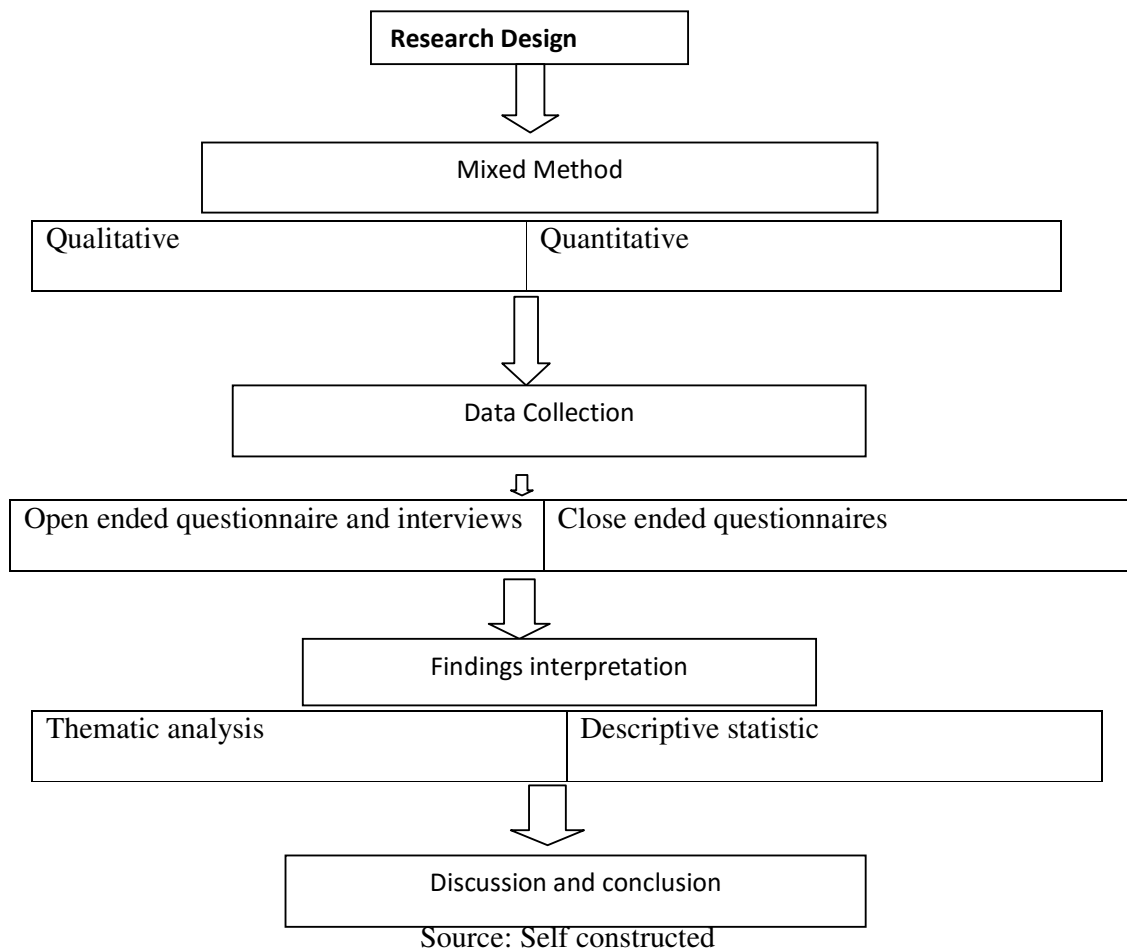# CHAPTER 3
RESEARCH METHODOLOGY

This chapter covers the detail about research design, sampling scheme, population and sample, data collection scheme, type of data, data sources, area of the study, data collection period, data collection mode, research instruments development process, data analysis tools, research variables and limitations of the study.

Research design

In the present study, mixed method is used for data collection and the exploratory sequential design was applied. In this approach an initial qualitative data collection and analysis, followed by the quantitative phase and analysis with the integration and linking of the data is followed. The earlier conducted studies majorly focused on the gender equality or the role of gender on governance or leadership skills, but the impact of emotional intelligence along with the socio-cultural context on the gendered governance in academic sector has not been studied or established. Therefore, the researcher selected three major constructs namely; gendered governance, emotional intelligence and the socio-cultural context in context of the female faculties working in the leadership position at university level. Current study is descriptive and purposive in nature, which mainly shows the relationship between gendered governance, emotional intelligence and the socio-cultural context. In the subsequent sections, the detailed research design followed by the researcher is given, which mainly includes the sampling scheme, data types, sources of data and the period of data collection process and the questionnaire development process along with the statistical tools used for the analysis.

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                    │           Mixed Method           │
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          │ Qualitative              │ Quantitative                     │
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                    │          Data Collection         │
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          │ Open ended questionnaire and      │ Close ended questionnaires│
          │ interviews                        │                           │
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                    │      Findings interpretation     │
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                    │     Discussion and conclusion    │
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Source: Self constructed

Sampling technique

This study used purposive sampling for selecting respondents and used convenient sampling for selecting the higher education institutions. Researcher used parallel sequential sampling design where separately quantitative and qualitative samples selected from the same population and data are collected from these two samples in two stages. Purposive sampling enables researchers to consider respondents' knowledge, experience, availability, and willingness to participate and their ability to express their opinions. Hence, this study used purposive sampling in which respondents were selected purposefully from female teachers those involved in governance positions in higher education

Population and Sample

Table 1:

Distribution of respondents

Sr.no	Name of Institution	Actual number of female HODs in the University	Number of HODs responded	Number of incharges and senior female faculties responded	Total
1	Central university of Haryana	6	5	10	15
2	Central university of Rajasthan	7	6	9	15
3	MDU, Rohtak	14	10	5	15
4	IGU, Rewari	6	5	10	15

The study was conducted on the female teachers who were involved in governance positions in higher educational institutions. Total four universities were selected as sample and 15 female faculties were selected from each university. The total sample size of the study was 60 respondents. For the qualitative data collection with interviews consent from the faculty members was taken. After taking consent faculty members

Quantitative and Qualitative sampling

This study used purposive sampling for selecting respondents and used convenient sampling for selecting the higher education institutions. There is no clear guidelines of sampling strategies for mixed methods designs although the researcher used parallel sequential sampling design where separately quantitative and qualitative samples selected from the same population and data are collected from these two samples in stages. Purposive sampling enables researchers to consider respondents'

knowledge, experience, availability, and willingness to participate and their ability to express their opinions. Hence, this study used purposive sampling in which respondents were selected purposefully from female teachers those involved in governance positions in higher education.

Table 2:

Sampling technique

Implementation	First priority	Second priority	Integration	Theoretical perspective
Parallel sequential sampling design	Qualitative data 1.filled open ended questionnaire to 52 respondents 2.conducted interviews to 8 senior most female faculties	Quantitative data 1.filled close ended questionnaires to 60 respondents	At the level of data analysis	explicit

Variables of the study

In the present study, the researcher took two independent variables and one dependent variable as:

1. **Socio-cultural context (independent variables):** Socio-cultural context (SCC) variable calculated as the summation of the various sub-variables taken in the study namely; Family support, Responsibilities and conflict, Cultural beliefs, Reproductive health, Work distribution, and Work Place Culture (Bhuvanalatha, 2013).

2. **Emotional intelligence (independent variable):** Emotional intelligence taken as independent variable in the study, measured using summation of total Well Being, Self-Control, Sociability, Emotionality and Auxiliary Factors. Here, well being includes the happiness, optimism and self-esteem; Self-control

includes the emotional regulation, impulsiveness and stress management; Sociability includes the emotional management, assertiveness and social awareness; Emotionality includes the empathy, emotional expression, emotional perception and relationship; and Auxiliary factors includes the self-motivation and adaptability (Petrides, 2009).

3. **Gendered governance (dependent Variable):** Gendered governance has been measured as a variable using mainly three sub-variables; quality of planning & execution, problem solving & decision-making quality and the group building and connecting quality. Total score of these variables has been taken as the gendered governance score which is a dependent variable in the conceptual model to be tested using regression tool (Scouler, 2011, Zaccoro, 2004)

   a. **Planning and execution**: Planning and execution comprises the unique initiatives taken by the institutions for the learning outcome of the students, and the manner different duties are assigned to the faculty members in the universities.

   b. **Problem solving and decision making**: This includes the perceptions of the female faculties related to the male and female faculty leaders in the educational institutes, how effective is the leadership of female faculties for resolving various issues related to the gender discrimination, the poor performance of students, and lack of interest of staff in taking part for institution management; Freedom to women leaders in educational institutes, and the risk-taking capacity of female leaders for organizational performance**.**

c. **Group building and connecting**: Group building activities may either include indoor or outdoor activities. It is observed that institutions prefer indoor activities rather than outdoor as it may be conducted during regular office hours or on weekends. These activities ensure improving communication, trust, and collaboration skills among the participants. Different team building activities are taken into consideration as per the goal and size of the team. The main purpose of the group building activities is to build relationship between faculty in a manner that is effective but fun.

Research tools

The researcher used two self- constructed questionnaires on social cultural context and gendered governance and one standardize tool on emotional intelligence for data collection.

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Research Tools for Quantitative Data Collection

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1. **Technical Manual for the Trait Emotional Intelligence Questionnaire- Small Format (TEIQUE-SF)**

The questionnaire of K.V Petrides (2009) was employed to test the emotional intelligence of female leaders. It includes five dimensions: well being, self control, emotionality, sociability and global traits/ auxiliary factors. Here, well being includes the happiness, optimism and self-esteem; Self-control includes the emotional regulation, impulsiveness and stress management; Sociability includes the emotional management, assertiveness and social awareness; Emotionality includes the empathy, emotional expression, emotional perception and relationship; and Auxiliary factors includes the self-motivation and adaptability. Total 30 statements covered under the emotional intelligence variable. These respondents were asked to rate the degree of

their agreement or disagreement with the statements on the basis of a seven-point frequency scale, where 1 meant 'completely disagree' while 7 meant 'completely agree' to the given statement.

Reliability of TEIQue-SF

The reliability or internal consistency of the questionnaire on emotional intelligence was checked with Cronbach's Alpha method. The result is:

Table 3:

Reliability TEIQue-SF

Sub-variables	Cronbach's a	No. of items
Well- Being	.80	6
Self-control	.65	6
Emotionality	.73	8
Sociability	.69	6
Auxiliary factors(Global traits EI)	.88	4
Total value	0.75	30

Over all alpha value of 0.75 was found for the questionnaire of emotional intelligence. The value of alpha above 0.70 is good enough which makes a questionnaire reliable for any study.

Validity of TEIQue-SF

For the validity of the tool found quite satisfactory found that the score were globally normally distributed and reliable, applied discriminate validity and criterion validity or incremental validity, this procedure based on test and retest score and

expert advice or also includes readers urged to consult on it and find the correlation significant at 0.01 levels.

2. Questionnaire on Socio-Cultural Context (QSCC)

This is self-constructed and close-ended questionnaire. It has five dimensions: family support, responsibilities and conflict, cultural beliefs, reproductive health, work distribution, work place culture/organizational**.** It has 25 statements related to socio cultural context (SCC). All these dimensions are measured by using a five-point scale of strongly agree to strongly disagree.

Table 4:

Items of Questionnaire on Socio-Cultural context (QSCC)

QSCC	No. of Items
Family support, responsibilities and conflict	5
Cultural beliefs	6
Reproductive health	4
work distribution	5
Work Place Culture/organizational	5

Questionnaire (close ended) on Gendered Governance (QGG) :

This is self-constructed and close-ended questionnaire on gendered governance. It has three dimensions: planning and execution, decision-making and problem solving, group building and connecting. It contains 20 items and measured by using a five-point scale of strongly agrees to strongly disagree.

Table 5:

Items of Questionnaire on gendered governance close ended (QGGCE)

QGGCE	No. of Items
Planning and Execution	6
Decision Making & Problem Solving	8
Group Building and Connecting	6

Research tools for qualitative data collection

1. Questionnaire (open ended) on Gendered Governance (QGG)

The questionnaire is self constructed and has 10 open-ended statements. It has two parts; one is demographic profile and second is related to different dimensions of gendered governance. The demographic profile includes- age group, total work experience, experience of administrative position. The second part gendered governance consists three dimensions viz. planning & execution, problem solving & decision-making and the group building and connecting.

Table 6:

Items of Questionnaire on gendered governance open ended (QGGOE)

QGGOE	No. of Statement
Planning and Execution	3
Decision Making & Problem Solving	3
Group Building and Connecting	4

Reliability and Validity

Reliability through internal consistency method is applied to measure by the value of Cronbach alpha. Both Face and Content validity were established in this research work. The investigator did the face validity and the experts in the field of investigation established the content validity. Face validity, it appears to measure whatever the author had in mind, namely, what he thought he was measuring. On the basis of review of related literature face validity was determined. The rationale behind content validity is that to examine the extent to which a measuring instrument provides adequate coverage of the topic under study. For ascertaining content validity questionnaires were sent to different experts from various universities through email. With some of the experts' researcher met personally as well. Among the experts total 7 experts responded in personal/email. After incorporating suggestions from experts pilot study was conducted.

Table 7:

Reliability of the tools

Sr. no	Questionnaires	Reliability / alpha value
1	Questionnaire on Socio-Cultural context (QSCC)	0.783
2	Questionnaire on gendered governance close ended (QGGCE)	0.735
3	Questionnaire on Gendered Governance open ended (QGGOE)	Trustworthiness

2. Interviews

Semi-structured interviews were conducted for qualitative data collection. Eight senior most female faculties' were interviewed after following ethical guidelines. Two respondents from each selected university were interviewed and it was recorded after permission. Semi-structured interviews were opted for data collection and conducted through face-to-face with the participants. On the basis of recording the researcher prepared transcripts. Field notes were also prepared on the basis of observations made by researcher during fieldwork.

Pilot Study

Pilot study was conducted with 350 samples, before the real collection of data. The respondents were drawn from a various higher educational institutions, which include private and government colleges and universities. Based on experiences and recommendations obtained from the discussions with senior administrator of higher education and pilot studies, as well as advice from an experienced researcher, the questionnaire was refined and affirmed before the researcher entered the field formally for further exploration. While the process of interview gave feedback about the instrument design, the pilot study gave inputs about the data collection process. The process helped prune the questionnaire and helped to understand the difficulties in data collection, and also helped to establish the reliability and validity of the questionnaires used and facilitated the fine dash of the tool of data collection.

Procedure of data collection

Data collection scheme gives a detail about the data used in the research, sources from where the data was collected, period when the data was collected, mode of data collection and the area of the study.

Types of data in study

In current research, keeping in view the nature of the objectives, the researcher used survey method for collecting primary data. Survey method is the major the data collection mode for primary data. Source of primary data was the real respondents from the four selected central and state universities. While, secondary data was collected majorly from online sources and very few data were collected from offline mode such as; newspapers, books or the magazines etc.

Timeline of data collection

The total number of universities, in the sample, is four including two central universities and two state universities. Data collection period was of at least 90 days long excluding Saturday and Sunday. The data collection was started from September 2019 and completed in January 2020. It took around five months due to festivals and winter vacations in North India. The researcher used to visit one university daily for data collection after taking formal permission from the concerned authorities in advance. Faculties were approached for the interviews during lunch hours, or after the working hours in their university campus only, while close-ended questionnaires have been handed over to fill up and later on it was collected as per their given date and time. Open-ended questionnaires were filled in the presence of the researcher; hence the missing information rate of questions is negligible. Finally, the collected data was screened and used for analysis.

Critical analysis

Critical analysis means to study individual's parts of work. It means critical study is to examine something that someone has said and done and the systematic examine of a piece of information with discussion its validity and reliability. Critical analysis includes negative and positive elements and more attention to evaluate the

strength and the weakness of the text. A good critical analysis contains a discussion of arguments, the organization and style, accuracy, hidden assumptions, fairness and meta- analysis- systematic critical review, clarity, precision, depth, logic, and significance (Paul & Elder, 2013).

Table 8:

Critical Analysis

Criteria	Descriptive	Critical analytic
Critically reviewed Accuracy	What happened What something is like or dislike	Identifies the significance.
Organization and style hidden assumptions	Which things happened	Evaluates strengths and weakness. Weighs one piece of information against another makes reasoned judgement.
Discussion of arguments logic	How	Argues a case according to the evidence.
Reality	Explains what	Show why something is relevant and suitable
Reasons	Explains how	Why something will work best Identifies something is appropriate
Reliability	when	Weighs up the importance of the component parts
Depth	Different component	Structure information in order to importance

Significance	Options lists	Relevance of text between piece of information
Fairness Clarity, precision	Lists order link between items	Draw conclusions.
Remove common fallacies(name- calling, hasty generalizations, over simplifications, emotional language)	Give information	Gives the reasons for selecting each option.

Ethical considerations

During the collection of primary data, the purpose of the study was clearly explained to the respondents and matters of concerns were resolved adequately. All possible measures were taken to protect confidentiality of the participants. Every respondent was assured of confidentiality. This encouraged fair- mindedness during interviews. Interviews were conducted and recorded in a domain acceptable to the respondents and make sure that the process was reliable. The researcher followed five ethical concerns while collecting survey data as voluntary participation, no harm to respondents, anonymity and confidentiality, identifying purpose of the study, and analysis and reporting all these guidelines were addressed individually with explanations to help eliminate or control any ethical concerns.

Administration procedure

After going through the available literature, the researcher selected three dimensions of gendered governance and five dimensions of socio-cultural context. The items of the close-ended questionnaires and statements of the open-ended

questionnaire were drafted on the basis of those dimensions. The first draft of the open-ended questionnaire of gendered governance consisted 25 statements and close-ended questionnaire of gendered governance consisted 45 items and the questionnaire of socio-cultural context consisted 55 items. Then drafts were sent to the experts' from various universities for their suggestions for content validation of these questionnaires. On the basis of experts' suggestions questionnaires were modified and final version after suggestions and feedback from pilot survey contains 10 statements on gendered governance open-ended questionnaire,20 items in close-ended questionnaire of gendered governance and the 25 items in questionnaire of socio-cultural context. These questionnaires were tried out on the sample of 350 female faculties of various colleges and universities. On the basis of the pilot study, reliability was found. After try out, necessary modifications were made and the questionnaires were finalized. For the variable of emotional intelligence a standardized questionnaire Trait Emotional Intelligence Questionnaire-Short format (TEIQue- SF) was used with 30 items.

For the final data collection, the researcher visited the universities of the area personally and contacted the head of department and consequently other faculty members who were in administrative positions. All the knowledge and information about the study was given to them. After obtaining the permission from the head, the researcher started the collection of data. The researcher collected the close ended questionnaires for quantitative data filled with 60 respondents and open ended questionnaire for qualitative data filled with 52 respondents and interviews conducted with 8 senior most female faculty involved in governance. The researcher also made transcripts, observation, field notes and recording for interview. At the end the investigators thanks the participants, heads of the departments.

Statistical techniques used

For the analysis of the data, percentage, t-test, regression, ANOVA were calculated with the help of SPSS. Following are the analytical tools applied in the study for representing the final results of the study. The researcher used thematic content analysis for qualitative data analysis. As the first section of the questionnaire on gendered governance included open-ended questions, hence, the content or the responses were analyzed using content analysis. While second part of the gendered governance questionnaire consist of close-ended question based on five-point Likert scale and responses were used to conduct the regression analysis and testing the hypothesis. Regression was conducted to measure the effect of socio-cultural context and emotional intelligence on the gendered governance. With the help of R square value, the goodness of fit of model has been checked whereas the regression coefficients show the relationship between the emotional intelligence, socio- cultural context and gendered governance.

Further more, One sample t-test was used to measure the difference in the perceived emotional intelligence of the female faculties. As there is only one variable i.e. emotional intelligence and the variation in the value of one variable can be measured using one-sample t-test. The difference in perceived socio-cultural context has been measured using similar test. One-way ANOVA is used to measure the impact of demographic variables on the three constructs of the study i.e. emotional intelligence, gendered governance and socio-cultural context. Along with these several other test such as; Cronbach's alpha to measure the reliability, and the percentage method have been used in the study.