (χ^2) =153.311 p<.0.05, Variance explained 53.012%
2	Adequate budget and financial autonomy (7 items)	.861	Chi-Square (χ^2) =276.708 p<.0.05 Variance explained 69.738%
3	Resources (human, infrastructure and equipment) (10 items)	.838	Chi-Square (χ^2) =304.877 p<.0.05 Variance explained 69.439%
4	Coordination (7 items)	.770	Chi-Square (χ^2) =169.199 p<.0.05 Variance explained 56.999%
5	Management dynamics (9 items)	.796	Chi-Square (χ^2) =280.426 p<.0.05 Variance explained 72.989%
6	Implementers' disposition (9 items)	.822	Chi-Square (χ^2) =337.869 p<.0.05 Variance explained 74.867%
7	Micro level support of stakeholders (7 items)	.859	Chi-Square (χ^2) =316.217 p<.0.05 Variance explained 73.286%
8	Overall perceived level of health policy implementation performance in primary health care (8 items)	.728	Chi-Square (χ^2) =189.282 p<.0.05 Variance explained 68.460%

For this study, in the pre-test subjected by the factor analysis, the reliability analysis, and content validity by the experts were done. The summary of the initial and revised items in the questionnaires are presented in Table 3.15. All of the items in the reliability analysis and factor analysis were found to be valid and reliable for the scale construction.

Table 3.15 Initial and Revised Items after Content Validity, Reliability Analysis and Factor Analysis

Initial Factors		**Content, Reliability and Factor Analysis**		
Variables	**Number of Questions**	**Retained After Content validity**	**Retained After Reliability Analysis**	**Retained After Factor Analysis**
Demographic	5	3 (3 excluded using IOC and 1 added by chairperson of proposal defense)	3	3
Clarity of goals and objectives	7	7	7	7
Adequate budget and financial autonomy	7	7	7	7
Resources (human, infrastructure and equipment)	10	10	10	10
Coordination	7	7	7	7
Management dynamics	9	9	9	9
Implementers' disposition	9	9	9	9
Micro level support of stakeholders	7	7	7	7
Overall perceived level of health policy implementation performance in primary health care	8	8	8	8
Total	69	67 (8 items revised and rewritten sentences by content experts	67	67

3.9 Data Management and Statistical Testing

According to Whyte and Jonathan (2011: p.1). data management for research "refers to the organization of data, from its entry to the research cycle through to the dissemination of the valuable results and makes the research process as efficient as

possible.” For this study, the hierarchical multiple regression analytic technique was used, and the primary data were collected through a self-administered, structured questionnaire. The data were checked, coded, and entered in the SPSS program for statistical analysis and evaluation of multivariate assumptions.

3.9.1 Examining and Handling Missing Data and the Outliers

The most important benefit of examining the data was understanding the data and the relationship between the variables, to meet the statistical requirements, and to minimize the effects of missing data. It also helped to increase the knowledge of the variable interrelationships which in turn greatly helped with the multivariate model regarding the specification and refinement and interpretation of the results. Missing data are generally not represented in the results as it can have a substantial impact on the nature and character of the results. The common techniques of examining data are graphical examination, missing data, outliers and testing multivariate assumptions. Missing data are demarcated where valid values on one or more variables are not available for analysis and it is a challenge for researchers to address the issues that affect the generalizability of the research results and the effect of missing data could be the lessening of sample size for analysis and nonrandom missing data process could be the biased results (Hair, Black, Babin, and Anderson, 2010: p.47). Principally a comprehensive data set is essential for examining the interrelationships among all of the variables and that problems that arise if one or more values is missing from the related cases or variables. Frequency distribution, t-test, and chi-squared test are available for checking missing data. In this study, the missing data were checked and if any were found they were replaced by the mean value of the available data as a common means of imputation.

Outliers are observations with an exceptional combination of features of identifiable as definitely dissimilar from other observations usually of low or high value on a variable. The impact of outliers from a practical standpoint can have a noticeable effect on the empirical analysis and in substantive terms it must be viewed considering how representative it is of the population (Hair et al., 2010: pp.64-65). Many methods can be used to detect outliers in univariate, bivariate, and multivariate situations. For this study, the outliers were checked using scatterplot, stem and leaf

diagram, and box plot as graphical tools, and on the other hand, minimum vs. maximum values, mean vs. median, skewness and kurtosis, interquartile range and standard deviation and for multivariate outliers by plotting residuals.

3.9.2 Normality

According to Hair, Black, Babin, and Anderson (2010: p.185), "the most essential assumption in multivariate analysis is normality referring to the shape of the data distribution for metric variables and if the variation from the normal distribution is sufficiently large, all resulting statistical test are invalid normality requires to use the F and t statistics." The independent variables are multivariate normal, and variables are univariate normal or at least symmetric and severely skewed. To test the normality, it is usually routines to check histogram with a normal curve overlay, a normal probability plot, skewness and kurtosis of the distribution, stem and leaf plot, box-whisker plot, a Z-test for normality, the Shapiro-Wilk test and Kolmogorov-Smirnov test. It also refers to a continuous probability distribution, which has a bell-shaped probability density function with more values concentrated in the middle than in the tails. Two parameters are used for normal distribution: the mean for the peak and the standard deviation for the dispersion and where skewness and excess kurtosis are zero. A hypothesis test is needed for the normality test with the p-value rule; if the p-value is less than the predefined significance then rejects the null hypothesis of normally distribution. The multiple regression requires the error between observed and predicted values those should be normally distributed. If the set of variables is multivariate normally distributed, then each variable must be normally distributed. The violation of normality affects shape and skewness. For this study, univariate normality was examined through a histogram with a normal curve overlay, skewness and kurtosis of the distribution, and the multivariate normality were examined through normal probability plot, histogram, and scatterplot of residuals (see Figure 4.1 and 4.2) and Kolmogorov-Smirnov (see Table 4.6).

3.9.3 Homoscedasticity

According to Hair, Black, Babin, and Anderson (2010: p185), "homoscedasticity literally refers having the same scatter and it examines the data

values are scattered or spread out. The variance of dependent variable is homoscedastic over the various levels of independent variables i.e. the constant variance of the error term." The variability of the dependent variable is about same over all levels of the explanatory or independent variables. Given that the values of the independent variables the variance of error term are the same for all observations. The scatterplot and residual plot are a good way to check for bivariate homoscedasticity and multivariate homoscedasticity (that is, the error term along the regression line are equal for all observations) respectively. A boxplot for larger data, descriptive statistics (ratio of largest to smallest variance does not exceed 1.5), and ANOVA for testing equal variance (Bartlett's test and Levene's test) are also used for checking the multivariate assumption of homoscedasticity. For this study the scatter plot, descriptive statistics, and ANOVA for testing equal variance (Levene's test) (see Table 4.7) were used for examining the assumption of homoscedasticity.

3.9.4 Linearity

According to Hair, Black, Babin, and Anderson (2010: p.183), "the linearity of the relationship between dependent and independent variables represents the degree to which the change in the dependent variable is associated with the independent variable and the regression coefficient is constant across the range of values for the independent variables." The linearity of any bivariate association is simply scrutinized through the scatter plot and the multivariate linearity assumption can be tested by using a scatter plot of regression standardized residual and regression standardized predicted values. Remedies for non-linearity or violation of linearity assumptions of the multivariate analysis would be the transformation of the data and the creation of new variables. Multiple regression requires that the association between explanatory or independent and dependent variables be linear. To check outliers is important as it is sensitive for multiple regression. For this study, both bivariate and multivariate linearity were tested, and accordingly non-violation of the assumption was confirmed by bivariate scatter plot and the scatter plot of the regression residuals and regression predicted values (see Figure 4.3 and 4.1).

3.9.5 Multicollinearity

The term multicollinearity is used when discussing the intercorrelations among the predictors in multiple regression and also in a descriptive sense indicates the degree to which the predictors are intercorrelated (Grimm and Yarnold, 1997). Studenmund (2006: p.103) noted that perfect collinearity between two independent variables implies that they are the same variables and hence the independent variables need to be non-collinear, i.e. not related to each other. Collinearity can cause the problem of determining the unique contribution of each explanatory or independent variable on the dependent variable. Therefore, the greater is the multicollinearity the more are the problems in terms of technical as well as for practical prediction and theoretical interpretations. Most researchers would agree that correlations of r>.80 between the predictors should be considered very problematic and it has been suggested that two variables largely measure the same construct and that only one or a combination of the two be used. Pallant (2010: p.151) has stated that multicollinearity is real when the independent variables are associated with r =.90 or above. The lower intercorrelation cutting point would be o.3. The multicollinearity can be tested through intercorrelation matrix and tolerance value and VIF. Multicollinearity is present when the tolerance value is less than 0.10 and the VIF is greater than 10, because a high percentage of the variable variance is explained by other independent variables. For this study, the multicollinearity assumption for the multiple regression was checked, and the requirement of the assumption was confirmed by the intercorrelation matrix (see Table 4.8) and tolerance value and variance inflation factor (see Table 4.13).

3.9.6 Independence of Error

According to Hair, Black, Babin, and Anderson (2010: p185), “multiple regression assumes that each predicted value is independent and needs to identify the potential sequencing variables and plot the residuals by this variable and violation will be identified by a consistent pattern in the residuals.” The errors generated by the model are un-correlated with the independent variables, homoscedastic, and are independent of each other and are normally distributed. Data transformation can address the violation if it occurs. Hierarchical multiple regression requires that there be no auto correlation between disturbances, and the correlation between the error or

disturbance term has to be zero. The independence of the error or no auto correlation can be checked through Durbin-Watson statistics. The Durbin-Watson contains the value from zero to four and zero refers to a perfect positive correlation and four denotes a perfect negative correlation and two refers to no serial correlation. If the Durbin-Watson statistics are greater than one and less than three it confirms that there is no auto correlation or non-violation of independence of error assumption of the multiple regression. In this study, the assumption of the non-violation of independence of error or non-violation of a lack of auto correlation is presented in the regression coefficient table and ensures that there was no auto correlation or violation of independence of error assumption using the Durbin-Watson test statistics (see Table 4.13).

3.9.7 Number of Observations

The number of observations must be greater than the explanatory or independent variables. Stevens (2002) in Pallant (2010: p.150) recommends that "for social science research about 15 cases are required per independent variable for a reliable equation." On the other hand, Tabachnick, B. G., and Fidell (2013: p.123) provided a formula for sample size requirements considering the number of predictors as N>50+8m (where m=number of independent variables). So, according to the formula, 106 cases were required for the seven independent variables for this study. For this study, the data were collected from the entire target population of 421 Upazila Health Complexes in Bangladesh and 240 respondents responded. Hence, for this study, the number of observations was 240 against seven variables, which were well larger than the explanatory variables (see Table 4.1).

3.9.8 The Variability of Independent Variables

The X values or the independent variables for all of the numbers must not be the same. Var(X) must be a finite positive number**.**

3.9.9 Zero Covariance

Zero covariance between error terms (εi) and independent variable Xi or E (εi | Xi) =0.

3.9.10 Non-Stochastic

The values of independent variable or X values are fixed in the repeated sampling. X is assumed to be non-stochastic.

3.9.11 Test for Residuals

a) Whether the residuals of a model are correlated with the independent variables were checked through regression of residuals and independent variables.
b) Test of homoscedasticity of residuals were checked through regression of residuals and dependent variable or predictor variable.

3.10 Methods of Data Analysis

The quantitative data for this study were analyzed using univariate, bivariate, and multivariate inferential analysis.

3.10.1 Univariate

According to Hair, Black, Babin, and Anderson (2010: p.36), "univariate analysis refers to the analysis of a single variable for purposes of description, frequency or percentage distribution, central tendency, standard deviation, averages, minimum, maximum, skewness, kurtosis and measures of dispersion would be examples of univariate analysis which represents only descriptive statistics." The univariate analysis for descriptive statistics was used for this study for the demographics and general information of UH&FPO at the sub-district level health facilities (see Table 4.1).

3.10.2 Bivariate

According to Babbie (2013: p.430), "bivariate analysis refers to the analysis of two variables simultaneously for the purpose of construction of a simple percentage table or the computation of a simple correlation coefficient for determining the empirical relationship between them are examples of bivariate analysis." The study has examined the bivariate relationship between the variables by using Pearson's correlation analysis (see Table 4.8) and ANOVA.

3.10.3 Multivariate Analysis

Multivariate examination states to any statistical method used to examine data sets that are originated from large number of populations to make an inference from the observations of the sample of target population for more than one variable. Grimm and Yarnold (2006: p.5), stated that multivariate analysis provides a simultaneous analysis of multiple independent and dependent variables and designs are considered multivariate if they involve two or more dependent measures. There are various types of multivariate statistical techniques used to generalize, predict, and forecast, i.e. multiple regression analysis, path analysis, logistic regression, discriminant analysis, hierarchical linear regression, hierarchical linear modeling, structural equation modeling, time series, panel data, etc. In this study, hierarchical multiple regression as one of the statistical techniques of multivariate analysis was employed to scrutinize the influence of each independent variable on the dependent variable, health policy implementation performance in primary health care in Bangladesh. Multiple regression is suitable as it can only interpret what is present physically i.e., there must be a physical way in which independent variable X can affect dependent variable Y and the examination concerning the relationship is acknowledged as multiple correlations and the equation describing such association as the multiple regression equation. Hair, Black, Babin, and Anderson (2010: p.4), stated that "multiple regression is a dependency technique that can provide both predictive and explanation to the research, the higher the correlation coefficient the stronger the relationship and greater the predictive accuracy." Tabachnick, B. G., and Fidell (2013: p.136) explained in their book that "there are mainly three major analytic technics in multiple regressions namely standard multiple regression, hierarchical multiple regression and stepwise regression and in hierarchical multiple regression each independent variable or set of independent variables are assessed in terms of what it adds to the equation at its own point of entry and independent variables are entered cumulatively not simultaneously in the equation in an order specified by the researcher based on theoretical grounds." Similarly, Pallant (2010: p.149) explained that "variables or set of variables are entered in steps (or blocks) being assessed in terms of what it adds to the prediction of the dependent variable after the previous variables have been controlled for, overall model is assessed

in terms of its ability to predict the dependent measure and also relative contribution of each block is assessed." In this framework of model generation, researcher shape some regression models by adding variables to a preceding model at each step and later model always includes the variables of smaller models of previous steps and hierarchical multiple regression is suitable when there are big number of probable independent variables and want to determine which variables have the most predictable power (David, 2017: p.1). Therefore, for this study, hierarchical multiple regression was employed to scrutinize the influence or effect of the independent variables on a single dependent variable: health policy implementation performance in primary care (see Table 4.10, 4.11, 4.12, 4.13 and 4.14).

3.10.4 Hypothesis Testing

The Business Dictionary (2018) contends that a "hypothesis is a supposition or explanation (theory) that is provisionally accepted in order to interpret certain events or phenomena and to provide guidance for future investigation and it also refers a statement of relationship between two or more variables." Resulting the responses from the survey questionnaires, the proposed hypothesises were tested. In this study for the hypothesis testing the Pearson correlation matrix (see Table 4.8), ANOVA (if F-calculate is greater than F-alpha, we can reject the null hypothesis significantly), and the p-value method (if the f p-value is less than alpha, we can reject the null hypothesis significantly) have been used (see Table 4.10, 4.11, 4.12, 4.13 and 4.14).

3.10.5 Goodness of Fit

Goodness of fit refers to how well the observed data correspond to the fit (assumed) model. Multiple R is the association coefficient for the simple regression. R^2 (coefficient of determination-The R-Square) is a statistical measure for how adjacent the observed data are to the assumed regression line. This value is the multivariate equivalent of the bivariate correlation coefficient. The R^2 answers the question, "of all of the reasons why the outcome variable can vary, what percent of those reasons can be accounted for by the predictor(s) variables." The greater is the value of the R-square the better is the fit of the model. Hence, the R-square is the most commonly-used measure of predictive accuracy for regression model and it represents the combined

effect of the entire variate in predicting the dependent variable. The regression output also produces an adjusted R^2 value. The clarification of this adjusted R^2 value is that if the researcher used this model on a new data set, this would be the quantity of variability accounted for in the new data set (see Table 4.10, 4.11, 4.12, 4.13 and 4.14). In hierarchical regression, as a statistical method of exploring the relationships among the variables, testing hypothesis about a dependent variable and several independent variables and researcher need to look at the change statistics the R^2 Change as it refers how much change in R square (explained variation) as compared to previous model. The investigator needs to look at the significant F change to be certain if this change is statistically significant or not. The goodness of fit can also be addressed by the standard error of the estimate as a measure of variation around the regression line, and it is also viewed as the standard deviation of the prediction error, and small or lower standard error has higher power in estimation (Hair, Black, Babin, and Anderson, 2010: p.209). The goodness of fit can also be explained by the ANOVA and F-ratio, which make available the statistical test for the model fit interim of the F-ratio, and a significant F-ratio designates that the observed R-squared is reliable and is not a counterfeit result of peculiarities in the data set. The larger is the F-value in the ANOVA, the better is the model fit (see Table 4.10, 4.11, 4.12, 4.13 and 4.14).

3.11 Ethics and Quantitative Data Analysis

According to Babbie (2013: p.266), "ethical considerations in research are critical as it is the norms or standard for conduct that distinguish between the right or wrong and the integrity, reliability and validity of research findings pivots on ethical principles." In quantitative research, it foils the fabrication or rigging of data so that it helps in the pursuit of knowledge and truth, which is the primary goal of research. Babbie (2013: p.267) also stated that "the protection of subject privacy, unbiased analysis and reporting are as important in quantitative as in qualitative and some believe that quantitative analysis is not susceptible to subjective biases and it has an obligation to report formal hypotheses and less formal expectations that didn't pan out." In this research study, all-out dynamism was given for maintaining ethical principles of quantitative data analysis in the aspect of social science research. The

data were collected from the respondents through postal and electronic mail survey as well as personal contact. The respondents were given assurance and guaranteed that the questionnaire and the data would be treated with high anonymity and confidentiality and would be used for this research and academic purposes only. With due respect, it has given guarantee of no harm to the participants. The respondents participated voluntarily in providing their opinions. Moreover, for this research, norms and values were maintained and there were no tools, techniques, or methodology selection bias. The regression models were appropriately stated, i.e. no specification bias or errors in the models. The research report was prepared with full concentration and honesty.

3.12 Chapter Summary

This third chapter presents the complete picture of the research methodology for this research study. Quantitative research methods were exclusively used for this study. First, a brief description of the research methods, the unit of analysis, and the population and target population were presented. In the subsequent section, the operational definitions of the dependent and independent variables, the indicators, the levels of measurement, the scale of the measurement construction, the survey questionnaire construction and the response rate, the system of the pre-test, content validity by the experts, the reliability and validity of the scale construction, the data collection approaches, the data management and statistical techniques, and the methods of the data analysis were presented. Finally, the ethical considerations for quantitative research methods and data analysis were explained for conducting the research study.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

The data for this analysis have been gathered and examined based on the indicators set against the dependent variable and independent variables. Based on the primary data, descriptive statistics, ANOVA, factor analysis, IOC for contend validity, Pearson correlation matrix, and hierarchical multiple regression were used to measure the indicators developed under the factors influencing health policy implementation performance in primary health care. The perception of Upazila Health and Family Planning Officers (UH&FPOs) of each influencing factor and their corresponding indicators and the perceived level of overall health policy implementation performance in primary health care have been measured using a six-point Likert scale. The correlation matrix was computed between the perceived level of health policy implementation performance in primary health care and the factors influencing the implementation performance in primary health care to see the significance and strength of the correlations. The influencing factors which have a highly significant strong correlation can be considered as better predictors of perceived level of health policy implementation performance in primary health care.

4.1 Univariate Analysis

The univariate statistics were analyzed for this study to determine the demographic characteristics of the respondents and the percentage of the perception of the respondents for each item of the dependent and independent variables. Table 4.1 presents the demographic statistics of the study. The demographic picture of the respondents shows that only 6.7% of the respondents were female and 93.3% were male of the total 240 respondents. There were 377 male and 26 female doctors working as UHF&POs. Although there were 28.53% (909) female and 71.46% (2277) male doctors working at the Upazila Health Complexes. This representation clearly indicates that

most of the managerial work is being doing by male doctors in health management at the sub-district level, though there were substantial numbers of female doctors working there. In view of the age structures of the respondents, 48.3% represented the group of 41-50, 28.3% was from the group of 30-40, and 22.9% represented the age group of 51-60. This demographic picture indicated that most of the respondents, the upazilla health and family planning officers (UH&FPOs), and the health administrators, were relatively young. Considering the geographic location of the 240 respondents, they represented all eight administrative divisions of the country, which contains all sixty-four administrative districts of Bangladesh (see Table 4.1). Flanked by the total of 240 respondents, 17.5% were from the Rajshahi division, followed by Khulna at 16.3%, Chittagong at 15.0%, Barisal at 11.7%, Dhaka at 11.3%, Sylhet at 10.8%, Rangpur at 9.2%, and the Mymensingh division at 8.3%. This locational participation of the respondents shows that almost equal participation was found regarding the number of Upazila Health Complex comprises in the small and large size of the administrative divisions.

Table 4.1 Demographic Statistics of the Respondents (N=240)

Items	Categories	Total (Percentage)
Sex	Female	16 (6.7)
	Male	224 (93.3)
Age Structure	Below 30	1 (.4)
	30-40	68 (28.3)
	41-50	116 (48.3)
	51-60	55 (22.9)
Division	Khulna	39 (16.3)
	Dhaka	27 (11.3)
	Mymensingh	20 (8.3)
	Rangpur	22 (9.2)
	Sylhet	26 (10.8)
	Chittagong	36 (15.0)
	Rajshahi	42 (17.5)
	Barisal	28 (11.7)

Source: Field Survey

4.1.1 The Descriptive Statistics of the Perceptions of the Respondents for Each Item

The unit percentage of the perception of the respondents for each item of the dependent and independent variables is presented (see Table 4.2 and 4.3). For measuring the dependent variable and the independent variables and their corresponding indicators, a six-point Likert scale questionnaire was constructed denoting the following: 6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low; this was done in order to obtain the perceived level of opinion of the factors affecting health policy implementation performance in primary health care in Bangladesh.

Table 4.2 reveals that the major portion of the respondents gave their perception between slightly high and a high level on the measurement scale. For example, regarding item number 60 of the dependent variable, "How do you rate the level of satisfaction for health policy implementation performance in primary health care?" 37.9% (91) and 23.3% (56) gave their perception as slightly high and at a high level of measurement respectively.

Similarly, Table 4.3 shows the perception level of the respondents of the items of the independent variables. The maximum of the perception level were agreed in between slightly low and slightly high as the mean score of all the independent variables above 3.1481 to 4.0783. For instance, about 76% of the respondents gave their perception between slightly high and a very high level on the item "The national health policy in primary care is clear" for the independent variable "clarity of goals and objectives (COGAO)." Hence, the level of perception represented by the mean scores was between 3.1481 and 4.0783 for the independent variables.

4.1.1.1 Dependent Variable

Table 4.2 Percentage of Perceived Opinions about Health Policy Implementation Performance in Primary Health Care in Bangladesh

Overall perceived opinion of health policy implementation performance in primary health care	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
How do you rate the level of satisfaction for health policy implementation performance in primary health care?	-	7.5 (18)	29.6 (71)	37.9 (91)	23.3 (56)	1.7 (4)	100 (240)
Rate the level of achievement of government health policy implementation in primary care.	-	2.5 (6)	18.8 (45)	46.3 (111)	29.2 (70)	3.3 (8)	100 (240)
How do you rate the equitability of health facilities in primary health care?	.4 (1)	7.5 (18)	24.2 (58)	40.4 (97)	24.2 (58)	3.3 (8)	100 (240)

Table 4.2 (Continued)

Overall perceived opinion of health policy implementation performance in primary health care	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
How do you rate the quality of services that you are providing to the recipients of primary health care?	-	2.5 (6)	22.1 (53)	40.4 (97)	30.8 (74)	4.2 (10)	100 (240)
How do you rate the access to the health facilities in your territory?	-	5.4 (13)	15.0 (36)	39.6 (95)	36.3 (87)	3.8 (9)	100 (240)
Rate the availability of health care services in primary health care facilities.	-	5.8 (14)	20.8 (50)	39.2 (94)	30.0 (72)	4.2 (10)	100 (240)
How do you rate the appropriateness of health interventions?	-	7.1 (17)	22.5 (54)	41.3 (99)	27.5 (66)	1.7 (4)	100 (240)
How do you rate the level of satisfaction of the service recipients?	-	5.8 (14)	27.9 (67)	35.0 (84)	27.9 (67)	3.3 (8)	100 (240)

4.1.1.2 Independent Variables

Table 4.3 Percentage of Perceived Opinions for The Factors Affecting Health Policy Implementation Performance in Primary Health Care in Bangladesh

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
Clarity of goals and objectives							
The national health policy in primary care is clear.	.8 (2)	4.6 (11)	18.3 (44)	30.4 (73)	35.0 (84)	10.8 (26)	100 (240)
What is your rating on clarity of health policy goals in primary care?	-	5.0 (12)	19.2 (46)	35.8 (86)	35.4 (85)	4.6 (11)	100 (240)
What is your rating on clarity of health policy objectives in primary care?	.4 (1)	3.8 (9)	16.3 (39)	40.8 (98)	34.2 (82)	4.6 (11)	100 (240)
How do you rate your staff has complete understanding of health policy goals?	.4 (1)	15.4 (37)	32.5 (78)	30.4 (73)	18.8 (45)	2.5 (6)	100 (240)
How do you rate your staff has complete understanding of health policy objectives?	.8 (2)	14.6 (35)	33.3 (80)	29.2 (70)	19.6 (47)	2.5 (6)	100 (240)
How do you rate the policy goals and objectives are relevant to people's health care need?	-	5.4 (13)	14.6 (35)	37.9 (91)	35.8 (86)	6.3 (15)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
How do you rate the appropriateness of strategies and interventions to achieve the policy goals and objectives?	-	7.9 (19)	20.4 (49)	40.4 (97)	27.9 (67)	3.3 (8)	100 (240)
Adequate budget and financial autonomy							
How do you rate the adequacy of budget you receive?	8.3 (20)	34.2 (82)	35.0 (84)	17.1 (41)	4.6 (11)	.8 (2)	100 (240)
what is the level of autonomy of financial power?	10.0 (24)	31.3 (75)	29.6 (71)	16.7 (40)	10.4 (25)	2.1 (5)	100 (240)
How do you rate the effectiveness of funds utilization?	3.3 (8)	11.3 (27)	25.8 (62)	32.5 (78)	20.4 (49)	6.3 (15)	99.6 (239)
What is the level of quality of financial management practices?	2.1 (5)	12.9 (31)	30.0 (72)	31.7 (76)	21.3 (51)	2.1 (5)	100 (240)
How do you rate the capabilities to ensure the quality of public procurement?	2.5 (6)	13.3 (32)	27.9 (67)	36.3 (87)	17.1 (41)	2.9 (7)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
How do you rate the adequacy of allocation of budget for procurement of medical supplies?	5.4 (13)	27.5 (66)	33.8 (81)	20.0 (48)	12.5 (30)	.4 (1)	99.6 (239)
How do you rate the adequacy of allocation of budget for procurement of administrative goods?	7.5 (18)	19.2 (46)	40.4 (97)	18.8 (45)	12.5 (30)	1.7 (4)	100 (240)
Resources (human, infrastructure and equipment)							
Rate the quality of hospital premise.	3.8 (9)	13.8 (33)	29.6 (71)	27.1 (65)	22.9 (55)	2.9 (7)	100 (240)
How do you rate quantity of infrastructure?	6.3 (15)	19.6 (47)	35.0 (84)	25.0 (60)	12.9 (31)	1.3 (3)	100 (240)
Rate the quality of medical equipment.	3.8 (9)	15.8 (38)	36.3 (87)	31.3 (75)	12.9 (31)	-	100 (240)
Rate the availability of medical equipment in your hospital.	5.4 (14)	18.8 (45)	40.0 (96)	25.0 (60)	9.6 (23)	.8 (2)	100 (240)
Rate the availability of medical personnel in your hospital.	16.7 (40)	32.1 (77)	30.8 (74)	9.2 (22)	10.4 (25)	.8 (2)	100 (240)
Rate the level of skilled health personal available.	6.7 (16)	27.5 (66)	30.8 (74)	24.6 (59)	9.6 (23)	.8 (2)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
Rate the level of experienced health personal available.	6.3 (15)	28.7 (69)	30.4 (73)	23.8 (57)	9.6 (23)	1.3 (3)	100 (240)
How do you rate the level of skilled support staff available?	5.0 (12)	28.7 (69)	36.7 (88)	20.4 (49)	7.5 (18)	1.7 (4)	100 (240)
How do you rate the level of experienced support staff available?	5.8 (14)	25.8 (62)	40.0 (96)	18.8 (45)	8.8 (21)	.8 (2)	100 (240)
How do you rate the level of staff training for implementation of health policy in primary care?	2.1 (5)	21.7 (52)	37.5 (90)	26.7 (64)	11.3 (27)	.8 (2)	100 (240)
Coordination							
Rate the level of coordination with the other programs and agencies.	2.9 (7)	7.9 (19)	27.9 (67)	28.7 (69)	26.3 (63)	6.3 (15)	100 (240)
Rate the effectiveness of cooperation and coordination between health and family Planning.	3.3 (8)	10.0 (24)	26.3 (63)	30.8 (74)	27.1 (65)	2.5 (6)	100 (240)
How do you rate interdepartmental implementation effectiveness?	1.7 (4)	10.4 (25)	20.4 (49)	42.9 (103)	22.5 (54)	2.1 (5)	100 (240)
How do you rate the coordination with other government organizations?	1.7 (4)	6.7 (16)	29.2 (70)	32.9 (79)	25.0 (60)	4. 6(11)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
Rate the level of sharing knowledge and experiences with other sub-districts?	2.9 (7)	15.4 (37)	28.8 (62)	32.5 (78)	21.3 (51)	2.1 (5)	100 (240)
How do you rate the knowledge and experiences sharing among yourselves?	.4 (1)	4.2 (10)	20.0 (48)	40.0 (96)	32.1 (77)	3.3 (8)	100 (240)
Rate the supremacy of your team to coordination and leadership with other departments in the upazila.	1.3 (3)	7.1 (17)	23.3 (56)	35.8 (86)	27.1 (65)	5.4 (13)	100 (240)
Management dynamics							
What is your rating about management of the health facility in primary care?	.4 (1)	3.3 (8)	21.3 (51)	36.7 (88)	33.8 (81)	4.6 (11)	100 (240)
How do you rate the service provider coordinate among yourselves?	.4 (1)	4.2 (10)	18.8 (45)	40.4 (97)	32.5 (78)	3.8 (9)	100 (240)
What is the level of ICT use for patient management?	9.6 (23)	22.5 (54)	27.1 (65)	27.1 (65)	12.1 (29)	1.7 (4)	100 (240)
Rate your facility for making aware the mass people for disease prevention and well-being.	1.7 (4)	10.4 (25)	24.6 (59)	27.9 (67)	30.8 (74)	4.6 (11)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
Rate the level of ICT use for dissemination of health-related information for unbounded services.	2.5 (6)	18.3 (44)	32.9 (79)	25.4 (61)	18.3 (44)	2.5 (6)	100 (240)
Rate the facility serving the right target people as per the policy content?	.4 (1)	5.4 (13)	27.9 (67)	34.2 (82)	29.6 (71)	2.5 (6)	100 (240)
Rate the level of innovation for better services and management.	2.9 (7)	13.8 (33)	33.3 (80)	28.7 (69)	19.2 (46)	2.1 (5)	100 (240)
Rate the level of capacity to ensure primary health care services.	-	6.7 (16)	28.3 (68)	35.8 (86)	26.3 (63)	2.9 (7)	100 (240)
Rate the level of competency to ensure successful implementation of health policy in primary care.	-	6.3 (15)	20.4 (49)	39.2 (94)	31.3 (75)	2.9 (7)	100 (240)
Implementers' disposition							
How do you rate the members of the implementation squad understand personal roles and responsibilities?	.8 (2)	7.9 (19)	26.7 (64)	36.3 (87)	24.2 (58)	4.2 (10)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
How do you measure the members of the implementation squad serves as per work responsibility?	.8 (2)	7.5 (18)	30.4 (73)	36.7 (88)	22.9 (55)	1.7 (4)	100 (240)
How do you rate the provider's attitudes and interactions with other colleagues?	.4 (1)	6.7 (16)	19.2 (46)	43.8 (105)	27.5 (66)	2.5 (6)	100 (240)
How do you rate the implementation team's respects to the rules and procedures?	.8 (2)	7.6 (19)	19.6 (47)	36.7 (88)	29.6 (71)	5.4 (13)	100 (240)
How do you rate your team's dedication to implementation of health policy in primary care?	1.3 (3)	5.0 (12)	19.2 (46)	33.8 (81)	35.4 (85)	5.4 (13)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
How do you rate the commitment of health personnel to implement health policy in primary care?	.8 (2)	5.0 (12)	18.3 (44)	37.5 (90)	33.3 (80)	5.0 (12)	100 (240)
Rate the level of attitude of service providers with the recipients.	.8 (2)	6.3 (15)	20.0 (48)	40.0 (96)	29.2 (70)	3.8 (9)	100 (240)
Rate the level of disciplines of your team.	.4 (1)	1.7 (4)	15.4 (37)	35.0 (84)	39.6 (95)	7.9 (19)	100 (240)
Rate the extent you rely on the implementation team.	-	2.5 (6)	13.8 (33)	39.2 (94)	39.2 (94)	5.4 (13)	100 (240)
Micro level support from local stakeholders							
Rate the level of adequate support received from local government at sub-district level.	7.1 (17)	26.7 (64)	28.3 (68)	21.7 (52)	15.8 (38)	.4 (1)	100 (240)

Table 4.3 (Continued)

Independent Variables	Very Low (1)	Low (2)	Slightly Low (3)	Slightly High (4)	High (5)	Very High (6)	Total
Rate the level of appropriate support received from local government at union level.	10.4 (25)	29.2 (70)	24.6 (59)	23.8 (57)	11.7 (28)	.4 (1)	100 (240)
Rate the satisfactory support received from local administration for implementation of primary health care.	4.2 (10)	18.8 (45)	22.9 (55)	30.4 (73)	21.7 (52)	2.1 (5)	100 (240)
Rate the level of reasonable support received from private sectors.	10.4 (25)	22.1 (53)	31.3 (75)	24.6 (59)	10.8 (26)	.4 (1)	99.6 (239)
How do you rate the level of support received from civil society?	10.0 (24)	23.8 (57)	28.3 (68)	27.1 (65)	10.0 (24)	.8 (2)	100 (240)
What is the level of support from NGO's?	3.8 (9)	13.3 (32)	21.7 (52)	34.6 (83)	22.1 (53)	4.2 (10)	99.6 (239)
How do you rate the rational support from local community leader?	5.4 (13)	21.7 (52)	27.9 (67)	28.7 (69)	14.6 (35)	1.7 (4)	100 (240)

Source: Field Survey

4.2 Descriptive Statistical Analysis of the Dependent Variable and Independent Variables

The underlying objectives of the study were to find out the factors affecting health policy implementation performance in primary health care at the sub-district level health facilities in Bangladesh, and health policy implementation performance in primary health care was the single dependent variable for this study. As found earlier in the literature, health policy implementation performance can be measured with the perception of the respondents the Upazilla Health and Family Planning Officers (UH&FPOs) in the view point using the policy implementation performance evaluation criteria of equity, quality of primary health services, access to health care, availability, and appropriateness and satisfaction. In order to measure health policy implementation performance, the criteria of equity, quality of services, accessibility, availability of services, and appropriateness and satisfaction were used to ask the respondents (UH&FPOs) their perceived opinions regarding policy implementation performance in primary health care in Bangladesh. For measuring the dependent variable and its corresponding indicators, a six-point Likert scale questionnaire was constructed denoting 6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low in order to obtain the perceived level of opinion regarding the implementation performance of health policy in primary health care in Bangladesh.

Table 4.4 shows the descriptive statistics for the dependent variable, where the respondents gave their opinion on the high performance of the health policy implementation performance with a mean score of the variable at 4.0190 and standard deviation of the dependent variable was .68844. Table 4.4 also shows the minimum, maximum, Skewness and Kurtosis scores for the variable.

Similarly, Table 4.5 shows the descriptive statistics for the seven independent variables for the study. In order to obtain the perceived opinions of the respondents (UH&FPOs) concerning their understanding of health policy implementation performance in primary health care in Bangladesh for each of the independent variables and their corresponding indicators, a six-point Likert scale questionnaire was constructed using 6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low). The respondents gave their perceived opinions regarding their high

understanding of the independent variables ‘clarity of goals and objectives (COGAO)’ and ‘implementers’ disposition (ID)’ with a mean score of 4.0145 and 4.0783 respectively (see Table 4.5). For the rest of the independent variables, the respondents gave their opinions on the factors affecting the implementation performance just slightly high with mean scores of above 3.00 to below 4.00 (see Table 4.5). The standard deviations of all seven-independent variables were found to be low. Furthermore, the Skewness and Kurtosis of the descriptive statistical analysis of the dependent and independent variables were found within the array of plus one to minus one, which established the assumption of normal distribution of data for hierarchical multiple regression analysis (see Table 4.5).

Table 4.4 Descriptive Statistics of the Dependent Variables (N=240)

Dependent Variable	Min.	Max.	Mean	SD.	Skewness		Kurtosis	
Overall perceived opinion of health policy implementation performance in primary health care (HPIPPHC)	2.00	5.75	4.0190	.68844	-.127	.158	-.168	.315

Table 4.5 Descriptive Statistics of the Independent Variables (N=240)

Independent Variables	Min.	Max	Mean	SD.	Skewness		Kurtosis	
Clarity of goals and objectives (COGAO)	1.71	5.71	4.0145	.71885	-.352	.158	-.054	.315
Adequate budget and financial autonomy (ABFA)	1.29	5.86	3.2833	.86177	.183	.158	-.113	.315
Resources (human, infrastructure and equipment) (REHI)	1.40	5.20	3.1481	.76405	.263	.158	-.248	.315
Coordination (COORD)	1.71	6.00	3.8602	.79108	-.187	.158	-.220	.315
Management dynamics (MD)	1.89	5.56	3.8106	.73977	-.143	.158	-.296	.315
Implementers’ disposition (ID)	1.44	5.89	4.0783	.76453	-.513	.158	. 137	.315
Micro level support from local stakeholders (MLSLS)	1.00	5.57	3.2586	.96678	-.054	.158	-.625	.315

4.3 Data Management and Checking the Assumptions of Hierarchical Multiple Regression

4.3.1 Test of Normality

The normality of data distribution is the fundamental assumption of multiple regression analysis. For this study, the univariate normality was scrutinized through normal curve overlay, skewness, and kurtosis of the distribution, and the multivariate normality was inspected through Normal-PP plot, histogram, Kolmogorov-Smirnov, and scatterplot of the regression residuals. Table 4.4 and 4.5 shows the descriptive statistics for both the dependent and independent variables, where the data were found to be normally distributed, which ensured by the skewness and kurtosis statistics within the traditional normal limit of plus one to minus one and represented by normal curve suggested by Meyers, Gamst, and Guarino (2013: p.64) (see Figure 4.2). The skewness and kurtosis statistics for all variables were found close to 0 as 0 indicates perfect normality of the data distribution. In addition, the multivariate normality of the data was found to be normal using the Normal-PP plot, histogram, and scatterplot of the regression residuals (see Figure 4.1). The reasonably straight line Normal-PP plot confirmed that there was no major violation of the normality assumption.

Beyond the general checking by the histogram, normal curve overlay, skewness and kurtosis, Normal Probability Plot (P-P), histogram and scatterplot of the regression residuals, the data were examined using the Kolmogorov-Smirnov test of normality (see Table 4.6). The test statistics should be non-significant to be normally distribution of data that means the significant value should be more than 0.05.

Table 4.6 shows the normality test of the study, and it was found that two variables were normally distributed as shown by the significant value greater than 0.05 and for the other six variables the significant value was less than 0.05 using the Kolmogorov-Smirnov test, which rejected the null hypothesis of the normal distribution. This result show a relatively opposite picture of normality test the through histogram, normal curve overlay, skewness and kurtosis, Normal Probability Plot (P-P), and the histogram and scatterplot of the regression residuals. Thus, the Kolmogorov-Smirnov test results suggested the violation of the basic assumption of linear regression for normal distribution of the data. For this violation of the assumption of normality,

Pallant (2010: p.63) contends that “for lager samples this is quite common to meet the assumption of normality.” Pallant (2010: p.57) also refers to Tabachnick and Fidel (2007: p.80), staging that “with a reasonably larger sample of 200 plus the risk is reduced and relaxed as normal distribution.” For the current study, the total number of samples was 240, which was more than 200 samples, which confirmed more than the suggested level of samples if violation of the assumption of normality. Furthermore, Bhuiyan (2017: p.122) quoting Field (2009: p.139, p.144 and p. 147) contends that “even though a slight violation of normality, it is likely to attain significant result if the sample is barely large.” Field (2009: p.139) also suggested to see the value of skewness and kurtosis instead of calculating only significance. For this study, the skewness and kurtosis results for all variables were found within the normal limit of plus one to minus one (see Table 4.4 and 4.5).

Table 4.6 Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
COGAO	.094	237	.000	.984	237	.010
ABFA	.054	237	.086	.992	237	.221
REHI	.071	237	.005	.988	237	.055
COORD	.065	237	.018	.988	237	.044
MD	.074	237	.003	.993	237	.301
ID	.096	237	.000	.979	237	.001
MLSLS	.066	237	.014	.989	237	.064
HPIPPHC	.055	237	.076	.993	237	.285

a. Lilliefors Significance Correction

Histogram, Normal P-P Plot, Regression Residual and Scatterplot of Regression Standardized Residual

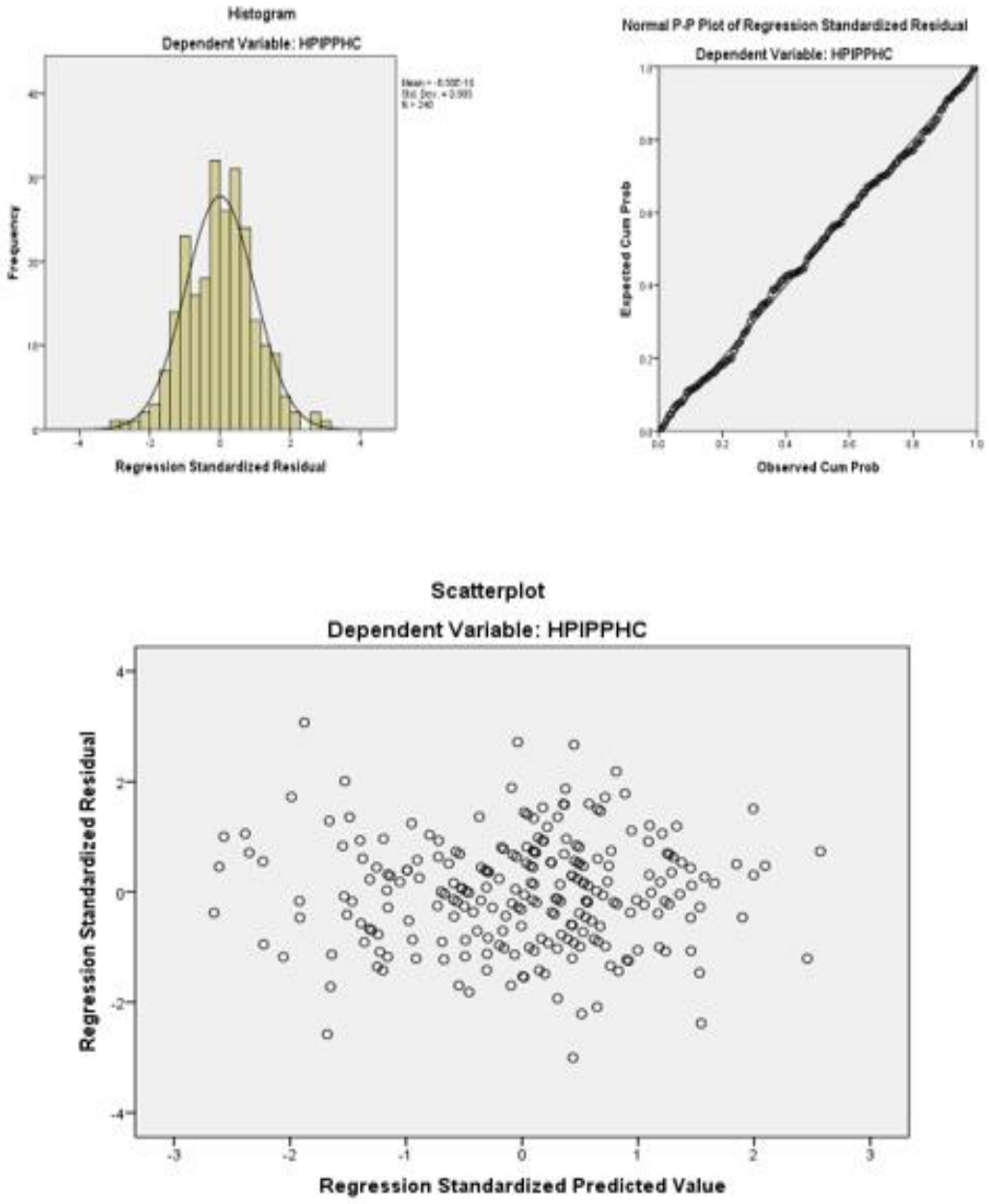

Figure 4.1 The Histogram, Normal PP-Plot and Scatter Plot of the Regression Standardized Residual, Dependent Variable HPIPPHC

The Test of Normal PP-Plot of the Dependent and Independent Variables

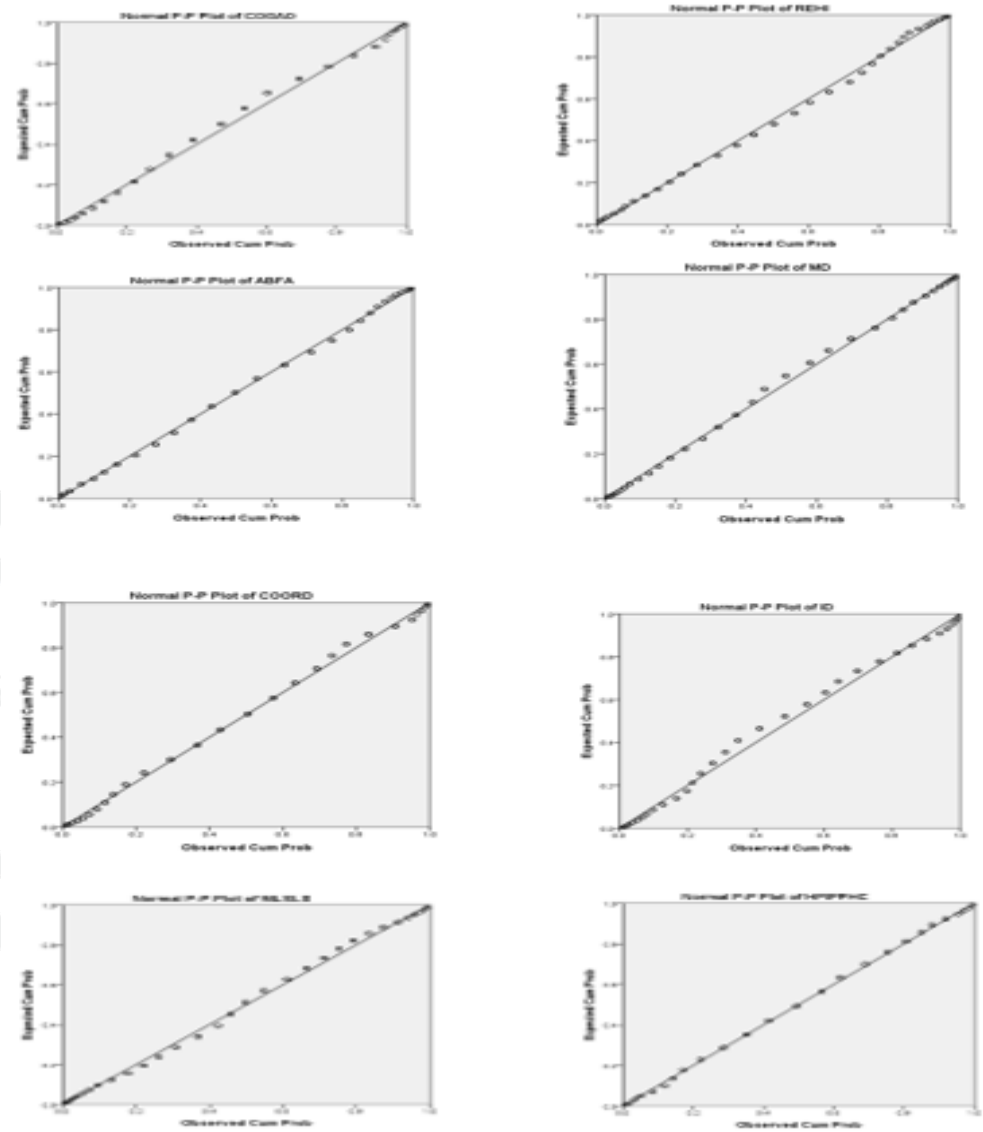

Figure 4.2 The Test of Normal PP-Plot of the Dependent and Independent Variables

4.3.2 Test of Linearity

For the linearity test, the scatter plot of the dependent and independent variables was checked before the correlation analysis and a cigar shape was found, as suggested by Pallant (2010: pp.129-131). Figure 4.3 confirms the linearity of the relationships of variables whether positive or negative. Figure 4.3 shows the cigar shape of the scatterplot that confirmed the positive linear relationship of the dependent and independent variables. Moreover, the Pearson correlations confirmed the positive

correlations among the variables (see Table 4.8). The histogram for normal distribution and the scatter plot of the regression residuals and the regression predicted values were also checked and linear relationships of the variables were confirmed (see Figure 4.1).

The Simple Scatter Plot of the Variables for Linearity, Dependent Variable HPIPPHC

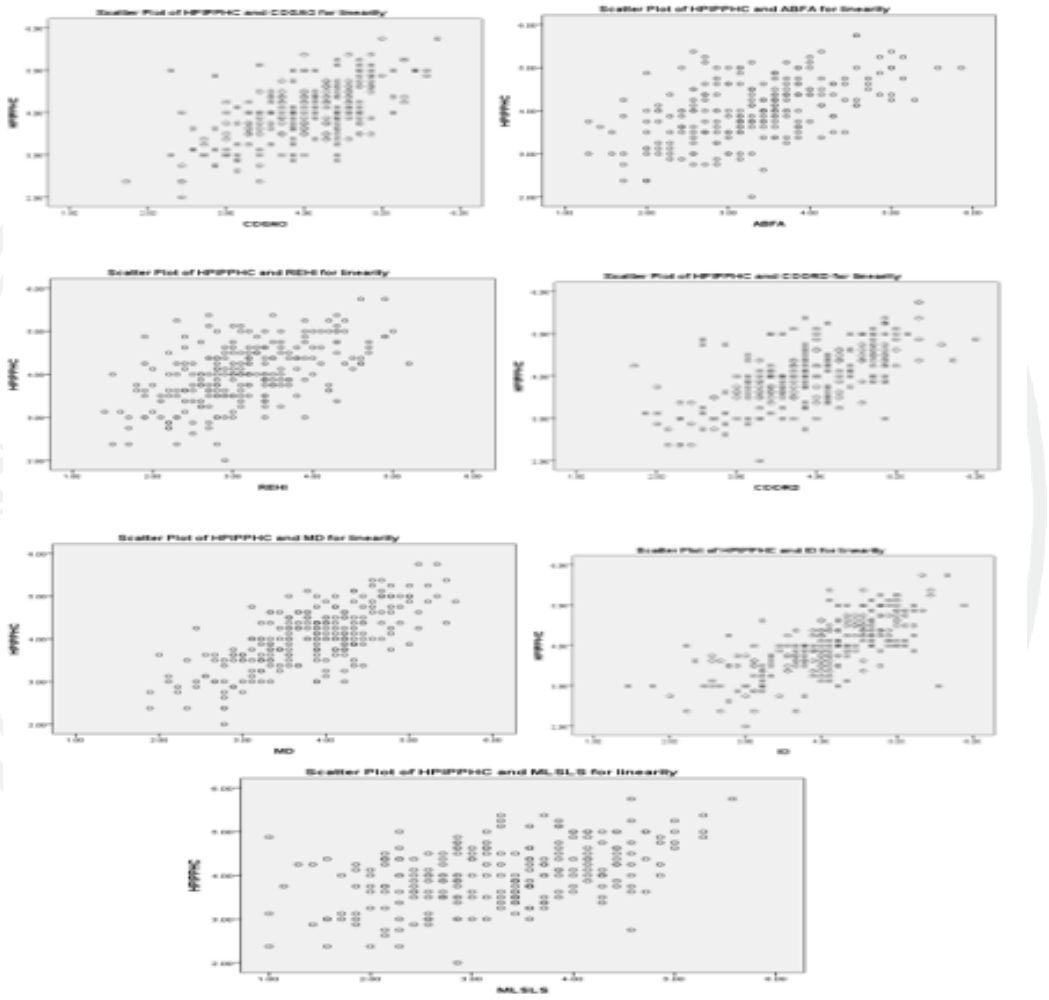

Figure 4.3 The Simple Scatter Plot of the Variables for Linearity, Dependent Variable HPIPPHC

4.3.3 Test of Multicollinearity

For this study, the data was checked for the multicollinearity of the independent variables that the correlation between each independent variable is not too high through using Pearson correlation coefficients, tolerance values and VIF. Most researchers suggest that a Pearson correlation coefficient greater than .80 would create a problem

of multicollinearity. Pallant (2010: p.158) stated that “multicollinearity exists when the independent variables are bivariate correlated with one another with correlation coefficient or r value of .70 or above.” Table 4.8 presents the correlation matrix, which confirmed there was no correlation coefficient above .70. Similarly, the tolerance values and VIF statistics were checked regarding multicollinearity in the regression coefficient (see Table 4.10, 4.11, 4.12, and 4.13). The results of the tolerance values confirmed that all of the tolerance values were above .10 the cut-off threshold value for defining the absence of multicollinearity. Moreover, the results of the VIF values established that all of the VIF values were below 10 the cut-off edge for settling the absence of multicollinearity assumption of the multiple regression. Hence, for this study, the results were found no violation of the assumption of multicollinearity as checked by the Pearson correlation coefficients, tolerance values, and VIF.

4.3.4 Test of Homoscedasticity

Homoscedasticity is the variability of the dependent variable about same over all levels of independent variables. The scatterplot and residual plot are a good way to check for bivariate homoscedasticity and multivariate homoscedasticity (that is, the error term along the regression line are equal for all observations) respectively. For this study the scatter plot, descriptive statistics, and ANOVA for testing equal variance (Levene’s test) were used for examining the assumption of homoscedasticity. Figures 4.3 and 4.1 disclose the scatterplot and scatter plot of the regression residuals which says that the fairly cigar shape of scatterplots established the homoscedasticity assumption of multiple regression. Likewise, the test of homogeneity of variance using ANOVA for the testing of equal variance (Levene’s test) for homoscedasticity indicated that all the variables are homoscedastic or the error term along the regression line were equal for all observations, as confirmed by the Levene Statistics insignificant for all variables (see Table 4.7). We cannot reject the null hypothesis as all significant values were greater than .05. Therefore, the test of homogeneity of variance using ANOVA for testing the equal variance (Levene’s test) confirmed the non-violation of the homoscedasticity assumption.

Table 4.7 Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
COGAO	Based on Mean	.087	1	235	.769
	Based on Median	.319	1	235	.573
	Based on Median and with adjusted df	.319	1	234.688	.573
	Based on trimmed mean	.163	1	235	.687
ABFA	Based on Mean	.160	1	235	.690
	Based on Median	.181	1	235	.671
	Based on Median and with adjusted df	.181	1	233.685	.671
	Based on trimmed mean	.170	1	235	.681
REHI	Based on Mean	.019	1	235	.890
	Based on Median	.022	1	235	.882
	Based on Median and with adjusted df	.022	1	234.923	.882
	Based on trimmed mean	.024	1	235	.877
COORD	Based on Mean	.081	1	235	.776
	Based on Median	.300	1	235	.585
	Based on Median and with adjusted df	.300	1	234.615	.585
	Based on trimmed mean	.069	1	235	.794
MD	Based on Mean	1.015	1	235	.315
	Based on Median	1.008	1	235	.316
	Based on Median and with adjusted df	1.008	1	233.384	.316
	Based on trimmed mean	1.059	1	235	.304
ID	Based on Mean	2.695	1	235	.102
	Based on Median	2.758	1	235	.098
	Based on Median and with adjusted df	2.758	1	232.001	.098
	Based on trimmed mean	2.568	1	235	.110
MLSLS	Based on Mean	1.111	1	235	.293
	Based on Median	1.417	1	235	.235
	Based on Median and with adjusted df	1.417	1	234.997	.235
	Based on trimmed mean	1.237	1	235	.267
HPIPPHC	Based on Mean	.001	1	235	.982
	Based on Median	.003	1	235	.960
	Based on Median and with adjusted df	.003	1	234.997	.960
	Based on trimmed mean	.000	1	235	.993

4.3.5 Test of Independence of Error

The independence of error or no auto correlation can be checked through Durbin-Watson statistics. The Durbin-Watson contains values from zero to four, where zero refers to a perfect positive correlation and four denotes a perfect negative correlation,

and two refers to no serial correlation. The Durbin Watson statistics that are greater than one and less than three confirmed no auto correlation or non-violation of the independence of the error assumption of the multiple regression. In this study, Tables 4.10, 4.11, 4.12 and 4.13 show the Durbin-Watson statistics=1.729, which determined the assumption of the non-violation of the independence of error or non-violation of the lack of auto correlation.

4.3.6 Checking the Outliers

For this study, outliers for the data set were checked and very few outliers using box plots were found. The outliers did not have an effect on the results of the assumptions or regression. From the scatterplot of the standardized regression residual, outliers can also be checked. Pallant (2010: p.159), referring to Tabachnick and Fidell (2007: p.125), contends that "outliers as cases that have a standardized residual as displayed in the scatterplot of more than 3.3 or less than -3.3." Pallant (2010: p.159) also says that "it is common for large samples and if it is only a few, no need to remove from the samples." Figure 4.1 shows the scatterplot of the standardized regression residual and it looks like all of the cases were within the limit of 3.3 or less than -3.3.

4.4 Bivariate Analysis

According to Babbie (2013: p.430), "bivariate analysis refers to the analysis of two variables simultaneously for purpose of construction of a simple percentage table or the computation of a simple correlation coefficient for determining the empirical relationship between them are examples of bivariate analysis." This study has examined the bivariate relationship between the variables by using Pearson's correlation analysis.

4.4.1 Correlation Analysis

According to Pallant (2010: p.128) "correlation coefficient is used analyse the strength and direction of the linear relationship between variables." This can be found out in many ways based on data and measurement level, i.e. simple bivariate and the association among groups of variables regulating others. The correlation coefficient ranges from -1.00 to +1.00, which indicates the strength of the relationship between the

two variables. Pallant (2010: p.134) refers quoting Cohen's (1988: pp.79-81) as guidelines as follows that “reflects small r=.10 to .29, medium r=.30 to .49 and large r=.50 to 1.00 and 0 indicates no correlation.” For this study the Pearson correlation coefficient with 1-tailed were calculated for exploring the association between two variables for a single direction and the strength of the relationships. The dependent and independent variables of the study were as follows for a better understanding of the abbreviations.

HPIPPHC= Health Policy Implementation Performance in Primary Health Care
COGAO= Clarity of Goals and Objectives
ABFA= Adequate Budget and Financial Autonomy
REHI= Resources (Equipment, Human Resources, Infrastructure)
COORD= Coordination
MD= Management Dynamics
ID= Implementer’s Disposition
MLSLS= Micro Level Support from Local Stakeholders

Table 4.8 represents the correlation matrix of the dependent and independent variables for this study. Table 4.8 also shows that all of the correlation coefficients cascading under the range of .38 to .69 that characterized medium to strong positive correlation among the group of variables with 1-tailed single directional at the $p<0.01$ level of significance. As such the relationship between the health policy implementation performance in primary health care (HPIPPHC) and the clarity of goals and objectives (COGAO) was examined using Pearson correlation coefficients. Before running the Pearson correlations, initial investigations were done to confirm non-violation of the assumption of multiple regression analysis. The results show that there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and the clarity of goals and objectives (COGAO), $r = .606$. $N=237$, at the $p<0.01$ level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of clarity of goals and objectives. Likewise, the correlation matrix shows that COGAO has a strong positive relationship with ABFA, $r = .517$, $N=237$, $p<0.01$, and it has also

a strong positive relationship with MD, r =.534, N=237, p<0.01 and medium strong relationships with REHI, COORD, ID, and MLSLS with r =.382, r=.492, r=.475 and r=472 at the p<0.01 level of significance.

Similarly, the relationship between health policy implementation performance in primary health care (HPIPPHC) and adequate budget and financial autonomy (ABFA) was examined using Pearson correlation coefficients. The result exhibited there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and adequate budget and financial autonomy (ABFA), r =.522, N=237, at the p<0.01 level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of adequate budget and financial autonomy.

Equally, the relationship between health policy implementation performance in primary health care (HPIPPHC) and resources (equipment, human resources, infrastructure) (REHI) was examined using Pearson correlation coefficients. The results show there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and resources (equipment, human resources, infrastructure) (REHI), r =.519, N=237, at the p<0.01 level of significance, with high level of health policy implementation performance in primary health care associated with higher level of the resources (Equipment, Human Resources, Infrastructure) (REHI).

Correspondingly, the relationship between the health policy implementation performance in primary health care (HPIPPHC) and coordination (COORD) was examined using Pearson correlation coefficients. The results confirm there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and coordination (COORD), r =.622, N=237, at the p<0.01 level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of coordination.

Consistently, the relationship between health policy implementation performance in primary health care and management dynamics (MD) was examined using Pearson correlation coefficients. The results indicate that there a was strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and management dynamics (MD), r =.694, N=237, at the

$p<0.01$ level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of the management dynamics.

In the same way, the relationship between health policy implementation performance in primary health care and the implementer's disposition (ID) was examined using Pearson correlation coefficients. The results indicate that there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and the implementer's disposition (ID), $r = .695$, $N=237$, at the $p<0.01$ level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of the implementer's disposition (ID).

Additionally, the relationship between health policy implementation performance in primary health care (HPIPPHC) and the micro level support from local stakeholders (MLSLS) was examined using Pearson correlation coefficients. The results show that there was a medium positive correlation between health policy implementation performance in primary health care (HPIPPHC) and the micro level support from local stakeholders (MLSLS), $r = .460$, $N=237$, at the $p<0.01$ level of significance, with a high level of health policy implementation performance in primary health care associated with a medium level of micro level support from local stakeholders (MLSLS). To conclude, it can be stated that the Pearson correlation coefficients demonstrated that there was no multicollinearity among the variables as no correlation coefficient was found above .70, and there were medium to high strongly-significant relationships among the variables.

Table 4.8 Correlation Matrix of Dependent and Independent Variables

Variables	COGAO	ABFA	REHI	COORD	MD	ID	MLSLS	HPIPPHC
COGAO	1	.517**	.382**	.492**	.534**	.475**	.472**	.606**
Sig.(1-tailed)		.000	.000	.000	.000	.000	.000	.000
ABFA		1	.613**	.567**	.550**	.479**	.449**	.522**
Sig.(1-tailed)			.000	.000	.000	.000	.000	.000
REHI			1	.640**	.611**	.440**	.490**	.519**
Sig.(1-tailed)				.000	.000	.000	.000	.000
COORD				1	.640**	.564**	.477**	.622**
Sig.(1-tailed)					.000	.000	.000	.000
MD					1	.699**	.547**	.694**
Sig.(1-tailed)						.000	.000	.000
ID						1	.394**	.695**
Sig.(1-tailed)							.000	.000
MLSLS							1	.460**
Sig.(1-tailed)								.000
HPIPPHC	.606**	.522**	.519**	.622**	.694**	.695**	.460**	1
Sig.(1-tailed)	.000	.000	.000	.000	.000	.000	.000	

Pearson **Correlation is significant at the 0.01 level (1-tailed), List wise N=237

4.5 Hypothesises Testing for the Study

A hypothesis is a presumption or clarification of a theory that is temporarily accepted to interpret certain actions or phenomena and to offer direction for future examination, and it also makes a statement of association between two or more variables. According to the results of the responses from the survey questionnaires, the

proposed hypotheses were tested. In this study, for the hypothesis testing the Pearson correlation matrix, ANOVA (if F-calculate is greater than F-alpha, we can reject the null hypothesis significantly) and the p-value method of hierarchical multiple regression analysis (If p-value is less than alpha), we can reject the null hypothesis significantly were used.

First Hypothesis: The clearer the goals and objectives, the greater is the possibility of successful implementation of policy regarding primary health care in Bangladesh.

From the first hypothesis stated above, it needs to discuss with the result of Pearson correlation coefficient, ANOVA and p-value methods of regression standardized coefficient Beta to test the hypothesis to be confirmed. Table 4.8 shows the Pearson correlation matrix for the dependent and independent variables and reveals that the relationship between the health policy implementation performance in primary health care (HPIPPHC) and the clarity of goals and objectives (COGAO) was examined. A strong positive correlation was found between health policy implementation performance in primary health care (HPIPPHC) and the clarity of goals and objectives (COGAO), r =.606 and N=237, at the $p<0.01$ level of significance, with high level of health policy implementation performance in primary health care associated with a higher level of clarity of goals and objectives.

Similarly, Table 4.14 shows the regression standardized coefficient Beta demonstrates that there was a significant positive relationship between HPIPPHC and COGAO, with β=.238 at the 0.01 level of significance. Likewise, from the ANOVA table (see Appendix C) displays that F-calculate F=60.630 was greater than F-alpha at the 0.01 level of significance. With these three test statistics it can be concluded that clearer goals and objectives of a policy have a significant positive relationship with policy implementation performance in primary health care in Bangladesh. These confirmations of hypothesis satisfied by the scholars who studied previously in different content and context such as Van Meter and Van Horn (1975), Matland (1995), Berman (1978), Edwards (1980), Martin Rein (1983), Nakamura and Smallwood (1980), Pressman and Wildavsky (1973), Palumbo, D.,and Harder (1981), and Sabatier and Mazmanian (1980). Therefore, the clarity of policy goals and objectives was seen to

have a significant positive effect on policy implementation performance. Hence, from the analysis, the first hypothesis was fulfilled and fully accepted.

Second Hypothesis: An adequate budget and effective utilization and autonomy of financial power create the opportunity for the implementation success of primary health care in Bangladesh.

Table 4.8 displays the Pearson correlation coefficient, which validates the relationship between health policy implementation performance in primary health care (HPIPPHC) and adequate budget and financial autonomy (ABFA). A strong positive correlation was found between health policy implementation performance in primary health care (HPIPPHC) and adequate budget and financial autonomy (ABFA), r =.522 and N=237, at the $p<0.01$ level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of the adequate budget and financial autonomy. Likewise, from the ANOVA table (see Appendix C) it was found that the F-calculate F=60.630 was greater than F-alpha at the 0.01 level of significance.

On the other hand, Table 4.14 shows the regression standardized coefficient Beta demonstrates that there was a slightly positive relationship between HPIPPHC and ABFA with β=.019 at the 0.728 level of significance but not significant. With these three test statistics it can be concluded that the adequate budget and financial autonomy had a positive relationship with policy implementation performance in primary health care, but it was not significant for Bangladesh. But the hypothesis satisfied by the scholars who studied previously in different content and context such as; Van Meter and Van Horn (1975), Edwards (1980), Voradej Chandarasorn (2005), and Sabatier and Mazmanian (1980). Hence, from the analysis, the second hypothesis was not satisfied and was not fully accepted. Even though it was not statistically significant, it was expected that an adequate budget and financial autonomy have a positive effect on the successful implementation of health policy in Bangladesh.

Third Hypothesis: The more adequate is the level of equipment, human health resources, and infrastructure, the greater is the possibility of policy implementation success in primary health care in Bangladesh.

Table 4.8 displays the Pearson correlation coefficient, which authenticates the relationship between health policy implementation performance in primary health care

(HPIPPHC) and resources (equipment, human resources, infrastructure) (REHI). The results show there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and resources (Equipment, Human Resources, Infrastructure) (REHI), r =.519 and N=237, at the p<0.01 level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of resources (Equipment, Human Resources, Infrastructure) (REHI). Likewise, from the ANOVA table (see Appendix C) it was found that the F-calculate F=60.630 was greater than the F-alpha at the 0.01 level of significance.

On the other hand, Table 4.14 presents the regression standardized coefficient Beta demonstrates that there was a slightly positive relationship between HPIPPHC and (REHI) with β=.056 at the 0.346 level of significance, but it was not significant. With these three test statistics it can be determined that resources (equipment, human resources, infrastructure) (REHI) have a slightly positive relationship with policy implementation performance in primary health care, but not statistically significant, for Bangladesh. But the hypothesis contented by the scholars who studied previously in different content and context as such; Berman (1978), Lipsky (1980), (P. Sabatier and Mazmanian, 1980), Dussault and Dubois (2003), Kress, Su, and Wang (2016), Lassi et al. (2016), Edwards (1980), and Voradej Chandarasorn (2005)(P. Sabatier & Mazmanian, 1980)(P. Sabatier & Mazmanian, 1980)(P. Sabatier & Mazmanian, 1980). Hence, from the investigation, the third hypothesis was not satisfied and was not fully accepted. Although it was not statistically significant, it was assumed that enough equipment, qualified health human resources, and proper infrastructure have a positive effect on the successful implementation of health policy in Bangladesh.

Fourth Hypothesis: The greater is the interorganizational cooperation and coordination, the greater is the chance of successful implementation of health policy in primary health care.

Table 4.8 shows the Pearson correlation coefficient, which validates the relationship between health policy implementation performance in primary health care (HPIPPHC) and coordination (COORD). The results confirm there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and coordination (COORD), r =.622 and N=237, at the p<0.01

level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of the coordination (COORD).

Likewise, Table 4.14 depicts the regression standardized coefficient Beta demonstrates that there was a significant positive relationship between HPIPPHC and COORD with β=.142* at the 0.05 level of significance. Equally, the ANOVA table (see Appendix C) displays that the F-calculate F=60.630 was greater than the F-alpha at 0.01 level of significance. With these three test statistics it can be concluded that coordination has a significant positive relationship with policy implementation performance in primary health care in Bangladesh. These confirmations of hypothesis satisfied by the scholars who studied previously in different content and context as such; Pressman and Wildavsky (1973), Laurence et al. (1984), Brinkerhoff and Brinkerhoff (2002), Peterlin (2012), Peters (1998), Edward T. Jennings and Ewalt (1998), Bryson, Crosby, and Middleton Stone (2006), and Bouckaert, Peters, and Verhoest (2010). Therefore, sound interorganizational coordination has a significant positive effect on policy implementation performance. Hence, from the examination, the fourth hypothesis was fulfilled and fully accepted.

Fifth Hypothesis: Good management leads to policy implementation success in primary health care in Bangladesh.

Table 4.8 displays the Pearson correlation coefficient, which validates the relationship between health policy implementation performance in primary health care (HPIPPHC) and management dynamics (MD). The results were checked, and a strong positive correlation was found between health policy implementation performance in primary health care (HPIPPHC) and management dynamics (MD), r =.694 and N=237, at the p<0.01 level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of the management dynamics.

Similarly, Table 4.14 displays the regression standardized coefficient Beta demonstrates that there was a significant positive relationship between HPIPPHC and MD with β=.194** at the 0.01 level of significance. Correspondingly, the ANOVA table (see Appendix C) displays that the F-calculate F=60.630 was greater than the F-alpha at the 0.01 level of significance. With these three test statistics it can be concluded that management dynamics (MD) have a significant positive relationship with policy

implementation performance in primary health care in Bangladesh. These confirmations of hypothesis satisfied by the scholars who studied previously in different content and context as such; Giacchino and Kakabadse (2003), Meier and O'Toole (2003), Voradej Chandarasorn (2005), and Horn and Thiel (2014). Therefore, good management dynamics have a significant positive effect on policy implementation performance. Hence, from the investigation, the fifth hypothesis was fulfilled and fully accepted.

Sixth Hypothesis: The positive disposition or response of implementers leads to policy implementation success.

Table 4.8 displays the Pearson correlation coefficient, which validates the relationship between health policy implementation performance in primary health care (HPIPPHC) and the implementer's disposition (ID). The results portray there was a strong positive correlation between health policy implementation performance in primary health care (HPIPPHC) and the implementer's disposition (ID), r =.695 and N=237, at the $p<0.01$ level of significance, with a high level of health policy implementation performance in primary health care associated with a higher level of the implementer's disposition (ID).

Equally**,** Table 4.14 represents the regression standardized coefficient Beta demonstrates that there was a significant positive relationship between HPIPPHC and ID with β=.329** at the 0.01 level of significance. Correspondingly, the ANOVA table (see Appendix C) displays that the F-calculate F=60.630 was greater than the F-alpha at the 0.01 level of significance. With these three test statistics it can be concluded that the implementer's disposition (ID) has a significant positive relationship with policy implementation performance in primary health care in Bangladesh. These endorsements of the hypothesis satisfied by the scholars who studied previously in different content and context as such; Van Meter and Van Horn (1975), Berman (1978), Edwards (1980) and Najam (1995). Therefore, the positive attitude and responsibility for policy compliance of the implementers have a significant effect on policy implementation performance. Hence, from the investigation, the fifth hypothesis was fulfilled and fully accepted.

Seventh Hypothesis: Micro level support from local stakeholders has a positive effect on health policy implementation performance in primary health care in Bangladesh.

Table 4.8 displays the Pearson correlation coefficient, which verifies the relationship between health policy implementation performance in primary health care (HPIPPHC) and the micro level support of local stakeholders (MLSLS). The results show that there was a medium positive correlation between health policy implementation performance in primary health care (HPIPPHC) and the micro level support from local stakeholders (MLSLS), r =.460 and N=237, at the $p<0.01$ level of significance, with a high level of health policy implementation performance in primary health care associated with a medium level of the micro level support from local stakeholders (MLSLS). Similarly, from the ANOVA table (see Appendix C), it was found that the F-calculate F=60.630 was greater than the F-alpha at 0.01 level of significance.

On the other hand**,** Table 4.14 presents the regression standardized coefficient Beta demonstrates that there was a slightly positive relationship between HPIPPHC and MLSLS with β=.011 at the 0.825 level of significance, but it was not significant. With these three test statistics it can be determined that the micro level support from local stakeholders (MLSLS) has a slightly positive relationship with policy implementation performance in primary health care, but it is not statistically significant for Bangladesh. But the hypothesis fulfilled by the prominent scholars who studied previously in different content and context as such; Pressman and Wildavsky (1973), Nassera Touati et al. (2007), Sabatier and Mazmanian's (1980), USAID (2007), and Franke and Guidero (2012). Hence, from the findings, the seventh hypothesis was not satisfied and was not accepted. Even though it was not statistically significant, it is expected that the micro level support from local stakeholders has a positive effect on successful implementation of health policy in Bangladesh.

Table 4.9 Summary of Hypothesises Testing, Dependent Variable Health Policy Implementation Performance in Primary Health Care

Hypothesis	**Explanatory Variables**	**Directional Relationship (sign)**	**Decision (Accept/reject)**
H1	Clarity of goals and objectives (COGAO)	+	Fully accepted using Pearson correlation, ANOVA and Standardized regression coefficient
H2	Adequate budget and financial autonomy (ABFA)	+	Partially fulfilled by using Pearson correlation and ANOVA
H3	Resources (equipment, human resources, infrastructure) (REHI)	+	Partially fulfilled by using Pearson correlation and ANOVA
H4	Coordination (COORD)	+	Fully accepted using Pearson correlation, ANOVA and Standardized regression coefficient
H5	Management dynamics (MD)	+	Fully accepted using Pearson correlation, ANOVA and Standardized regression coefficient
H6	Implementer's disposition (ID)	+	Fully accepted using Pearson correlation, ANOVA and Standardized regression coefficient
H7	Micro Level support from local stakeholders (MLSLS)	+	Partially fulfilled by using Pearson correlation and ANOVA

4.6 Multivariate Analysis

There are various ways of offering the results of multivariate analysis, banking on the nature of analysis and research questions. For this study, hierarchical multiple regression as one of the statistical techniques of multivariate analysis was used to scrutinize the influence of each independent variable on the single dependent variable,

health policy implementation performance in primary health care in Bangladesh, by using the Statistical Package for Social Sciences (SPSS version 23).

4.6.1 Relationships of the Factors Affecting Policy Implementation Performance in Primary Health Care in Bangladesh

With synthesizing the previous work of prominent scholars on policy implementation theories, deductive theoretical models, the concept of public policy, policy performance, implementation evaluation and policy evaluation, measuring health policy implementation performance, a theoretical and conceptual framework for this study was developed. Now time has come to unearth the relationships of the factors influencing policy implementation performance in primary health care in Bangladesh, analyzing the results of the hierarchical multiple regression based on the data collected from the field. Hence, in this study, in the following sections it is attempted to briefly explain the results of the empirical study found for the identified variables regarding policy implementation performance in primary health care in Bangladesh.

4.6.1.1 Relationships of the Policy Related Factors and Policy Implementation Performance in Primary Health Care in Bangladesh

Health policy implementation performance in primary health care as the single dependent variable that was used for this study to see the relationships of policy implementation performance in primary health care with some identified policy related factors in the context of Bangladesh. The theoretical and conceptual framework which was developed from the review of the literature proposed that clarity of goals and objectives (COGAO), adequate budget and financial autonomy (ABFA), and resources (equipment, human resources, infrastructure) (REHI) could be categorised as policy-related factors to determine the policy implementation performance in primary health care in Bangladesh. To determine the effect of policy-related factors a group of policy level variables was employed in model-1 in the hierarchical multiple regression analysis.

Table 4.10 and 4.13 represents the hierarchical multiple regression results for model-1 and model-4 for the single and combined model respectively. In the first model

three policy level variables, including clarity of goals and objectives (COGAO), adequate budget and financial autonomy (ABFA) and resources (equipment, human resources, infrastructure) (REHI) were included in order to assess the ability to predict the levels of policy implementation performance in primary health care (HPIPPHC). Before conducting the regression, basic assumptions, i.e. linearity, normality, homoscedasticity, independence of error, and multicollinearity of multiple regression, were met. The results for model-1 indicates that the three policy-related factors can influence the levels of policy implementation performance in primary health care (HPIPPHC). The R^2 of the model-1 was found to be .481, which implies that it can explain 48% of the variance in the level of policy implementation performance in primary health care. All three variables had a positive significant relationship with the levels of policy implementation performance in primary health care (HPIPPHC) in model-1 (β=.437** at the 0.01 level for COGAO, β=.125* at the 0.05 level for ABFA, and β=.281** at the 0.01 level for REHI) and from the ANOVA table the F=72.905 at the 0.01level (see Appendix C). However, the final combined model-4 shows that only the variable clarity of goals and objectives (COGAO) had a unique significant positive contribution to the relationship with health policy implementation performance in primary health care (HPIPPHC) (β=.238** at the 0.01 level for COGAO); and two other policy level variables (ABFA and REHI) had a positive but non-significant unique contribution to the relationships. The results indicate that the health administrators at the sub-district level health facilities in Bangladesh perceived that the successful implementation of health policy in primary health care depends on the clarity of policy goals and objectives and does not depend on budget and resources.

Moreover, the R^2 gradually increased with the addition of a group of variables in the model except for the final addition of one variable micro level support from local stakeholders (MLSLS) in model-4 such as to found .481 .597, .646 and .647 for the models 1, 2, 3 and 4. Hence, the final model-4 can explain about 65% of the variance in the level of health policy implementation performance in primary health care.

Table 4.10 Hierarchical Multiple Regression Analysis Results for Model 1

Independent Variables	Unstandardized Coefficient	Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Beta			Tolerance	VIF
Constant	1.221		6.296	0.000		
COGAO	.416	.437**	7.937	0.000	.725	1.379
ABFA	.101	.125*	1.952	0.050	.540	1.851
REHI	.253	.281**	4.728	0.000	.621	1.610

N=240; *p<0.05, **p<0.01; R^2 =.481; Adjusted R^2=.474; F=72.905 at 0.01 level; Durbin-Watson Statistics=1.729 and dependent variable: HPIPPHC.

4.6.1.2 Relationships of the Organization Level Factors and Policy Implementation Performance in Primary Health Care in Bangladesh

The theoretical and conceptual framework, which was developed from a review of the literature, proposed that coordination (COORD) and management dynamics (MD) could be categorised as the organizational level factors to determine policy implementation performance in primary health care in Bangladesh. In order to determine the effect of the organizational level factors a group of organizational level variables were employed in model-2 in the hierarchical multiple regression analysis.

Table 4.11 and 4.13 embodies the hierarchical multiple regression results for model-2 and model-4 for the single and combined model respectively. In the second model-2, organizational level variables, including Coordination (COORD) and Management Dynamics (MD) were employed to evaluate the capacity to predict the levels of policy implementation performance in primary health care (HPIPPHC). The results for model-2 portray that the two organizational related factors can influence the levels of policy implementation performance in primary health care (HPIPPHC). The R^2 of the model-2 was found to be .597, which means it can explain about 60% of the variance in the level of policy implementation performance in primary health care (HPIPPHC). Two variables from level 2 had a positive significant relationship with the levels of policy implementation performance in primary health care (HPIPPHC) in model-2 (β=.208** at the 0.01 level for COORD and β=.379** at the 0.01 level for MD) and from the ANOVA table the F=69.401 at the 0.01level (see Appendix C). The final combined model-4 displays that both the organizational level factors (β=.142* at

the 0.05 level for COORD and β=.194** at the 0.01 level for MD) made a unique statistically-significant positive contribution to the relationship with health policy implementation performance in primary health care (HPIPPHC); and two other policy level variables (ABFA and REHI) had a positive but a non-significant unique contribution to the relationship in the final model-4. The results specify that the health administrators at the sub-district level health facilities in Bangladesh perceived that effectively implementation of health policy in primary health care depends on the clarity of policy goals and objectives, interorganizational coordination, and good management, and it does not hinge budget or resources.

Furthermore, the R^2 progressively increased with the addition of a group of variables in the model except for the final addition of one variable micro level support from local stakeholders (MLSLS=) in model-4 such as to be found .481 .597, .646 and .647 for the models 1, 2, 3 and 4. For the addition of two variables in the model-2 an approximate additional 12% of the variance can explain the policy implementation performance after controlling for COGAO, ABFA, and REHI, ΔR^2 (Change)=.116, F change (2, 234) =33.777, p<0.01. Hence, the final model-4 can explain, combined, about 65% of the variance in the level of policy implementation performance in primary health care (HPIPPHC) (see Table 4.13).

Table 4.11 Hierarchical Multiple Regression Analysis Results for Model 2

Independent Variables	Unstandardized Coefficient	Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Beta			Tolerance	VIF
Constant	.785		4.371	.000		
COGAO	.255	.267**	5.048	.000	.615	1.627
ABFA	.036	.045	.787	.432	.523	1.913
REHI	.023	.025	.409	.683	.450	2.220
COORD	.179	.208**	3.351	.001	.447	2.238
MD	.349	.379**	6.131	.000	.450	2.220

N=240; *p<0.05, **p<0.01; R^2 =.597; Adjusted R^2=.589; ΔR^2 (Change)=.116; F=69.404 at 0.01 level; Durbin-Watson Statistics=1.729 and dependent variable: HPIPPHC

4.6.1.3 Relationships of the Individual Level Factor and Policy Implementation Performance in Primary Health Care in Bangladesh

The theoretical and conceptual framework, which was developed from the review of the literature, proposed that Implementer's Disposition (ID) could be categorised as individual level factors to determine the policy implementation performance in primary health care in Bangladesh. In order to assess the effect of individual level factors implementer's disposition (ID) as individual level variable was employed in model-3 in the hierarchical multiple regression analysis.

Table 4.12 and 4.13 represents the hierarchical multiple regression results for model-3 and model-4 for the single and combined models respectively. In the third model one individual level variable, Implementer's Disposition (ID), was employed to estimate the capacity to predict the levels of health policy implementation performance in primary health care (HPIPPHC). The results of model-3 show that one individual level variable, implementer's disposition (ID), can influence the levels of policy implementation performance in primary health care (HPIPPHC). The R^2 of the model-3 was found to be .646, which means that it can explain about 65% of the variance in the level of health policy implementation performance in primary health care (HPIPPHC). The individual level variable implementer's disposition (ID) from level 3 had a positive significant relationship with the levels of health policy implementation performance in primary health care in model-3 (β=.328** at the 0.01 level for Implementer's Disposition (ID)) and from the ANOVA table the F=71.016 at the 0.01 level (see Appendix C). The final combined model-4 shows that the individual level variable Implementer's Disposition (ID) (β=.329** at the 0.01 level for Implementer's Disposition) had a unique statistically-significant positive contribution to the relationship with health policy implementation performance in primary health care; and two other policy level variables (ABFA and REHI) had a positive but non-significant unique contribution to the relationship in the final model-4. The results specify that the health administrators at the sub-district level health facilities in Bangladesh perceived that the effective implementation of health policy in primary health care depends on the individual implementer's attitude, responsibility, and understanding of their obligations to serve patients at the root level and does not hinge on budget or resources.

Additionally, the R^2 increased slightly with the addition of the individual level variable implementer's disposition (ID) in the model, except for the final addition of one variable micro level support from local stakeholders(MLSLS) in model-4 such as to be found .481 .597, .646 and .647 for the models 1, 2, 3 and 4. For the addition of the individual level variable implementer's disposition (ID) in model-3 an approximate additional 5% of the variance can explain the policy implementation performance after controlling for COGAO, ABFA, REHI, COORD and MD, ΔR^2 (Change)=.049, F change (1, 233) =32.444, $p<0.01$. Hence, the final model-4 can explain combined about 65% of the variance in the level of health policy implementation performance in primary health care (HPIPPHC) (see Table 4.13).

Table 4.12 Hierarchical Multiple Regression Analysis Results for Model 3

Independent Variables	Unstandardized Coefficient	Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Beta			Tolerance	VIF
Constant	.536		3.075	.002		
COGAO	.229	.240**	4.817	.000	.609	1.642
ABFA	.016	.020	.366	.715	.519	1.926
REHI	.052	.058	.986	.325	.446	2.241
COORD	.123	.143	2.404	.017	.430	2.324
MD	.181	.197**	2.970	.003	.346	2.894
ID	.290	.328**	5.696	.000	.458	2.184

N=240; *p<0.05, **p<0.01; R^2 =.646; Adjusted R^2=.637; ΔR^2 (Change)=.049; F=71.016 at 0.01 level; Durbin-Watson Statistics=1.729 and dependent variable: HPIPPHC.

4.6.1.4 Relationships of the Local Level Support Factors and Policy Implementation Performance in Primary Health Care in Bangladesh

The theoretical and conceptual framework, which was developed from the review of the literature, proposed that Micro Level Support from Local Stakeholders

(MLSLS) could be categorised as local support level factors to determine the policy implementation performance in primary health care in Bangladesh. In order to assess the effect of local support level factors micro level support from local stakeholders (MLSLS) as local support level variable was employed in model-4 in the hierarchical multiple regression analysis.

Table 4.13 represents the hierarchical multiple regression results for model-4 for the combined model. In the fourth model one local level support variable, micro level support from local stakeholders, was employed to estimate the capacity to predict the levels of health policy implementation performance in primary health care (HPIPPHC). The results of model-4 indicate that the local level support variable, micro level support from local stakeholders (MLSLS), cannot influence the levels of policy implementation performance in primary health care (HPIPPHC). The R^2 of the model-4 was found to be .647, which means that it can explain about 65% of the variance in the level of health policy implementation performance in primary health care (HPIPPHC). The local level support variable micro level support from local stakeholders (MLSLS) from level 4 had no positive significant relationship with the levels of health policy implementation performance in primary health care (HPIPPHC) in model-4 (β=.011 at the 0.825 level for micro level support from local stakeholders (MLSLS); and from the ANOVA table the F=60.630 at the 0.01 level that represented the model fit (see Appendix C). The final combined model-4 displays that the local level support variable, micro level support from local stakeholders (MLSLS), had no unique statistically-significant positive contribution to the relationship with health policy implementation performance in primary health care (HPIPPHC). Two other policy level variables (ABFA and REHI) had a positive but non-significant unique contribution to the relationship in the final model-4. This result specifies that the health administrators at the sub-district level health facilities in Bangladesh perceived that the effective implementation of health policy in primary care did not have an influence from the local level support from the local government, the local administration, NGOs, the private sector, or local community leaders. The primary health care policy implementers at the sub-district level can implement without the support from micro level stakeholders. However, the literature suggested that policy implementation requires support from local stakeholders and interest groups.

Further, the R^2 was not increased with the addition of the local level support variable micro level support from local stakeholders (MLSLS) in model-4 such as to be found .481, .597, .646 and .647 for the models 1, 2, 3 and 4. For the addition of the local level support variable micro level support from local stakeholders (MLSLS) in model-4, there was no additional variance that can explain the policy implementation performance after controlling for COGAO, ABFA, REHI, COORD, MD, and ID, ΔR^2 (Change)=.000, F change (1, 232) =.049, p<0.825. Hence, the final model-4 can explain, combined, about 65% of the variance in the level of health policy implementation performance in primary health care (HPIPPHC). The micro level support from local stakeholders (MLSLS) had no significant effect on policy implementation performance in primary health care in Bangladesh.

Table 4.14 represents a summary of the hierarchical multiple regression Analysis for the four models for the four-level factors. The summary results indicated that only four factors out of seven were statistically significant and made a unique contribution to the relationship with health policy implementation performance in primary health care, with implementer's disposition (ID) or attitudes and responsibility of service providers reporting a higher beta value (β=.329** at the 0.01 level), than the following others as such clarity of goals and objectives (β=.238** at 0.01 level), management dynamics (β=.194** at 0.01 level) and coordination (β=.142* at 0.05 level).

Table 4.13 Hierarchical Multiple Regression Analysis Results for Model 4

Independent Variables	Unstandardized Coefficient	Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Beta			Tolerance	VIF
Constant	.537		3.074	.002		
COGAO	.227	.238**	4.669	.000	.585	1.708
ABFA	.015	.019	.349	.728	.517	1.936
REHI	.050	.056	.944	.346	.437	2.286
COORD	.122	.142*	2.381	.018	.429	2.333
MD	.179	.194**	2.854	.005	.331	3.024
ID	.291	.329**	5.687	.000	.456	2.192
MLSLS	.008	.011	.221	.825	.625	1.599

N=240; *p<0.05, **p<0.01; R^2 =.647; Adjusted R^2=.636; ΔR^2 (Change)=.000; F=60.630 at 0.01 level; Durbin-Watson Statistics=1.729 and dependent variable: HPIPPHC

Table 4.14 Summary of the Hierarchical Multiple Regression Analysis Results for the Four Models

Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Clarity of goals and objectives (COGAO)	.437**	.267**	.240**	.238**
Adequate budget and financial autonomy (ABFA)	.125*	.045	.020	.019
Resources (human, infrastructure and equipment) (REHI)	.281**	.025	.058	.056
Coordination (COORD)		.208**	.143	.142*
Management dynamics (MD)		.379**	.197**	.194**
Implementers' disposition (ID)			.328**	.329**
Micro level support from local stakeholders (MLSLS)				.011
R^2	.481	.597	.646	.647
Adjusted R^2	.474	.589	.637	.636
ΔR^2 (Change)	-	.116	.049	.000
Standard Error of Estimate	.50176	.44389	.41677	.41762
F in ANOVA	72.905	69.404	71.016	60.630
Sig.	.000	.000	.000	.000

Significant at *p<0.05, **p<0.01level.

4.6.2 Goodness of Fit

Goodness of fit refers to how well the observed data correspond to the fitted (assumed) model. R^2 (coefficient of determination-the R-Square) is a statistical measure for how close the observed data are to the assumed regression line. The R^2 answers the question, "Of all of the reasons why the outcome variable can vary, what percent of those reasons can be accounted for by the predictor(s) variables?" The greater the value of R-square the better will be the fit of the model. The regression output was

also presented an adjusted R^2 value and it implies that if the researcher used this model on a new data set, this would be the amount of variability accounted for in the new data set. In hierarchical regression, need to look at the change statistics the R^2 Change as it refers how much change in R square (explained variation) as compared to the previous model. The investigator needs to look at the significant F change to be certain if this change is statistically significant or not. The goodness of fit can also be addressed by the standard error of the estimate as a measure of variation around the regression line and it is also viewed as the standard deviation of the prediction error and a small or lower standard error has higher power in estimation (Hair, Black, Babin and Anderson, 2010: p.209). The goodness of fit can also be explained by the ANOVA and F-ratio, which provides a statistical test for the model fit interim of the F-ratio and a significant F-ratio designates that the observed R-squared is reliable and is not a counterfeit result of peculiarities in the data set. The larger is the F-value in the ANOVA the better is the model fit.

Table 4.14 is a summary of the results of the hierarchical multiple regression analysis for the four models. From the analysis it was found that the R^2 (coefficient of determination-The R-square) for the four models such as to be found .481, .597, .646 and .647. This implies that the first model can explain about 48% of the variance in the relationships for policy implementation performance in primary health care. Similarly, model-two at about 60%, model-three at about 65%, and model-four at about 65% can explain of the variance for the relationship with the dependent variable. Likewise, at adjusted R^2 for the four models was .474, .589, .637 and .636. The R^2 change such as to be found .116, .049 and .000 for the models 2, 3 and 4. This result for the R^2 change shows that the addition of one variable in model 4 had no significant effect to change the R^2. Moreover, the standard error of the estimates of the four models was .50176, .44389, .41677 and .4176, which confirmed high power in the estimation. Furthermore, the ANOVA and F-ratio for the overall model fit show that all the four F-ratios were found to be significant at the 0.01 level, scoring 72.905, 69.404, 71.016, and 60.630 for the four models respectively (see Appendix C). From the analysis it can be concluded that there was no significant change in the R^2 Change in model four after adding one explanatory variable, micro level support from local stakeholders (MLSLS). Hence, overall all of the models fit well with respect to R^2, the adjusted R^2, standard error of

the estimates, ANOVA, and the F-ratio and R^2 change (see Table 4.10, 4.11, 4.12, 4.13 and 4.14).

4.7 The Factors that Mostly Determine Health Policy Implementation Performance in Primary Health Care in Bangladesh

In order to assess the factors that were seen to most determine health policy implementation performance in primary health care in Bangladesh based on the perception of the Upazila Health and Family Welfare Officers (UH&FPOs) at the sub-district level health facilities, Pearson correlation and hierarchical multiple regression analysis were conducted using SPSS. At the outset, a Pearson correlation was done employing all eight variables in order to determine the bivariate correlation (see Table 4.8). The correlation results validated that all seven independent variables had a positive bivariate significant correlation at the 0.01 level with the dependent variable, health policy implementation performance in primary health care (HPIPPHC). The ordering of the correlations as per the strengths are implementer's disposition (ID), management dynamics (MD), coordination (COORD), clarity of goals and objectives (COGAO), resources (equipment, human resources, infrastructure, REHI), adequate budget and financial autonomy (ABFA), and micro level support from local stakeholders (MLSLS). Similarly, Tables 4.10, 4.11, 4.12, 4.13 and 4.14 show the multivariate regression results for the Hierarchical Multiple Regression Analysis employing the seven independent variables or explanatory variables. The results indicate that four out of seven explanatory variables were statistically significant and had a unique contribution to the relationship ordering as per the strength as implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD). The other three explanatory variables, resources (equipment, human resources, infrastructure, REHI), adequate budget and financial autonomy (ABFA), and micro level support from local stakeholders (MLSLS), were found to have a positive relationship but it was not statistically significant.

Hence, the variables Implementer's Disposition (ID), Clarity of Goals and Objectives (COGAO), Management Dynamics (MD), and Coordination (COORD) were the most important factors in terms of influencing health policy implementation

performance in primary health care. These four factors had a positive significant association with health policy implementation performance in primary care.

The Final Form of the Models is as Follows:

Model-1:

$HPIPPHC=1.221+.437^{**}(COGAO)\beta_1 +.125^{*}(ABFA)\beta_2+.281^{**}(REHI)\beta_3+\varepsilon_i$

Model-2:

$HPIPPHC=.785+.267^{**}(COGAO)\beta_1+.208^{**}(COORD)\beta_4+.379^{**}(MD)\beta_5+\varepsilon_i$

Model-3:

$HPIPPHC=.536+.240^{**}(COGAO)\beta_1+.197^{**}(MD)\beta_5+.328^{**}(ID)\beta_6+\varepsilon_i$

Model-4:

$HPIPPHC=.537+.238^{**}(COGAO)\beta_1+.142^{*}(COORD)\beta_4+.194^{**}(MD)\beta_5+.329^{**}(ID)\beta_6+\varepsilon_i$

Where,

HPIPPHC= Health Policy Implementation Performance in Primary Health Care

COGAO= Clarity of Goals and Objectives

ABFA= Adequate Budget and Financial Autonomy

REHI= Resources (Equipment, Human Resources, Infrastructure)

COORD= Coordination

MD= Management Dynamics

ID= Implementer's Disposition

MLSLS= Micro Level Support from Local Stakeholders

ε_i = refers to a random error term that characterises the influence of other variables not contained within the model.

β: = β_0 is a statistical symbol that indicates the constant or intercept, whereas β with other independent variables designates the regression beta coefficient for the corresponding independent variables.

4.8 Chapter Summary

This chapter provided a comprehensive picture of presentation and analysis of the collected data from the field survey using SPSS. Quantitative data were exclusively

collected and used for this study. First, descriptive statistics for both the dependent and variables were produced followed by the percentage of the perceptions of the health administrators (UH&FPOs) regarding the factors influencing health policy implementation performance in primary care in Bangladesh. In the subsequent section, the bivariate analysis using Pearson correlation was analyzed and the correlation results showed that all of the independent variables strongly correlated with policy implementation performance in primary health care in Bangladesh. In the succeeding section of the analysis it has been tested the hypothesis of the study using both Pearson correlation and beta coefficient of hierarchical multiple regression. Four hypotheses out of seven were fully accepted using regression standardized beta coefficients and others were partially accepted. Later in the analysis the regression results for the four models were presented and analyzed. All four models were well fitted. However, in the final model adding the independent variable micro level support from local stakeholders (MLSLS), there was no significant change in the R^2. This implies that local level support from different stakeholders had no significant effect on health policy implementation performance. The succeeding section examined the relationships of four groups of variables comprised of seven independent variables with health policy implementation performance in primary care based on the perception of health administrators (UH&FPO) at the sub-district level. Hence, the results indicated that four out of seven explanatory variables were statistically significant and made a unique contribution to the relationship ordering as per the strength as implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD). The other three explanatory variables resources (equipment, human resources, infrastructure, REHI), adequate budget and financial autonomy (ABFA), and micro level support from local stakeholders (MLSLS) were found to be positive but not statistically significant. Lastly, the variables implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD) were the most important factors in terms of their influence on health policy implementation performance in primary health care in this context.

CHAPTER 5

FINDINGS AND DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

Human resource development is indispensable for the sustainable development of a country. Bangladesh began its journey to reduce poverty and turn people into human resources from the very beginning of its independence in 1971 through the formulation and implementation of various national policies coping with various international policies. Policy planning in Bangladesh is the fundamental duty of the central government implemented by the implementing agencies of executive departments. Health is one of the vital components of global goals for sustainable development. The national health care facilities are under the direct control of the Ministry of Health and Family Welfare (MoHFW), which is the apex agency of health policy planning and implementation by the street-level health facility providers. Bangladesh formulated its first national health policy in 2000. The key objectives of the national health policy comprise: providing basic health facilities to the people at all levels; ensuring the availability of primary health care facilities at the Union and Upazila levels; improving maternal and child health; reproductive health services; and strengthening family planning facilities. Emphasizing the primary and rural health care, the national health policy was revised in 2011, with some new issues such as health insurance schemes for formal sectors and health cards for the ultra-poor. The foundation of the national health policy is to deliver health care services to the people as far as possible, at their door steps, at an affordable cost. The success of policy planning and formulation depends on the implementation performance of the implementing agencies. Health policy implementation performance in primary health care was the main dependent variable of this study regarding the factors affecting health policy implementation performance in primary care. The wide review of literature suggested that there were four groups of factors related to health policy implementation

performance: policy related factors, organization related factors, individual level factor, and local level support factor that constitutes seven explanatory variables.

In view of the objectives of discovering the factors related to health policy implementation performance in primary health care, an inclusive literature review was carried out. The literatures review suggested that the factors influencing health policy implementation performance included clarity of goals and objectives (COGAO), adequate budget and financial autonomy (ABFA), resources (equipment, human resources, infrastructure, REHI), coordination (COORD), management dynamics (MD), implementer's disposition (ID), and micro level support from local stakeholders (MLSLS) were positively related to the policy implementation performance. For this study, using exclusively primary data collected from the field survey from the respondents of the Upazila Health and Family Welfare Officers (UH&FPOs), the health administrators at the sub-district level on their perception of the seven identified explanatory variables and on the main dependent variable of health policy implementation performance in primary health care in Bangladesh. The empirical findings of the study are discussed in the sections bearing the stipulated research objectives and questions in mind.

5.1 Major Findings of the Study and Discussion

The underlying objectives of the study of the factors affecting health policy implementation performance in primary health care, an empirical study of the sub-district level health facilities, were to assess the level of health policy implementation performance in primary health care, to examine the policy related, organizational related, and the individual level and local level support factor affecting health policy implementation performance in primary health care and to determine the most influential factors affecting health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh. To attain the rudimentary objectives of the study, this study attempted to reconnaissance the specific research questions as follows: 1. What is the level of health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh?; 2. What are the policy related, organizational related, individual level and

local level support factors affecting health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh?; 3. What are the factors that mostly determine health policy implementation performance in primary health care in the sub-district level health facilities in Bangladesh?; and 4. What are the policy implications for policymakers, implementers and for future research?

These research objectives and questions were specified in the seven research hypotheses of the study. These hypotheses were examined using exclusively quantitative field survey data and the multivariate statistical tools of hierarchical multiple regression analysis, ANOVA, and Pearson correlation coefficients. Four hypotheses out of seven were fully accepted using regression standardized beta coefficients and Pearson correlations, and the other three were partially fulfilled and not accepted. Hence, the results of the hierarchical multiple regression indicated that four out of seven explanatory variables were statistically significant and made a unique contribution to the relationship ordering as per the strength as implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD). The other three explanatory variables, resources (equipment, human resources, infrastructure, REHI), adequate budget and financial autonomy (ABFA) and micro level support from local stakeholders (MLSLS), were found to have a positive relationship but it was not statistically significant. Moreover, the variables implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD) were the most important factors in terms of influencing health policy implementation performance in primary health care.

5.1.1 The Level of Health Policy Implementation Performance in Primary Health Care

The first research question and its corresponding objective were to assess the health policy implementation performance in primary health care as the single dependent variable and to assess the level of health policy implementation performance in primary health care.

Table 4.4 reveals the descriptive statistics of the dependent variable that the respondents were given their opinion on the high performance of the health policy implementation performance with the mean score of the variable at 4.0190 and the

standard deviation of the dependent variables at .68844. Similarly, Table 4.5 shows the descriptive statistics of the seven independent variables for the study. In order to obtain the perceived level of opinions of the respondents (UH&FPOs) concerning their understanding of health policy implementation performance in primary health care in Bangladesh regarding each of the independent variables and their corresponding indicators, a six-point Likert scale questionnaire was constructed that symbolized (6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low). Table 4.5 shows that the respondents gave their perceived opinions at a high-level understanding of the independent variables clarity of goals and objectives (COGAO) and implementers' disposition (ID) with a mean score of 4.0145 and 4.0783 respectively. For the rest of the independent variables, the respondents gave their opinions on the factors affecting the implementation performance just slightly high with mean scores of above 3.00 to below 4.00. The standard deviations of all seven independent variables were low. These results of the descriptive statistics discussed above clearly indicate a slightly high level of perceived health policy implementation performance in primary health care in Bangladesh as measured by the mean score of dependent variable at 4.0190 (see Table 4.4).

5.1.2 Policy Related Factors and Policy Implementation Performance

The second research question and its corresponding objective were to assess the health policy implementation performance in primary health care as the single dependent variable and to see the associations of policy implementation performance in primary health care with certain identified policy-related factors in the context of Bangladesh. The theoretical and conceptual framework, which was developed from the review of literature, proposed that clarity of goals and objectives (COGAO), adequate budget and financial autonomy (ABFA) and resources (equipment, human resources, infrastructure) (REHI) could be categorised as policy-related factors to determine the policy implementation performance in primary health care in Bangladesh. With these research objective, the research question, and the identified independent variables, three different research hypotheses were proposed, which were tested using the beta coefficient of the hierarchical multiple regression, Pearson correlation, and ANOVA, and only the hypothesis number one was fully accepted as confirmed by the three

measures containing the variable clarity of goals and objectives (COGAO) had a positively statistically-significant association at the $p<0.01$ level, having a beta coefficient of $\beta=.238^{**}$ with health policy implementation performance in primary health care (see Table 4.14). The two other policy-related factors, adequate budget and financial autonomy (ABFA) and resources (equipment, human resources, infrastructure) (REHI), had no statistically significant association with health policy implementation performance, having a beta coefficient of $\beta=.019$ and $\beta=.056$ respectively (see Table 4.14). Considering the Pearson correlation coefficients of the other two policy-related variables, adequate budget and financial autonomy (ABFA) and resources (equipment, human resources, infrastructure) (REHI), had a strong positive correlation with health policy implementation performance in primary health care, having $r=.522$ and $r=.519$, and $N=237$ at the $p<0.01$ level of significance (see Table 4.8). Hence, hypothesis two and three were not fulfilled fully and not accepted. Several prominent scholars have studied this area and they have confirmed that the variable clarity of goals and objectives (COGAO), one of the fundamental factors for policy implementation performance. These validations of hypothesis was satisfied by the scholars who studied previously in different content and context such as; Van Meter and Van Horn (1975), Matland (1995), Berman (1978), Edwards (1980), Martin Rein (1983), Nakamura and Smallwood, F. (1980), Pressman and Wildavsky (1973), Palumbo, D. and Harder (1981), and Sabatier and Mazmanian (1980), Hongoro et al. (2004) and Mugwagwa, Edwards, and de Haan (2015).

In previous studies scholars such as Van Meter and Van Horn (1975) have stated that "the characteristic of nature of the policy that may influence to policy implementation is the degree of conflict or consensus over its goals and objectives." Similarly, Matland (1995: p.155) noted that "if in a policy it is not incorporate specific policy goals and objectives it fails to provide realistic yardsticks with which to measure policy outcomes and implementation success is the loyalty to the policy goals and objectives. Policy implementation requires clear policy goals to achieve objectives." Likewise, Berman (1978) reported that "the clarity of goals, targets and objectives encourages and fosters prompt implementation." Edwards (1980: pp.147-149) stated that "orders to implement a policy must be consistent, clear and accurate in specifying the aims of the decision-makers." Similarly, Nakamura and Smallwood (1980: p.33)

stated that “the lack of specific variable leads to a less focused analysis and clear policy goals and objectives are a foundation of effective implementation.” Pressman and Wildavsky (1973: p.xxiv) asserted that “when objectives are not realised, one explanation is the assertion of faulty implementation.” Palumbo, D and Harder (1981: p.29) stated that many recent case studies of implementation failure suggest that confusion over goals is a significant part of the implementation problem. Sabatier and Mazmanian (1980: p.22) emphasized sixteen important variables for ensuring effective policy implementation, including clear and consistent goals. On the other hand, Hongoro et al. (2004) discussed in their health system development program for the poor and transitional countries that policy implementation success depends on to what extent the implementer has a clear understanding of the policy objectives. Moreover, Mugwagwa, Edwards, and de Haan (2015) discussed in their study on assessing the implementation and influence of health policies for the case of Mozambique, Senegal and Tanzania and found that policy implementation was rated in poor because of lack of policy coherence and lack of financing for the health policy implementation.These studies validated the previous research work of prominent scholars and their hypothesized to have a positive effect on policy implementation that the goals and objectives of public policy should be clear, well-defined, well-specified and compatible, it is very likely that the implementers would understand and interpret them in different or wrong ways, and as such, these might lead to unintended consequences regarding policy implementation performance. Clarity of policy goal and objectives (COGAO) was also hypothesized in earlier studies by several scholars to have a positive association with policy implementation performance. The findings of this study also validated the hypothesized relationship and the results of earlier research work of scholars, their opinions, the observed results of case studies, and the conceived effect of the clarity of policy goals and objectives (COGAO) on policy implementation performance.

Though the second hypothesis containing the variable adequate budget and financial autonomy (ABFA) had a positive relationship with policy implementation performance in primary health care but not significant for this study using standardized regression beta coefficient. In other studies, the hypothesis was contented by scholars in different content and context, though most of the study were qualitative case studies

such as the work of; Van Meter and Van Horn (1975), Edwards (1980), Voradej Chandarasorn (2005), and Sabatier and Mazmanian (1980). Recently, (Emmanuel, 2014) indicated in his study on implementing sustainable health care delivery in Nigeria that the adequate budget is the key to the successful implementation of health care services. On the other hand, (Jha, 2014) stated that financial and health human resources were the most challenging factors for revitalizing the primary health care in Nepal. Moreover, Van Weel et al. (2016) discussed in their primary health care policy implementation studies on South Asia and found low investment, poor planning and lack of understanding of the importance of primary health care hampered the development of these countries

Hence, from the analysis, the second hypothesis was not satisfied and not fully accepted. Even though it was not statistically significant, it was expected that adequate budget and financial autonomy would have a positive effect on the successful implementation of health policy in Bangladesh. The results of the present study revealed a contrasting result with previous studies by scholars. For this study, the results indicated that adequate budget and financial autonomy (ABFA) had no statistical significant relationship with policy implementation performance. This could have happened because of different country contexts, content, time and perspectives, and could be due to the change of attitude and realization that money does not matter in the present days. Hence, the findings of this study were not validated and fully supported by previous studies' findings.

Similarly, the third hypothesis encompassing the variable Resources (Equipment, Human Resources, Infrastructure) (REHI) had a slightly positive relationship with policy implementation performance in primary health care but it was not statistically significant for Bangladesh. In previous studies by the scholars were contented the hypothesis, mostly qualitative in nature in different content and country context such as the research study of; Berman (1978), Lipsky (1980), (P. Sabatier & Mazmanian, 1980) Dussault and Dubois (2003), Kress, Su, and Wang (2016), Lassi et al. (2016), Edwards (1980), Voradej Chandarasorn (2005), Kelly, Garvey, and Palcic (2016) and Tangcharoensathien et al. (2018). Hence, from the findings of the study, the third hypothesis was not satisfied and not accepted. However, it was presumed that

enough equipment, qualified health human resources, and proper infrastructure would have a positive effect on the successful implementation of health policy in Bangladesh. In similar research findings, Kress, Su, and Wang (2016: p.302) in their study found that the performance of primary health care is hampered by a lack of infrastructure, drugs, equipment and vaccines at the facility level, and financial access and poor health providers performance. Furthermore, Lassi et al. (2016) in a study on low- and middle-income countries showed that all of the human resources for health interventions implemented individually or combined had a positive impact on health policy implementation with reference to maternal health. On the other hand, Kelly, Garvey, and Palcic (2016) stated in their case studies on primary health care in Ireland and identified three categories of factors- power, resources and capability that can strongly influence successful policy implementation. Moreover, very recently Tangcharoensathien et al. (2018) stated in their study on successful implementation of universal health coverage that Thailand has invested in key health policy and system areas like postgraduate training and created exceptionally strong public health experts in primary health care sectors for successful implementation of universal health coverage. However, the result of the present study discovered a contrastive result from previous studies by scholars. For this study, the results uncovered that resources (equipment, human resources, infrastructure) (REHI) had no statistically-significant relationship with policy implementation performance because of different country contexts, content, time and perspectives, and it may have been due to a bit availability of resources (equipment, human resources, infrastructure). Therefore, the results of this study were not validated and fully maintained the previous studies' findings.

5.1.3 Organization Related Factors and Policy Implementation Performance

The second research question and its corresponding objective were to assess health policy implementation performance in primary health care (HPIPPHC) as the single dependent variable to see the associations of policy implementation performance in primary health care with two identified organization-related factors: coordination and management dynamics. With this research question and corresponding research objective, and the identified independent variables, two different research hypotheses

were proposed, together with the fourth hypothesis and the fifth hypothesis. These hypotheses were tested using a beta coefficient of hierarchical multiple regression Pearson correlation and ANOVA and both hypothesises were fully accepted as confirmed by the three-measures containing the variable Coordination (COORD) and Management Dynamics (MD) and had a positively-statistically significant association having a beta coefficient β=.142* at the $p<0.05$ level and β=.194** at the $p<0.01$ level respectively with health policy implementation performance in primary health care (see Table 4.14). Regarding the Pearson correlation coefficient of the two organization-related factors coordination (COORD) and management dynamics (MD) had a strong positively statistically-significant bivariate correlation with health policy implementation performance having r =.622 and r =.694 and N=237, at the $p<0.01$ level of significance (see Table 4.8). Moreover, the hierarchical multiple regression model-2 can explain about 60% of the variance of health policy implementation performance signified by R^2=.597 and the ΔR^2 (Change)=.116, implies that the model can explain an additional 12% with the addition of two variables in the model (see Table 4.14). Therefore, hypothesis four and five were fully accepted in this study.

These validations of hypothesis four satisfied by the scholars who studied previously in different content and context such as; Pressman and Wildavsky (1973), Laurence et al. (1984), Copeland and Wexler (1995), Peterlin (2012), Peters (1998), Edward T. Jennings and Ewalt (1998), Bryson, Crosby, and Middleton Stone (2006), Bouckaert, Peters, and Verhoest (2010), Magnussen, Ehiri, and Jolly (2004), Adeleye and Ofili (2010), (Health Policy Project, 2014) and Van Weel et al. (2018). Therefore, sound interorganizational coordination has a significant positive effect on policy implementation performance. Similarly, in past research work, Edward T. Jennings and Ewalt (1998: p.417) examined the effect of coordination patterns and administrative arrangement and found that an increased level of coordination that lead to some degree of correlation with the level of performance with five out of ten outcome variables. Likewise, Bryson, Crosby, and Middleton Stone (2006: p.44) were noted that organizations that share information, undertake coordinated initiatives, or develop shared power arrangements such as collaborations to pool their capabilities to address challenges and problems that lead to the successful implementation of policies. Moreover, Bouckaert, Peters, and Verhoest (2010) noted that governments are

inherently multi-organizational and coordination is one of the oldest problems facing the public sector and government organization providing the same services coordination became an issue for successful implementation of public policy. Similarly, Magnussen, Ehiri, and Jolly (2004) have indicated that various sectors need to work together such as health, agriculture, education, food, sanitation and housing for achieving health settings. On the other hand, Adeleye and Ofili (2010) discussed in their study on primary health care in developing countries and specified that strengthening intersectoral collaboration was required for successful implementation of primary health care. Furthermore, (Health Policy Project, 2014) stated in their capacity development resource guide to the developing countries that policies to contribute to the effective health system, it must be successfully implemented with coordination and teamwork between the parties accountable for implementation. Moreover, Van Weel et al. (2018) discussed in their study on primary health care policy implementation in Eastern Mediterranean countries that the successful primary health care policy implementation hinges on coordination at the community level and trained physicians at the community level.

These authorizations of hypothesis five contented by the scholars who studied previously in different content and context such as the study results of; Giacchino and Kakabadse (2003), Meier and O'Toole (2003), Voradej Chandarasorn (2005), Horn and Thiel (2014), (Kruk & Freedman, 2008), (Chimezie, 2015) and Sadhu Charan and Paramita (2016). Recently, the study of previous scholars, namely Giacchino and Kakabadse (2003: p.139), it was found that three decisive factors are responsible for successful policy implementation: political responsibility, the presence of a strong management or team dynamics, and the type and level of commitment. At the same time, Meier and O'Toole (2003: p.689) stated that "public policies are increasingly implemented in a complex network of organizations and target population and effective action requires managers deal with arrays of other actors to procure resources, build support, coproduce results and overcome hindrance to implementation of policy." In addition very recently, Horn and Thiel (2014) discussed "the management of implementation and implementing agents, also known as public management for the governance and control, the financial management and the use of management techniques to measure and improve performance for policy implementation." On the

other hand, (Kruk & Freedman, 2008) discussed in their study on assessing health system performance in developing countries that administrative efficiency, well managed health system and properly funded are necessary for successful implementation. Furthermore, (Chimezie, 2015) stated in his study on the failure of primary health care in Africa that bad leadership, management and poor funding were the problems of policy implementation in primary health care. Moreover, Sadhu Charan and Paramita (2016) have stated that unsatisfactory management, lack of financial resources and inadequate coordination with other organizations were found to lead to unsuccessful policy implementation in a developing country like India.

Therefore, for this study, sound interorganizational coordination and good management dynamics had a significant positive effect on health policy implementation performance in primary health care in Bangladesh. Hence, the findings of this study completely validated the previous work of world famous scholars as the result found in line with the previous study.

5.1.4 Individual Level Factor and Policy Implementation Performance

The second research question and its corresponding objective were to evaluate health policy implementation performance in primary health care (HPIPPHC) as the single dependent variable to see the associations of policy implementation performance in primary health care with the identified individual level factors signified by the implementer's disposition (ID). With these research question and corresponding research objective, and for the identified independent variable, Implementer's disposition (ID) was proposed as the sixth research hypothesis. This hypothesis was tested using the beta coefficient of the hierarchical multiple regression, Pearson correlation, and ANOVA and the hypothesis was fully accepted as confirmed by the three measures having a regression coefficient beta value β=.329** at the $p<0.01$ level, demonstrating that there was a strong positive statistically-significant relationship with health policy implementation performance in primary health care (see Table 4.14). Model 3 explained about 65% of the variance of health policy implementation performance in primary health care denoted by R^2=.646. The ΔR^2 (Change) was .049 implies that with the addition of one additional variable, Implementer's Disposition (ID), the model could explain about 5% more of the variance in health policy

implementation performance (see Table 4.14). Moreover, the Pearson correlation showed that there was a strong positive correlation between the Implementer's Disposition (ID) and the health policy implementation performance, having r =.695 and N=237, at the p<0.01 level of significance (see Table 4.8). Hence, the sixth hypothesis was fully satisfied and accepted for this study.

This confirmations of hypothesis satisfied by the scholars who studied previously in different content and context as such; Van Meter and Van Horn (1975), Berman (1978), Edwards (1980), Najam, (1995), (Spratt, 2009), (Blanco-Mancilla, 2011) and (Yamey, 2011). In their early study, the famous scholars studied such as Van Meter and Van Horn (1975) indicated that "the disposition of implementers may affect their ability and willingness to affect policy in the following ways; implementer's cognition (comprehension or understanding) of the policy, the direction of response toward it (acceptance, neutrality, rejection), and the intensity of response." In the same way, Berman (1978: p.25) in "the study of macro and micro-implementation was reported that in micro-implementation the local organization have to devise and carry out their own internal policies." Accordingly, Edwards (1980: p.13) stated that "the first requirement for effective implementation is that those responsible for carrying out a decision must know what they are supposed to do and identified four interacting and simultaneously operating factors including communication, resources, dispositions and bureaucratic structure." Meanwhile, Najam (1995: p.5) indicated that "if responsible for carrying out are unwilling or unable to do so little will happen and responsibility or disposition is considered to be a critical variable to effective policy implementation." On the other hand, (Spratt, 2009) stated in a report of a pilot test in three countries of China, Vietnam and Indonesia on the health policy implementation and found that personal, organizational, or institutional motivation and commitment can smooth the policy implementation process. Moreover, (Blanco-Mancilla, 2011) has found that the ideas, values and beliefs of implementers are relevant throughout the implementation of health services delivery in Mexico. Furthermore, (Yamey, 2011) indicated that the active engagement of implementers and of the target community, strong leadership and governance can scale up the health policy implementation success East African low-income countries. All of the scholars found that a positive attitude and responsibility

for policy compliance on the part of the implementers had a significant effect on policy implementation performance.

In this study, attitude with recipients, responsibility, devotion, understanding, performing, attitude with colleagues, respect for rules and procedures, team dedication, commitment, team discipline, and relying on service providers constitutes implementer's disposition (ID) that were hypothesized to have a positive relationship with health policy implementation performance. The results for this study depicted that implementer's disposition (ID) had a strong, positive, and statistically-significant association with health policy implementation performance and the results validated the hypothesized effect and findings of past studies of scholars. The results of the study indicated that the items above constituted the implementer's disposition (ID) was the mostly determining factors for health policy implementation performance in primary health care in Bangladesh with magnitude and strength.

5.1.5 Local Level Support and Policy Implementation Performance

The second research question and its corresponding objective were to evaluate the health policy implementation performance in primary health care (HPIPPHC) as the single dependent variable to see the associations of policy implementation performance in primary health care with the identified local level support factors signified by micro level support from local stakeholders (MLSLS). Research hypothesis seven was proposed and tested for the independent variable micro level support from local stakeholders (MLSLS) using hierarchical multiple regression, Pearson correlation, and ANOVA; the hypothesis was not fulfilled by the three measures and was not accepted. The result of the hierarchical multiple regression beta coefficient showed that the micro level support from local stakeholders (MLSLS) had no statistically-significant relationship with health policy implementation performance, having a regression coefficient beta value β=.011 at the $p<0.221$ level (see Table 4.14). Model 4 explained about 65% of the variance of health policy implementation performance in primary health care denoted by R^2=.647. The ΔR^2 (Change) was .000, implying that with the addition of one additional variable, micro level support from local stakeholders (MLSLS), in the model could not explain more than 65% of the variance in health policy implementation performance (see Table 4.14). Hence, the addition of micro level

support from local stakeholders (MLSLS) had no extra explanatory power regarding health policy implementation performance in Bangladesh. Nonetheless, the Pearson correlation on the other hand showed that there was a medium positive correlation between micro level support from local stakeholders (MLSLS) and health policy implementation performance, having r =.460 and N=237, at the $p<0.01$ level of significance (see Table 4.8). Hence, hypothesis seven was not fully satisfied and was not accepted for this study.

In various studies, especially on grounded theory building, several scholars such as Pressman and Wildavsky (1973) have mentioned in Shafritz and Hyde (2015: p.320) that "even minor disagreements between just a few actors can cause delays and a vicious cycle of delay, fair of ultimate failure or high salvage costs, withdrawal of previous commitments and increased anxiety can cause implementation failure." Nassera Touati et al. (2007) reported, referring to Sabatier and Mazmanian's (1980: p.21), that a "general analytical framework, which were identified three types of variables that affect policy implementation performance and among the variables the 'non-statutory' variables related to implementation context (e.g. socio-economic condition, support from interest group and stakeholders and stakeholders leadership) affect implementation performance." Similarly, USAID (2007) conducted a policy reform report and stated that "stakeholders must participate in the determination of feasible policy options, appropriate time frames and implementation approaches for successful policy implementation." Equally, Voradej Chandarasorn (2005) in his political model of policy implementation, discussed that idea that four independent variables, including the level of support from different stakeholders, are important for successful policy implementation. Franke and Guidero (2012: p.8) on the other hand, in their study indicated that effective and sustained engagement and the support of stakeholder requires the implementation process at every stage for effective and successful implementation. Moreover, Mugwagwa et al. (2015) also stated that for the case of Mozambique, Senegal and Tanzania even the increased stakeholder's participation and political leadership cannot guarantee the policy implementation success. Furthermore, Gaitonde et al. (2017) discussed about community action for health in India that community participation as a strategy for health system performance is an omnipresent policy prescription for successful implementation.

All of the scholars mentioned above used mainly qualitative case studies and with their views, thoughts, and empirical findings, contended that the local-level support of stakeholders is required in the implementation process for successful policy implementation. For this study, micro level support from local stakeholders (MLSLS) was hypothesized to have a positive relationship with health policy implementation performance in primary care. However, the findings of this study revealed that the micro level support from local stakeholders did not find satisfactory evidence that there was a positive statistically-significant relationship with health policy implementation performance. The reasons behind such findings could be the nature of the analysis unit and the policy related to primary health care and the street level implementers or service providers at the root level. Another reason behind such results could be the institutionalization of policy implementation for primary health care services by the sub-district level health facilities. The health care services at the primary level are unique services that are provided only by health providers. The respondents might have thought that they can implement primary health care policy without the support of local stakeholders. Therefore, the results of the current study have not validated the views, thoughts, or empirical findings of previous studies result.

5.2 Policy Recommendations

The results of the study are in line with the research objectives and research questions as discussed above. The major findings of the study revealed that the level of health policy implementation performance was found between slightly low and high for all of the predictors. Moreover, the results have shown that the variables implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD) were the most important factors in terms of influencing health policy implementation performance in primary health care in Bangladesh as they had a positive significant association with health policy implementation performance in primary health care. The study also intended to recommend policy implications of the findings for related policymakers. Therefore, the

study suggests the following policy recommendations for the policymakers as guided by the study results.

1) The study results revealed that clarity of policy goals and objectives was an important predictor of the successful implementation of health policy in primary health care measured according to policy implementation performance. The findings of the study suggest that the goals and objectives of the health policy should be SMART (Specific Measurable Achievable Realistic Timebound), understandable, implementable, and open to the implementers so that they can understand the national health policy clearly. Many of the health administrators at the sub-district level stated during the data collection that they their understanding of the of the policy was not clear and they had confusion about the existence of health policy, so it was recommended that related policymakers arrange orienting field-level health administrators and health providers about the national health policy.
2) The results of the study also showed that budget and financial autonomy and resources, especially health human resources and infrastructures, were found to have non-significant relationships with the health policy implementation performance in primary health care in Bangladesh. The mean scores of the two variables were found just slightly above the slightly low level and this signifies the low level of budget and resources that they were getting in order to implement policy at the field level. Although they had no statistically significant relationships, it is believed that health care is crucial for increasing the productivity of human beings. Almost every state in the world gives priority of government spending to health sectors for human development and economic growth from the increasing and reasonable demands of citizens as a constitutional right. Hence, this study suggests that the government of Bangladesh invest more funds for primary health care services, health human resources, and medical equipment and quality infrastructure.
3) The findings of the study exposed the fact that interorganizational coordination had a strong positive relationship with health policy implementation performance in primary health care. In Bangladesh one of the components of primary health care is family planning, which is jointly implemented with the

family planning department. Hence, the study recommends that interorganizational coordination be strengthened, especially in the health and family planning department at the sub-district level, in order to implement the health policy in primary health care.

4) The findings of the study also revealed that management dynamics had a strong positive relationship with health policy implementation performance in primary health care. Health management at the sub-district level health facilities was found to be one of the key predictors for policy implementation performance. The country lacks proper health and well-being management at the sub-district level. The performance of health policy implementation to a great extent hinges on the dynamism of good management. Hence, the study recommends that policymakers initiate health and well-being management training or diplomas for health administrators at the sub-district level in order to implement health policy regarding primary health care. Moreover, concerned policymakers are recommended to prominence on innovation for effective health care delivery systems and to keep records using information and communication technology, research and development, and modern health and well-being management at the sub-district level.
5) Furthermore, the results of the study disclosed that the implementer's disposition or his or her attitude, understanding, responsibility, loyalty and devotion to the services had a strong positive unique contribution to the successful implementation of health policy in primary health care in Bangladesh. This was the most influencing factor in terms of implementation performance in primary health care for this study. Regarding implementation success or failure, this was one of the most vital factors in the context of health policy implementation in Bangladesh. Therefore, it is suggested that connected policymakers take initiative to motivate the field-level health providers regarding their responsibility, devotion, and attitude toward the policy and services receivers and to the nation.
6) The findings of the study revealed that local-level support from stakeholders had no statistically-significant relationship with health policy implementation performance. The descriptive statistics of the study indicated that the health

administrators at the sub-district level received more support from NGOs than the local government, local administration, or community leaders. It is recommended then that policymakers take steps to obtain adequate local levels of support from the local government and local administration for successful health policy implementation in primary health care at the sub-district level.

7) From the demographical descriptive statistics, it was found that the representation of female UH&FPOs was only 6.7%. Therefore, it is recommended that policymakers think about the gender equality in order to deploy female doctors as UH&FPOs at the sub-district level health facilities in Bangladesh.
8) Although the study of private health facilities for primary health care was beyond the scope of this study, it is suggested that policymakers be careful about their institutional capacity and the services provided by the private hospitals, clinics, and especially the village doctors for successful implementation of health policy in primary health care.

5.3 Contributions of the Study

The study offered roughly a set of diffident contributions to health policy implementation performance evaluation and the body of knowledge on policy implementation. The following sections are arranged to summarize the theoretical and practical contributions of the study.

5.3.1 Theoretical Contributions of the Study

Policy implementation, policy performance, and policy evaluation as a field of policy management and implementation research are considered new and still lack a comprehensive and outstanding theoretical underpinning. The theories and models developed in the field of policy implementation and policy management have been developed mainly in the different contexts of developed countries by several scholars. The theoretical and conceptual framework developed for this study was based on several studies, including the work of famous academics such as Graham T Allison, (1971), Pressman and Wildavsky (1973), Van Meter and Van Horn (1975), Eugene

Bardach (1977), and Sabatier and Mazmanian (1980), Voradej Chandarasorn's (2005) five models and other models and top-down, bottom-up and hybrid theories of policy implementations. Grounded on the theoretical and conceptual framework, seven hypothesises were generated and tested for the findings regarding the relationship of the dependent and independent variables described and discussed above, reasonably suggested the theoretical framework and contributions of the study.

The results of the study confirmed four of the hypothesized relationships and found results for the other three hypotheses that were in contrast to the previous results, empirical findings, views, and thoughts of scholars. For instance, previous studies found a positive association of policy implementation performance with adequate budgets, financial power, resources (equipment, human resources, infrastructure) and local level support from stakeholders. But then the result of the study provided partially divergence result. The study examined the level of health policy implementation performance in primary health care, and examined the policy related, organization related, individual level, and local level support factors affecting health policy implementation performance in primary health care and determined the most influential factors affecting health policy implementation performance in primary health care at the sub-district level health facilities in Bangladesh. Therefore, the study has discovered the importance of the theories developed on the basis of the grounded works of Allison (1971), Pressman and Wildavsky (1973), Van Meter and Van Horn, (1975), Bardach (1977), and Sabatier and Mazmanian (1980), Voradej Chandarasorn's (2005) five models and other models and top-down, bottom-up and hybrid theories of policy implementations. Thus, the findings of the study have added some innovative contributions to the body of knowledge and theories in the literature of policy implementation, policy management and evaluation, emphasizing health policy implementation performance in primary health care.

5.3.2 Practical Contributions of the Study

According to the review of the literature, the conceptual framework, and the results and discussion of the study, there are some practical contributions of the study. The study has identified the health policy implementation performance in primary health care with the objectives of examining the policy related, organization related,

and individual level and local level support factors affecting health policy implementation performance in primary health care and determining the most influencing factors affecting health policy implementation performance in primary health care at the sub-district level health facilities in Bangladesh.

Most of the previous work done in the field of policy implementation have been based on qualitative methods, such as case studies, empirical case studies, conceptual papers and review papers, and the case study method, which have dominated implementation research study. It is worth noting that the name of the scholars in this field of policy implementation that have worked using qualitative methods are Pressman and Wildavsky (1973) using case study methods; Van Meter and Van Horn (1975) writing conceptual papers; P. A. Sabatier and Mazmanian (1980) doing top-down case studies; Nakamura and Smallwood, F (1980) using analytical concepts; Martin Rein (1983) writing conceptual papers; P. Sabatier (1988) framework; Matland (1995) writing conceptual papers; Rainey and Steinbauer (1999) writing conceptual papers; Grantham (2001) doing empirical single case studies; Zahariadis and Morgan (2005) doing empirical single case studies; Brinkerhoff (1999) doing multiple case studies; Tadlock et al. (2005) doing multiple case studies; and O'Toole Jr. (2000 and 2004) doing case study methods and reviews. Beyond the aforementioned work of the scholars, Meier and O'toole (2001) and Meier and O 'Toole (2002) used empirical quantitative methods testing the program performance of organization. However, this study has been systematized and has used the quantitative research method based on grounded deductive theories, models, and frameworks.

Researchers usually use service receivers in order to view performance; however, this study has looked at the perceived performance of policy implementation by street level implementers. The sampling method for this study was used, the total population or census, while most of the previous studies used single and multiple case study methods and very few used quantitative sampling methods. Many of the previous studies used frameworks and models to explain implementation performance or success, but then, in this study, a suitable working integrated model was developed based on the deductive theoretical background. Moreover, most of the previous research studies have been done on policy implementation performance in the developed-country context. This study, however, has looked at developing country perspectives

on health policy implementation performance in primary health care in Bangladesh. Hence, an integrated conceptual framework was developed and the factors affecting health policy implementation performance in primary health care in Bangladesh were assessed that could be expected to benefit policy planners, implementers, and academic researchers in their respective fields.

5.4 Direction for Future Research

The main objective of the present study was to assess the factors influencing the health policy implementation performance in primary health care in Bangladesh. The human mind desires perfection but to err is human. This study used the quantitative method solely to find out the factors affecting health policy implementation performance. For this type of study researchers can use qualitative methods solely for finding the distinguishing factors from the grounded work in the context of Bangladesh for the health policy implementation performance in primary health care. Moreover, future researchers can employ mixed methods for investigating the factors influencing health policy implementation performance. The theoretical and conceptual framework developed for this study was only used to assess health policy implementation performance in primary health care. There are a lot of polices in Bangladesh, and academic researchers can use the same concept in different areas and policies in the context of Bangladesh.

As outlined and discussed earlier, there were three plausible hypotheses not satisfied and found to have non-significant relationships besides the four statistically-significant hypothesized relationships with health policy implementation performance, and this could be an indication for future research employing more factors from the literature, grounded theory not using a nomothetic approach reliant only few factors rather employing completely idiographic approach of research. The respondents of the present study were health administrators (UH&FPOs) at the sub-district level Health Complexes from service providers point of view, and this may well be an additional sign for future research if the researchers take the opinion of service recipients regarding health policy implementation performance in primary health care in Bangladesh.

5.5 Conclusions

The drive of the study was to assess the factors affecting health policy implementation performance in primary health care in Bangladesh. The study mainly concentrated on exploring the levels and relationships among the policy related, organizational related, individual level and local level support factors with health policy implementation performance in primary health care and to determine the most influencing factors affecting health policy implementation performance in primary health care in Bangladesh. A theoretical and integrated conceptual framework and four working models were developed based on a wide review of the literature related to policy implementation theories, i.e. top-down, bottom-up and hybrid, and policy implementation deductive models such as the works of well-known academics Graham T. Allison (1971), Pressman and Wildavsky (1973), Van Meter and Van Horn (1975), Bardach (1977), and Sabatier and Mazmanian (1980) and Voradej Chandarasorn's (2005) five models of policy implementation.

To light the objectives of the study, seven hypotheses were set and tested mainly using the primary data collected from the field. Before collecting the final data, validity and reliability tests were done using factor analysis, expert opinions, and Cronbach's alpha. Hierarchical multiple regression analysis as a tool of the quantitative method was used as the main statistical analysis in order to assess the association of independent variables with dependent variable health policy implementation performance in primary health care. Besides descriptive statistics, for univariate and correlation analysis were used to see the bivariate relationships among the variables. Before running the hierarchical multiple regression, the data were checked for fulfilling the assumptions of the multiple regression analysis.

The research study discovered that female health administrators represented only 6.7% at sub-district level health facilities. The age structure of the respondents showed that a substantial percentage of the health administrators belonged to the young group of 30-40 (28.3%) and 41-50 (48.3%). According to the descriptive statistics, the level of opinion showed that all of the mean scores of the variables were found to be above 3.14. The study also found that four out of seven explanatory variables were statistically significant and had a unique contribution to the relationship ordering as per

the strength as implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD). The other three explanatory variables, resources (equipment, human resources, infrastructure, REHI), adequate budget and financial autonomy (ABFA) and micro level support from local stakeholders (MLSLS), were found to be positive but not statistically significant. Hence, the study found that the implementer's disposition (ID), clarity of goals and objectives (COGAO), management dynamics (MD), and coordination (COORD) were the most important factors for influencing health policy implementation performance in primary health care in Bangladesh.

Furthermore, the findings of the research examined and confirmed that four out of seven hypotheses specifically H1, H4, H5 and H6 were met and fully accepted: clarity of goals and objectives (COGAO), coordination (COORD), management dynamics (MD), implementer's disposition (ID), all of which had a positively significant relationship with health policy implementation performance. The results of the study were validated with the empirical findings of the previous study. The other three hypotheses H2, H3 and H7 were not accepted: adequate budget and financial autonomy (ABFA), resources (equipment, human resources, infrastructure, REHI), and micro level support from local stakeholders (MLSLS), and they had no significant relationships with health policy implementation performance and nullified the previous studies. This might be a reason of different content and country context. Though these three non-significant factors are imperative for the policy implementers to implement policy at the field level. Finally, the findings of the study expected to be rebounded to the benefit of society considering the contribution to new knowledge generated in the field of policy implementation, and policy implementation performance and evaluation. The government can formulate policy and emphasize the areas that need to be improved for health policy implementation performance in primary health care in Bangladesh. Moreover, the results of the study will likely benefit researchers in terms of uncovering the critical knowledge regarding policy implementation, implementation performance, and evaluation mentioned in the direction of future research.

5.6 Chapter Summary

This final chapter five explained the key findings of the study and discussed the previous work of scholars, the theoretical and practical contributions of the study, future directions for research, and policy recommendations for policy planners and conclusions. In the next sections, first was described the objectives and research questions of the study according to the objectives of the study. Then in the subsequent section future directions for research, policy recommendations for policymakers, and conclusions and the theoretical and practical contributions of the study to the field of policy implementation, especially the health policy implementation performance body of knowledge, were explained.

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Appendix-A

Questionnaires

Graduate School of Public Administration
National Institute of Development Administration, Thailand

Date: October 22, 2017
To,
Upazila Health & Family Planning Officer
Upazila Health Complex (All)

Subject: <u>Request for taking part in survey questionnaire for Ph.D. dissertation</u>

Dear Sir/Madam,

This is Md. Mohoshin Ali (Batch-22, ID# 5810131004), Ph.D. candidate at the Graduate School of Public Administration (GSPA), National Institute of Development Administration (NIDA), Bangkok, Thailand with NIDA full Scholarship. I have successfully defended my research proposal on "THE FACTORS AFFECTING HEALTH POLICY IMPLEMENTATION PERFORMANCE IN PRIMARY HEALTH CARE: AN EMPIRICAL STUDY OF THE SUB-DISTRICT LEVEL HEALTH FACILITIES IN BANGLADESH". I am proceeded to the ground to collect data from UH&FPO in Bangladesh. The survey questionnaire is a part of Ph.D. dissertation and about to study empirically the present perceived level of health policy implementation performance in primary health care facilities in the government sector at Upazila level. The individual perception to be given by the esteemed respondents will be an immense valuable input for the research and will be highly appreciated. Your responses and opinions to this questionnaire will be treated with high confidentiality and anonymity and will be used only for this research and academic purpose only.

I am looking forward to your kind assistance and cooperation for obtaining my Ph.D. In case of any query, please don't hesitate to contact the undersigned. Please send the filled in questionnaire in the return envelope enclosed by post or by email.

My Address in Bangladesh
Md. Mohoshin Ali
C/O ATM Badruzzaman
Holding- 450-02 (3/1-2nd Floor)
Gonomukhi Club Playground Road
Uttar Katia, Amtola Mor
Satkhira
Yours faithfully,

Md. Mohoshin Ali
Ph.D. candidate at GSPA, National Institute of Development Administration (NIDA)
Bangkok, Thailand.

Phone: +8801711489786 (BD), +66967459944 (Thai)
E-mail: mohoshin2005@gmail.com

Questionnaires for Ph.D. Dissertation

Dissertation Title: "The Factors Affecting Health Policy Implementation Performance in Primary Health Care: An Empirical Study of the Sub-District Level Health Facilities in Bangladesh"

Please tick in the appropriate box (one for each question) and rate your perceived opinion level with each of the following question as **(6=Very High, 5=High, 4=Slightly High, 3=Slightly Low, 2=Low, 1=Very Low)**. (**Please send the filled in questionnaire in the return envelope enclosed or by email).**

Item No.	Demographic and General Information of the Respondent	
1	Sex	☐ Male ☐ Female
2	Age	☐ 30-40 ☐ 41-50 ☐ 51-60
3	Division	☐ Khulna ☐ Dhaka ☐ Mymensingh ☐ Rangpur ☐ Sylhet ☐ Chittagong ☐ Rajshahi ☐ Barisal

Perceived level of opinion about health policy implementation performance in primary health care in Bangladesh

Clarity of Goals and objectives		Very Low	Low	Slightly Low	Slightly High	High	Very High
4	The national health policy in primary care is clear.						
5	What is your rating on clarity of health policy goals in primary care?						
6	What is your rating on clarity of health policy objectives in primary care?						
7	How do you rate your staff has complete understanding of health policy goals?						

8	How do you rate your staff has complete understanding of health policy objectives?						
9	How do you rate the policy goals and objectives are relevant to people's health care need?						
10	How do you rate the appropriateness of strategies and interventions to achieve the policy goals and objectives?						
Adequate budget and financial autonomy		Very Low	Low	Slightly Low	Slightly High	High	Very High
11	How do you rate the adequacy of budget you receive?						
12	what is the level of autonomy of financial power?						
13	How do you rate the effectiveness of funds utilization?						
14	What is the level of quality of financial management practices?						
15	How do you rate the capabilities to ensure the quality of public procurement?						
16	How do you rate the adequacy of allocation of budget for procurement of medical supplies?						
17	How do you rate the adequacy of allocation of budget for procurement of administrative goods?						
Resources (Human, Infrastructure and Equipment)		Very Low	Low	Slightly Low	Slightly High	High	Very High

18	Rate the quality of hospital premise.						
19	How do you rate quantity of infrastructure?						
20	Rate the quality of medical equipment.						
21	Rate the availability of medical equipment in your hospital.						
22	Rate the availability of medical personnel in your hospital.						
23	Rate the level of skilled health personal available.						
24	Rate the level of experienced health personal available.						
25	How do you rate the level of skilled support staff available?						
26	How do you rate the level of experienced support staff available?						
27	How do you rate the level of staff training for implementation of health policy in primary care?						
Coordination		Very Low	Low	Slightly Low	Slightly High	High	Very High
28	Rate the level of coordination with the other programs and agencies.						
29	Rate the effectiveness of cooperation and coordination between health and family Planning.						
30	How do you rate interdepartmental implementation effectiveness?						

31	How do you rate the coordination with other government organizations?						
32	Rate the level of sharing knowledge and experiences with other sub-districts?						
33	How do you rate the knowledge and experiences sharing among yourselves?						
34	Rate the supremacy of your team to coordination and leadership with other departments in the upazila.						
Management dynamics		Very Low	Low	Slightly Low	Slightly High	High	Very High
35	What is your rating about management of the health facility in primary care?						
36	How do you rate the service provider coordinate among yourselves?						
37	What is the level of ICT use for patient management?						
38	Rate your facility for making aware the mass people for disease prevention and well-being.						
39	Rate the level of ICT use for dissemination of health-related information for unbounded services.						
40	Rate the facility serving the right target people as per the policy content?						

41	Rate the level of innovation for better services and management.						
42	Rate the level of capacity to ensure primary health care services.						
43	Rate the level of competency to ensure successful implementation of health policy in primary care.						
Implementers' Disposition		Very Low	Low	Slightly Low	Slightly High	High	Very High
44	How do you rate the members of the implementation squad understand personal roles and responsibilities?						
45	How do you measure the members of the implementation squad serves as per work responsibility?						
46	How do you rate the provider's attitudes and interactions with other colleagues?						
47	How do you rate the implementation team's respects to the rules and procedures?						
48	How do you rate your team's dedication to implementation of health policy in primary care?						
49	How do you rate the commitment of health personnel to implement health policy in primary care?						
50	Rate the level of attitude of service providers with the recipients.						

51	Rate the level of disciplines of your team.						
52	Rate the extent you rely on the implementation team.						
Micro level support of stakeholders		Very Low	Low	Slightly Low	Slightly High	High	Very High
53	Rate the level of adequate support received from local government at sub-district level.						
54	Rate the level of appropriate support received from local government at union level.						
55	Rate the satisfactory support received from local administration for implementation of primary health care.						
56	Rate the level of reasonable support received from private sectors.						
57	How do you rate the level of support received from civil society?						
58	What is the level of support from NGO's?						
59	How do you rate the rational support from local community leader?						
Overall perceived level of health policy implementation performance in primary health care		Very Low	Low	Slightly Low	Slightly High	High	Very High
60	How do you rate the level of satisfaction for health policy implementation performance in primary health care?						

61	Rate the level of achievement of government health policy implementation in primary care.						
62	How do you rate the equitability of health facilities in primary health care?						
63	How do you rate the quality of services that you are providing to the recipients of primary health care?						
64	How do you rate the access to the health facilities in your territory?						
65	Rate the availability of health care services in primary health care facilities.						
66	How do you rate the appropriateness of health interventions?						
67	How do you rate the level of satisfaction of the service recipients?						

Thank you very much for your time and kind cooperation.

Appendix-B

Validity of Questionnaire Items by Using Index of Item Objective Congruence (IOC)

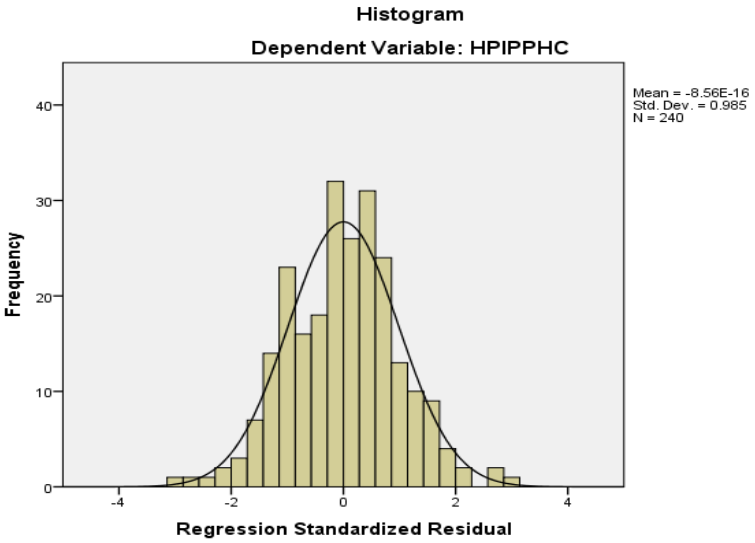
Validation of the questionnaire items by using index of item objective congruence (IOC) by four content experts. (*where -1 designates as Totally Invalid, 0 denotes No Comment and +1 symbolizes Totally Valid).*

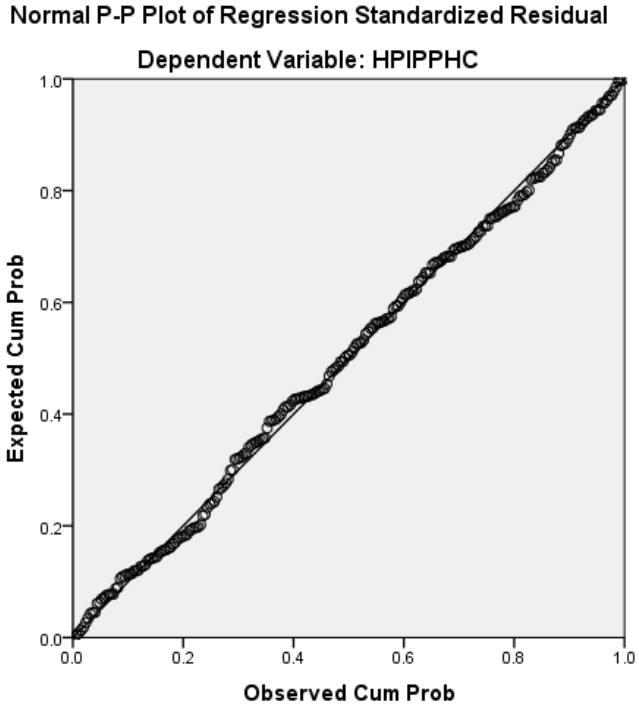
Item No.	Expert 1	Expert 2	Expert 3	Expert 4	Index	Invalid	Valid
1	1	1	1	1	1		Valid
2	1	1	1	1	1		Valid
3	0	0	1	0	0.25	Invalid	
4	-1	1	1	0	0.25	Invalid	
5	-1	1	0	1	0.25	Invalid	
6	1	1	1	1	1		Valid
7	1	1	1	1	1		Valid
8	1	1	1	1	1		Valid
9	1	1	0	1	0.75		Valid
10	1	1	0	1	0.75		Valid
11	1	1	1	1	1		Valid
12	1	1	1	1	1		Valid
13	1	1	1	1	1		Valid
14	1	1	0	1	0.75		Valid
15	1	1	1	1	1		Valid
16	1	1	0	1	0.75		Valid
17	1	1	1	1	1		Valid
18	1	1	1	1	1		Valid
19	1	1	1	1	1		Valid
20	1	1	1	1	1		Valid
21	1	0	1	1	0.75		Valid
22	1	1	1	1	1		Valid
23	1	1	1	1	1		Valid
24	1	1	1	1	1		Valid
25	1	1	1	1	1		Valid
26	1	1	1	1	1		Valid
27	1	1	1	1	1		Valid
28	1	1	1	1	1		Valid
29	1	1	1	1	1		Valid
30	1	1	1	1	1		Valid
31	1	1	1	1	1		Valid
32	1	0	1	1	0.75		Valid

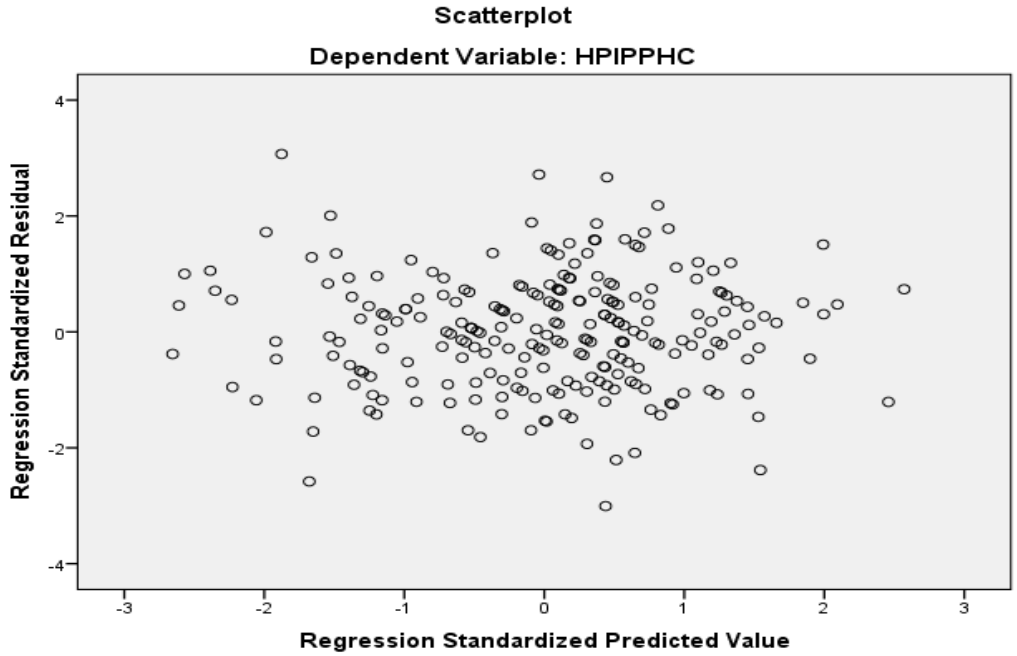
Item No.	Expert 1	Expert 2	Expert 3	Expert 4	Index	Invalid	Valid
33	1	1	1	1	1		Valid
34	1	1	0	1	0.75		Valid
35	1	1	0	1	0.75		Valid
36	1	1	1	1	1		Valid
37	1	1	1	1	1		Valid
38	1	1	1	1	1		Valid
39	1	1	1	1	1		Valid
40	1	1	0	1	0.75		Valid
41	1	1	0	1	0.75		Valid
42	1	1	0	1	0.75		Valid
43	0	1	1	1	0.75		Valid
44	1	1	1	0	0.75		Valid
45	0	1	1	1	0.75		Valid
46	1	1	1	0	0.75		Valid
47	1	1	1	0	0.75		Valid
48	1	1	0	1	0.75		Valid
49	1	1	0	1	0.75		Valid
50	1	1	0	1	0.75		Valid
51	1	1	0	1	0.75		Valid
52	1	1	0	1	0.75		Valid
53	1	1	0	1	0.75		Valid
54	1	1	0	1	0.75		Valid
55	1	1	1	1	1		Valid
56	1	1	1	1	1		Valid
57	1	1	1	1	1		Valid
58	1	1	0	1	0.75		Valid
59	1	1	1	1	1		Valid
60	1	1	1	1	1		Valid
61	1	1	1	1	1		Valid
62	1	1	1	1	1		Valid
63	1	1	1	1	1		Valid
64	0	1	1	1	0.75		Valid
65	1	1	1	1	1		Valid
66	0	1	1	1	0.75		Valid
67	1	1	1	1	1		Valid
68	1	1	1	1	1		Valid
69	1	1	1	0	0.75		Valid

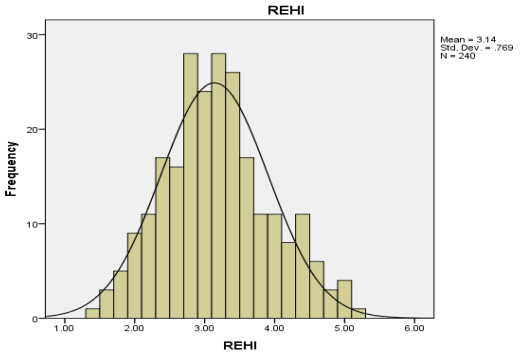
Appendix-C

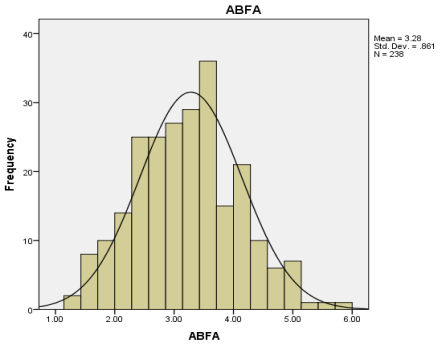
Histogram, Scatterplot, Normal PP Plot and Test Results

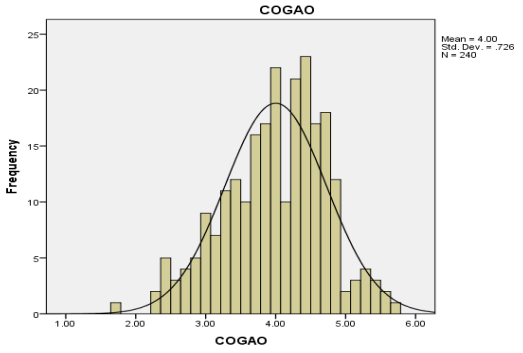


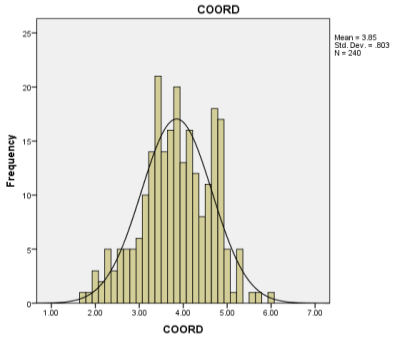


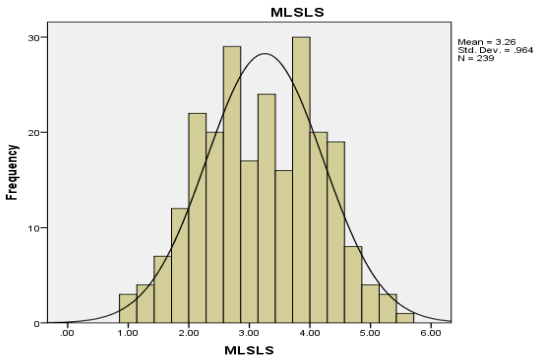

Scatterplot
Dependent Variable: HPIPPHC
Regression Standardized Residual
Regression Standardized Predicted Value

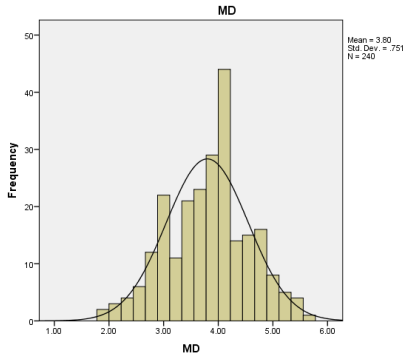

REHI
Mean = 3.14
Std. Dev. = .769
N = 240
Frequency
REHI

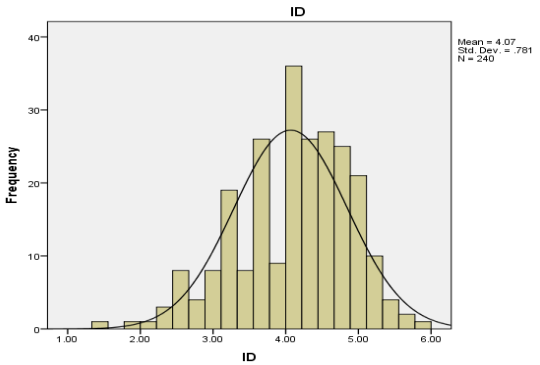

ABFA
Mean = 3.28
Std. Dev. = .861
N = 239
Frequency
ABFA

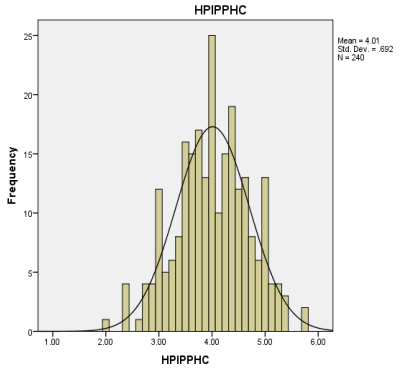

COGAO
Mean = 4.00
Std. Dev. = .726
N = 240
Frequency
COGAO

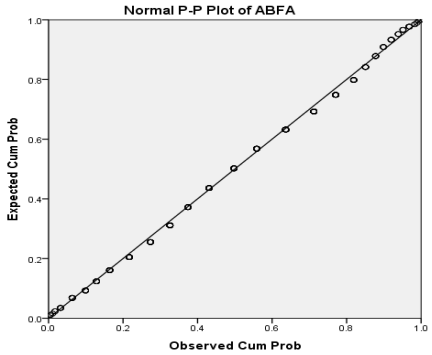

COORD
Mean = 3.85
Std. Dev. = .803
N = 240
Frequency
COORD

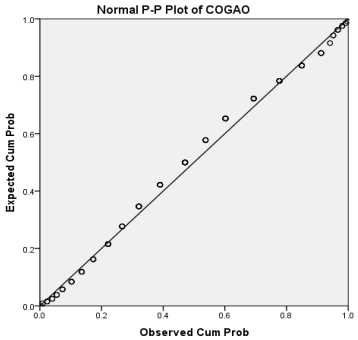

MLSLS
Mean = 3.26
Std. Dev. = .964
N = 239
Frequency
MLSLS

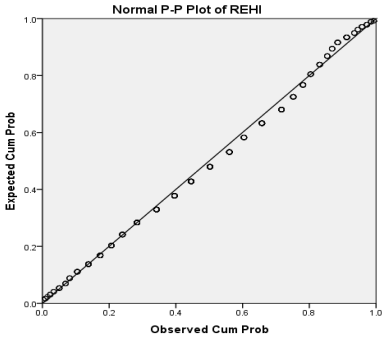

MD
Mean = 3.80
Std. Dev. = .751
N = 240
Frequency
MD

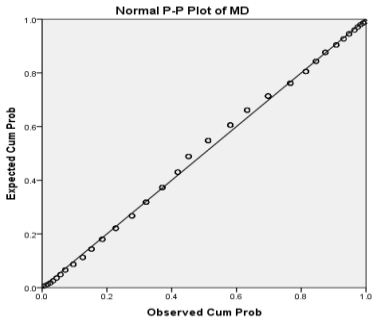

ID
Mean = 4.07
Std. Dev. = .781
N = 240
Frequency
ID

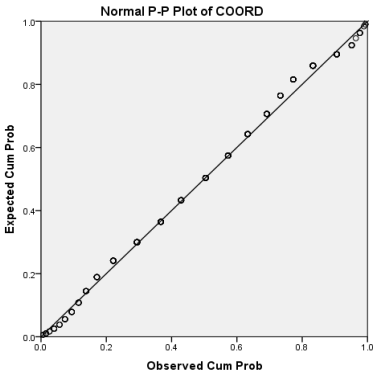

HPIPPHC
Mean = 4.01
Std. Dev. = .692
N = 240
Frequency
HPIPPHC

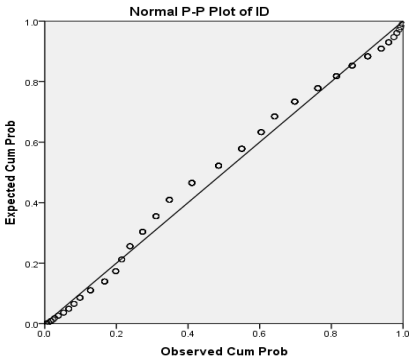

Normal P-P Plot of ABFA
Expected Cum Prob
Observed Cum Prob

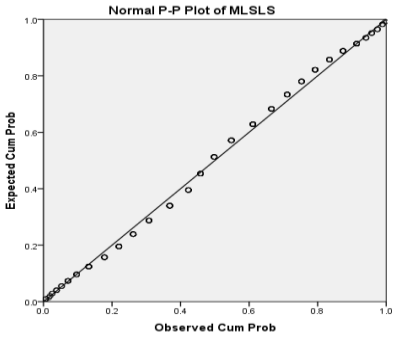

Normal P-P Plot of COGAO
Expected Cum Prob
Observed Cum Prob

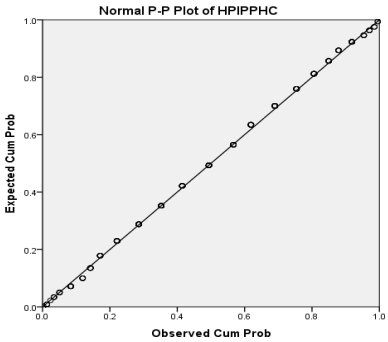

Normal P-P Plot of REHI
Expected Cum Prob
Observed Cum Prob

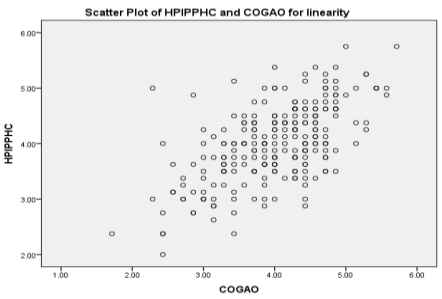

Normal P-P Plot of MD
Expected Cum Prob
Observed Cum Prob

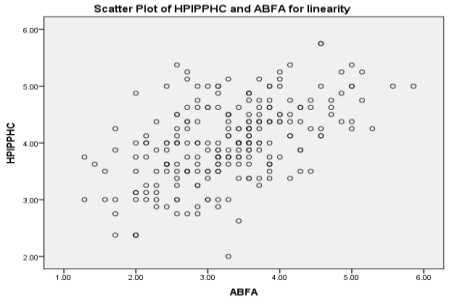

Normal P-P Plot of COORD
Expected Cum Prob
Observed Cum Prob

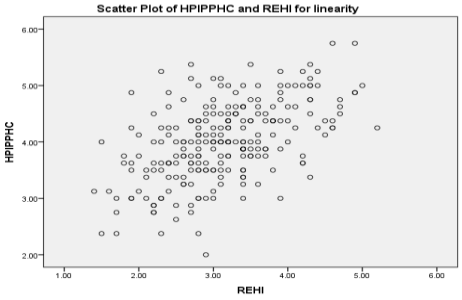

Normal P-P Plot of ID
Expected Cum Prob
Observed Cum Prob

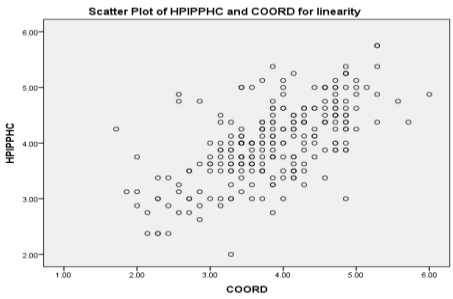

Normal P-P Plot of MLSLS
Expected Cum Prob
Observed Cum Prob

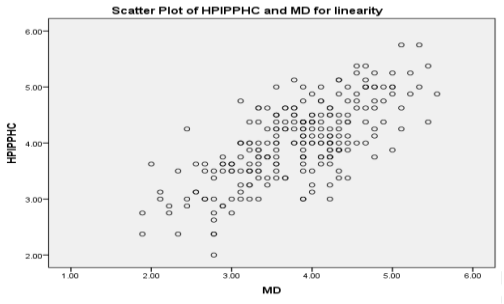

Normal P-P Plot of HPIPPHC
Expected Cum Prob
Observed Cum Prob

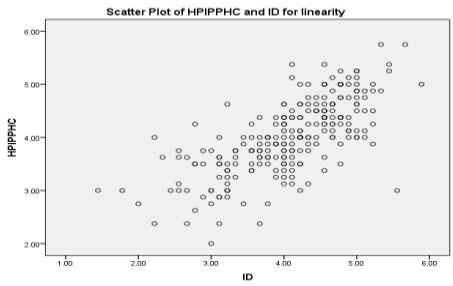

Scatter Plot of HPIPPHC and COGAO for linearity
HPIPPHC
COGAO

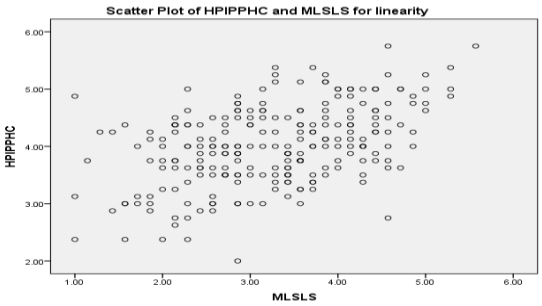

Scatter Plot of HPIPPHC and ABFA for linearity
HPIPPHC
ABFA


Scatter Plot of HPIPPHC and REHI for linearity
HPIPPHC
REHI


Scatter Plot of HPIPPHC and COORD for linearity
HPIPPHC
COORD







Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
COGAO	.094	237	.000	.984	237	.010
ABFA	.054	237	.086	.992	237	.221
REHI	.071	237	.005	.988	237	.055
COORD	.065	237	.018	.988	237	.044
MD	.074	237	.003	.993	237	.301
ID	.096	237	.000	.979	237	.001
MLSLS	.066	237	.014	.989	237	.064
HPIPPHC	.055	237	.076	.993	237	.285

a. Lilliefors Significance Correction

Descriptive Statistics

	Mean	Std. Deviation	N
COGAO	4.0145	.71885	237
ABFA	3.2833	.86177	237
REHI	3.1481	.76405	237
COORD	3.8602	.79108	237
MD	3.8106	.73977	237
ID	4.0783	.76453	237
MLSLS	3.2586	.96678	237
HPIPPHC	4.0190	.68844	237

Correlations

		COGAO	ABFA	REHI	COORD	MD	ID	MLSLS	HPIPPHC
COGAO	Pearson Correlation	1	.517**	.382**	.492**	.534**	.475**	.472**	.606**
	Sig. (1-tailed)		.000	.000	.000	.000	.000	.000	.000
ABFA	Pearson Correlation	.517**	1	.613**	.567**	.550**	.479**	.449**	.522**
	Sig. (1-tailed)	.000		.000	.000	.000	.000	.000	.000
REHI	Pearson Correlation	.382**	.613**	1	.640**	.611**	.440**	.490**	.519**
	Sig. (1-tailed)	.000	.000		.000	.000	.000	.000	.000
COORD	Pearson Correlation	.492**	.567**	.640**	1	.640**	.564**	.477**	.622**
	Sig. (1-tailed)	.000	.000	.000		.000	.000	.000	.000
MD	Pearson Correlation	.534**	.550**	.611**	.640**	1	.699**	.547**	.694**
	Sig. (1-tailed)	.000	.000	.000	.000		.000	.000	.000
ID	Pearson Correlation	.475**	.479**	.440**	.564**	.699**	1	.394**	.695**
	Sig. (1-tailed)	.000	.000	.000	.000	.000		.000	.000
MLSLS	Pearson Correlation	.472**	.449**	.490**	.477**	.547**	.394**	1	.460**
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000		.000
HPIPPHC	Pearson Correlation	.606**	.522**	.519**	.622**	.694**	.695**	.460**	1
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (1-tailed).

b. Listwise N=237

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.694[a]	.481	.474	.50176	.481	72.905	3	236	.000	
2	.773[b]	.597	.589	.44389	.116	33.777	2	234	.000	
3	.804[c]	.646	.637	.41677	.049	32.444	1	233	.000	
4	.804[d]	.647	.636	.41762	.000	.049	1	232	.825	1.729

a. Predictors: (Constant), REHI, COGAO, ABFA

b. Predictors: (Constant), REHI, COGAO, ABFA, MD, COORD

c. Predictors: (Constant), REHI, COGAO, ABFA, MD, COORD, ID

d. Predictors: (Constant), REHI, COGAO, ABFA, MD, COORD, ID, MLSLS

e. Dependent Variable: HPIPPHC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.065	3	18.355	72.905	.000[b]
	Residual	59.417	236	.252		
	Total	114.481	239			
2	Regression	68.375	5	13.675	69.404	.000[c]
	Residual	46.106	234	.197		
	Total	114.481	239			
3	Regression	74.011	6	12.335	71.016	.000[d]
	Residual	40.471	233	.174		
	Total	114.481	239			
4	Regression	74.019	7	10.574	60.630	.000[e]
	Residual	40.462	232	.174		
	Total	114.481	239			

a. Dependent Variable: HPIPPHC

b. Predictors: (Constant), REHI, COGAO, ABFA

c. Predictors: (Constant), REHI, COGAO, ABFA, MD, COORD

d. Predictors: (Constant), REHI, COGAO, ABFA, MD, COORD, ID

e. Predictors: (Constant), REHI, COGAO, ABFA, MD, COORD, ID, MLSLS

ANOVA for Test of Equal Variance (Levene's Test) Homoscedasticity

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
COGAO	Based on Mean	.087	1	235	.769
	Based on Median	.319	1	235	.573
	Based on Median and with adjusted df	.319	1	234.688	.573
	Based on trimmed mean	.163	1	235	.687
ABFA	Based on Mean	.160	1	235	.690
	Based on Median	.181	1	235	.671
	Based on Median and with adjusted df	.181	1	233.685	.671
	Based on trimmed mean	.170	1	235	.681
REHI	Based on Mean	.019	1	235	.890
	Based on Median	.022	1	235	.882
	Based on Median and with adjusted df	.022	1	234.923	.882
	Based on trimmed mean	.024	1	235	.877
COORD	Based on Mean	.081	1	235	.776
	Based on Median	.300	1	235	.585
	Based on Median and with adjusted df	.300	1	234.615	.585
	Based on trimmed mean	.069	1	235	.794
MD	Based on Mean	1.015	1	235	.315
	Based on Median	1.008	1	235	.316
	Based on Median and with adjusted df	1.008	1	233.384	.316
	Based on trimmed mean	1.059	1	235	.304
ID	Based on Mean	2.695	1	235	.102
	Based on Median	2.758	1	235	.098
	Based on Median and with adjusted df	2.758	1	232.001	.098
	Based on trimmed mean	2.568	1	235	.110
MLSLS	Based on Mean	1.111	1	235	.293
	Based on Median	1.417	1	235	.235
	Based on Median and with adjusted df	1.417	1	234.997	.235
	Based on trimmed mean	1.237	1	235	.267
HPIPPHC	Based on Mean	.001	1	235	.982
	Based on Median	.003	1	235	.960
	Based on Median and with adjusted df	.003	1	234.983	.960
	Based on trimmed mean	.000	1	235	.993

BIOGRAPHY

NAME MD. MOHOSHIN ALI

ACADEMIC BACKGROUND

Degree Obtained: Master of Public Policy Studies
Field of Study: Public Policy Studies
Academic Year: 2004-2005
Name and Location of Institution: National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan
GPA: 3.75 on a scale of 4.00

Degree Obtained: Diploma in Population Sciences
Field of Study: Population Sciences
Academic Year: 2011
Name and Location of Institution: University of Dhaka, Dhaka Bangladesh
GPA: 3.56 on a scale of 4.00

Degree Obtained: Master's in social science in Economics
Field of Study: Economics
Academic Year Started: 1995 and Completed in the year: 1997
Name and Location of Institution: University of Dhaka, Dhaka Bangladesh
Class obtained: Second Class with 57.40% marks
GPA: 3.50 on a scale of 4.00

Degree Obtained: Bachelor of Social Science in Economics
Field of Study: Economics
Academic Year Started: 1991-1992 and Completed in the year: 1994
Name and Location of Institution: University of Dhaka, Dhaka Bangladesh
Class obtained: First Class with 61.11% marks
GPA: 3.83 on a scale of 4.00

Degree Obtained: Higher Secondary Certificate (H.S.C)
Field of Study: Humanities group
Academic Year: 1991
Name and Location of Institution: Cantonment College, Jessore Bangladesh
Class obtained: First Division with 73.50% marks

Degree Obtained: School Secondary Certificate (S.S.C)
Field of Study: Humanities group
Academic Year: 1989
Name and Location of Institution: Chowgacha Shahadat

Pilot High School, Jessore Bangladesh
Class obtained: First Division with 61.90 Marks

EXPERIENCES

MD. MOHOSHIN ALI
ID# 6736
Deputy Secretary
Ministry of Public Administration
Bangladesh Secretariat, Dhaka, Bangladesh
Positions:
Deputy Secretary, OSD on study (Deputation), Ministry of Public Administration, Bangladesh from 20/07/2015 to 09/08/2018
Deputy Director, Local Government, Deputy Commissioner's Office, Satkhira from 11/05/2015 to 19/07/2015.
Additional Deputy Commissioner (General), Deputy Commissioner's Office, Satkhira from 25/04/2013 to 11/05/2015.
Senior Assistant Secretary, Bangladesh Parliament Secretariat from 19/04/2009 to 17/04/2013.
Upazila Nirbahi Officer, Dacope, khulna: from 29/07/2007 to 12/04/2009
Nezarat Deputy Collector (NDC) DC Office, Barisal, from 02/11/06 to 23/07/07
Assistant Commissioner DIV Com Office Barisal, from 13/11/05 to 01/11/06
OSD on study in Japan (Deputation) M/O Establishment, from 01/08/04 to 12/11/05
Assistant Commissioner DC Office, Kishoreganj, from 19/02/03 to 31/07/04
Assistant Commissioner (PROB) DC Office, Rajbari, from 03/06/01 to 18/02/03
Assistant Commissioner (PROB) DIV Com Office, Dhaka, from 28/05/01 to 02/06/01
Position: Assistant Manager
Employer: Bank of Small Industries and Commerce Bangladesh Limited
Nature of Work: Import and Export Section
Years Employed: From November 1999 to 27th May 2001

Position: Probationary Officer
Employer: Mercantile Bank Limited
Nature of Work: Credit Function
Years Employed: From June 1999 to Nonmember 15, 1999
Received NIDA full scholarship to study Ph.D. in Development Administration at the Graduate School of Public Administration, Bangkok, Thailand.

Received Japanese Government Monbukagakusho

scholarship to study Master in Public Policy Studies at the National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan.

Publication:
1. Competitiveness, Performance, and Factors Behind the Low Foreign Direct Investment Inflow in Bangladesh. Journal of Governance and Development, Vol. 12, Issue 1, June 2016, p 27-47, ONLINE ISSN 2289-2321.
2. Primary Health Care Policy Implementation Performance in Bangladesh: Affecting Factors. Journal of Public Administration and Governance, Vol. 8, No. 1, Pages 317-352, March. 2018. ISSN 2161-7104
Conference Paper:
Governance, Competitiveness and Economic Performance in Attracting Foreign Direct Investment Inflow in SAARC and ASEAN Countries. Annual International Conference Organized by The Korean Association for Public Administration at Chonbuk National University, Jeonju, South Korea from June 22-24, 2017.
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