Methodology for Service Quality Assessment of Social Programmes: A Framework

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Abstract

The planning and implementation of welfare schemes is the central theme to attend inclusive growth of an economy. The social welfare programmes eventually protect the poor and allow them to participate in the process of economic development. The present article is a part of a project and discusses the methodology adopted to evaluate the government sponsored social welfare schemes from slum dwellers prospective. The study has adopted a multi-dimensional service quality model to assess the perception and satisfaction of service quality of social service schemes. The service quality models used in prior studies focused only on functional qualities (service delivery process). However, the present study extended the service quality model beyond the delivery process and included the technical process (service outcome) that derives the end users' perception and satisfaction. The extended model is more realistic and provides a better result.

Keywords: *service quality models, social welfare schemes, multi-dimensional model*

Introduction:

After independence, the Indian policymakers have acknowledged the importance of promoting equitable economic development in the country. The balancing economic growth has targeted with reduction in inequalities in the society and to provide social protection to unprivileged people. In recent times this growth strategy of the government is called the "inclusive growth". The inclusive growth approach has been highlighted in many official documents including the latest action plan of the government. The planning and implementation of welfare schemes is the central theme to attend inclusive growth in the economy. Both the high economic growth and inclusive growth are strongly interconnected. The high growth in the economy brings up the people from poverty and generates maximum resources and prosperity. This in turn supports in financing the welfare programmes and thus provides social protection and wellbeing. The welfare schemes ultimately protect the

poor and allow them to participate in the process of economic acceleration. The social protection, social assistance and social welfare are exchangeable terms used in the literature to highlight the activities sponsored by any public authorities to safeguard the life of weaker communities in the society. According to Coatsworth (1996) welfare is described as "*the efforts of modern governments to improve the living standards of individuals or family groups whose incomes would otherwise fall below a level deemed minimal by policymakers and their constituents*". The living standard encompasses the satisfaction of fundamental human needs such as food, clothes, accommodation, physical and mental health, recreational capability and active pleasurable social participation. The term 'social welfare' includes government intervention programs directed into the areas of health, shelter, education, employment guarantee etc.

Most of the social problems revolve around under-privileged group of children, women, old people, and unemployed youth of the society. These communities face challenges for better healthcare, education, maternity, child welfare, employment and working conditions. Some of these problems can be dealt at the community level but other issues like accommodation; health; education; vocational training and assistance to the physically disabled; increased participation in cultural and social life etc. require welfare programs through legislation.

The promotion of social welfare programs is common in every country in the world for the upliftment of the under privileged class of the society. The developing countries in Asia, Africa and Latin America connect social welfare with other social disciplines to address their mass poverty alleviation by using community development programmes. As a welfare state, India is making an uninterrupted attempt to elevate the people belong to the below poverty line. Not only in principles but also through economic planning, India is aiming to meet the vision by ensuring social, economic and political justice to its citizens. India has various social schemes particularly for the deprived section of the society. The target groups of the schemes include- women, children, minorities, senior citizens, unorganized sector, differently-abled, slum dwellers and others. The social welfare programs are outlined in all action plans as a matter of priority. It has offered a constructive approach to social change and equality. In order to provide better standard of living, Government of India has launched several social schemes covering all requirements like affordable housing; subsidized food; transportation; cooking gas; drinking water; sanitation; banking and insurance facilities.

Under the above background, this paper is a part of a project that focused on evaluating the social welfare programmes (PMUY and PMJDY) sponsored by the government of India from slum dwellers prospective.

The new government at the centre (Narendra Modi government came to power in 2014) has launched many popular welfare programme for the wellbeing of the disadvantage group of the society. There are two significant social schemes initiated in order to provide ease and better standard of living of the underprivileged section of the society, i.e. Pradhan Mantri Ujjwala Yojana (PMUY) and Pradhan Mantri Jan-Dhan Yojana (PMJDY). These two social programmes are meant for the below poverty line families those who face hardship in maintaining a comfortable life. The below poverty line families usually use solid fuel like cow dung, fire wood etc. for cooking purposes. These fuel sources create polluting environments in the households and develop chronic respiratory health issues among women members in the family. In order to protect the health disorders among women members, the PMUY scheme was introduced by the government, where free LPG cylinders are given for domestic cooking purpose. As per the latest information, the LPG connections under PMUY have crossed more than 8 crore beneficiaries and the LPG penetration has reached 97.5 percent in the country by April, 1, 2020. Similarly the PMJDY scheme was launched under financial inclusion initiative. Many families in the disadvantage section in the country are not connected with the banking network for their financial transactions. These group of people are not availing the banking and financial benefits meant for citizens. In order to provide easy banking and associated facilities, PMJDY scheme was initiated by the government during 2014. Under the scheme the families in the weaker section are facilitated to open zero balance bank accounts in any banks in the country. These bank accounts help them to receive direct benefits from the government including subsidies and many more loan and insurance related opportunities.

Literature Review:

There are many studies have been conducted on the performance of social welfare programmes. Saxena (2001) provides an early review of the problems associated with the social welfare schemes in India particularly in the rural sector. El-Zein et al. (2014) also provide an analysis of government spending patterns in the social sector in the 1990s. They emphasize, in particular, the broadening of the conceptualization of poverty reduction from provision of employment and income programs to include a variety of human development outcomes. Nevertheless, there is no commensurate broadening of inputs into the planning and implementation phases of social programs. The social programmes main focus is for a sustainable development of the weaker section of the society those who are to an extent deprived. The sustainable development programmes are characterized as advancement that improves the quality of life. This also enables individuals to live in a healthy and safe environment and heighten the social, economic and

environmental aspect of the present and future generations. This is also described as a harmony between the accessible technologies, procedures of development and the approaches of governments (Volenbroek, 2002). In the same way, (Fricker, 1998) describes it as the non-material aspect of life- the impulsive, emotional, inventive and spiritual that drives the satisfaction among the needy. Sustainable development was described as a dynamic state of equilibrium which can be attained by balancing a long-term environmental, economic and social health (Dempsey et al., 2011).

There is a worldwide experience of urbanization of poverty. The poverty is shifting to the cities and aggravating the socio economic crisis. The rapidly growing informal settlements in the cities are creating insufficient infrastructure and public facilities for the inhabitants. In the developing countries, this condition is acute and forcing economically backward people into poverty and neglect (United Nations, 2006). In Indian cities this informal settlements or slums occupy large land area and showing a fast population growth. These slums accommodate large number of inhabitants in shanty houses without any proper sanitation and infrastructure facilities. The inhabitants of these shanty communities are one of the social groups with a higher need for government sponsored aid programs. They are in a situation of multiple deprivations as well (Clarke, 2006). The people in these communities face social exclusion and combines with various problems in fields such as employment, education, sanitation, health and the spatial and relational segregations. The prior literature that studied the performance of cooking gas & sanitation and financial inclusion programmes are reviewed in the following section.

According to WHO (2016), almost 60% of Indian population i.e. 789 million people, primarily use conventional cooking fuels such as wood, kerosene, charcoal and coal for cooking. As a matter of fact, these traditional methods of cooking are the main sources of household air pollution (HAP). As per report, there are 481,700 deaths per year caused by household air pollution. The use of fossil fuels and conventional fuel like cow dung, coal, kerosene, firewood etc. causes serious health hazards in women and children. Moreover an enormous amount of time is spent by women in collecting firewood which can otherwise be utilized in some productive activity to generate extra household income. Also, involvement of children in firewood collection poses higher risks. Therefore using Liquefied Petroleum Gas (LPG) for cooking purposes address these health hazards those are occurring from using traditional cooking fuels.

LPG is one of the most clean cooking fuel options available today. It is environment friendly in comparison to other biomass fuels like coal, firewood, crop residue etc. The carbon footprint

of LPG is negligible in comparison to biomass and other fuels and LPG emits negligible amount of black carbon that contribute to global warming (Grieshop, Marshall, and Kandlika 2011). LPG is recognized as a low-carbon, low-polluting fuel by the governments around the world as it improves indoor and outdoor air quality and reduces greenhouse gas emissions. That is why providing clean cooking fuel to all became one of the sustainable development goals by the United Nations. A gradual transition from using less efficient biomass fuel to cleaner and more efficient type of fuel is essential to overcome the adverse effects of conventional energy on human health and the environment. Developed countries already abandoned the use of conventional energy resources and switched to cleaner fuel options like LPG, Solar Power, Electric stoves etc. But in developing countries the transition is going on in a very slow pace due to socio- economic factors.

Many studies have shown the adverse effect of traditional fuel on health of women, children (Holdren et al., 2000; Jerneck and Olsson, 2013; McMichael et al., 2000). Burning of solid and low quality fuels in traditional stoves emits carbon and other harmful gasses and particulate matters which are the primary source of Household Air Pollution (HAP) (Smith & Sagar, 2014). It is shocking that smoke inhaled by women while cooking on unclean fuel is equivalent to burning of 400 cigarettes in an hour (Ahmad et al. 2018). It is important to understand the household fuel choices and fuel switching behavior in order to frame policies to enhance the transition process. Some research found adoption of LPG is affected by affordability, accessibility and awareness (Kumar et. al, 2016; Ahmad et. al. 2015). However measures are being taken by the governments across the world to reduce HAP and provide clean cooking fuel such as subsidized LPG to the unprivileged section of the society. Developing countries like India, Bangladesh, Cameroon, Nigeria etc. are providing clean cooking fuel at a subsidized rate to promote consumption of clean fuel and better health and environment. Though India is witnessing gradual increase in domestic LPG consumption due to its massive LPG distribution policy, problem of adoption still prevails due to lack of awareness, accessibility (Kumar et al., 2016). Higher level of education and higher level of income were directly associated with adoption of LPG (Ozoh et al. 2018).

Financial exclusion has a close relationship with a series of socio-economic problems like poverty, unemployment, slum settlements with poor housing condition, poor health, high crime rates etc. (Kenworthy, 1999). According to United Nations, "Financial exclusion hampers people's ability to earn, protect themselves in times of crisis, and build for the future". Exclusion from the financial system often results into rising costs which are borne by financially vulnerable people

(Aduda & Kalunda 2012). Several studies have shown that lack of financial inclusion will lead to inequality and an increased poverty level and can trap people into a perpetual cycle of poverty (Banerjee & Newman, 1993; Ackah and Asiamah, 2016). Recent data from UN (2019) shows that 1.7 billion adults remain excluded from access to financial services. Further research asserts that 80% of African household remains financially excluded (Dalal et al. 2009).

Financial inclusion (FI) has the capacity of imparting social transformation and improving standard of living of the people. Several studies have found that financial services are competent in distributing opportunities evenly among the economically backward classes. Therefore, an effective way to eradicate poverty is developing a financial system and making it available and accessible to all the sections of the society. FI is an indispensable element of economic growth and development of the society. Availability and accessibility of a structured financial system will help the less privileged to come above the poverty line and merge in the mainstream. FI has been identified as one of the modern strategies for the development and growth of the economy (Rastogi and Ragabiruntha, 2018; Beck and Demirguc-kunt, 2012; Cull, 2005).

FI not only helps in poverty reduction but also assist in growth, development and prosperity of the economy (Toindepi, 2016; Bongomin et al., 2016; Rastogi and Ragabiruntha, 2018; Kim, 2016). Therefore, the importance of an inclusive financial system has been widely recognized by several developing countries and seen in their policy circle as a matter of priority. The correlation between financial inclusion and economic growth in developing countries (like India, Bangladesh, Philippines etc.) is found to be positive (Nataliya and Mylenko, 2011; Swamy, 2014). Due to the wide spread impact on society, over 60% of banking regulators of 143 countries are promoting financial inclusion vigorously (Cihak et. al., 2012; Demirgüç-Kunt et. al. 2013).

Many researchers have developed multiple techniques and models to evaluate the customer satisfaction level of various services at different spatial contexts. Quite a few types of service quality models have been derived to measure the satisfaction level of customers of different kind of services. Nordic Model (Grönroos, 1984), SERVQUAL (Parasuraman et. al. 1988), SERVPERF (Cronin & Tylor, 1992), DINESERVE (Stevens, Knutson & Patton, 1995), RENTQUAL (Ekiz, Bavik, & Arasli, 2009) are some of the popular service quality models. An assessment tool namely Service Quality Scorecard (SQSC) has been developed by Swart (2013) to classify the variables which affect service excellence in the business tourism industry (Swart, 2018). Among all the models, SERVQUAL is well accepted

and popular model used one in fields like healthcare, education, banking and insurances, hotels, transports, e-government services, logistics etc.

Due to the multi-dimensional nature of SERVQUAL, it has been constituted with various other decision making approaches such as fuzzy linguistic-SERVQUAL model , Quality function Development (QFD)- SERVQUAL, Analytical Hierarchy Process (AHP)-SERVQUAL and Techniques for order of preference by similarity to ideal solution (TOPSIS) - SERVQUAL for better understanding and analysis of subject matter (Ocampo et. al.,2017). To evaluate service quality of employment related government agencies and to establish critical dimension attributes, Ocampo et. al. (2017) applied a modified SERVQUAL model integrated with AHP-TOPSIS method in Philippines. Similarly Alam and Haque (2018) applied AHP-SERVQUAL model to assess the quality of sanitation services provide by the local authority to facilitate safe, sustainable, environment friendly and hygienic sanitation to the inhabitants in urban slums of Khulna city, Bangladesh.

Paper Objective:

The present paper aims to highlight the methodology adopted to evaluate the service quality dimensions of social welfare programmes like PMUY and PMJDY from slum dwellers' prospective. The households in slum areas are below poverty line people and live in miserable conditions without proper sanitation and infrastructure. It is the service quality that provides them adequate support and satisfaction. The project was conducted in slum areas of Bhubaneswar, the capital city of Odisha and undertakes several service quality dimensions i.e. functional qualities (delivery process) and technical qualities (service outcome) for evaluation of the social schemes.

Research Methodology:

The existing literature includes numerous studies that evaluate social programmes in different research settings & locations. Parasuraman et al. (1985) developed SERVQUAL model is widely used to examine the service quality of a variety of services. The overall focus of the project is to evaluate the perception/image and the level of satisfaction of social schemes from the prospective of the slum dwellers.

The service quality models (SERVQUAL in particular) used in prior studies focused only on the service delivery process. The model includes five dimensions; reliability, assurance, tangibility, empathy and responsiveness.

- Reliability: the ability of service providers to perform services accurately
- Assurance: the knowledge & courtesy of the service provider, their ability to convey trust & confidence
- Tangibility: the physical appearance of the infrastructure, product & equipment

- Empathy: entails the personalized attention & care towards the consumers
- Responsiveness: the promptness with which services are provided

However, the service quality passes through functional quality (delivery process) as well as the technical quality (outcome) that determines the perception/image of a service and provides some degree of satisfaction to the beneficiaries. Therefore the present study extended the service quality model beyond the delivery process and included the technical process that derives the outcome to the end user. The delivery process targets the service provider whereas the technical process focuses the outcomes to the users. The technical process includes three dimensions; convenience, social connect and economic connect.

- Convenience: the scheme makes consumer convenience
- Social connect: the social impact of the social scheme
- Economic connect: the scheme provides economic benefits

The study therefore incorporates a multi-dimensional model to evaluate the social service programmes. The below mentioned table includes the different dimensions of the model adopted in the study.

Functional Qualities (Process)

Functional qualities are the delivery process dimensions of the service. It is defined from the service provider's perspective. These include the factors those are important for delivering the service to the customers. The dimensions of functional qualities as per the SERQUAL model are: Reliability, assurance, tangibility, empathy, and responsiveness.

Technical Qualities (outcome)

Technical quality of a service is essentially the service outcomes. It is the end result of any service delivered to the customer. It includes customer's service experience while getting the service and defined as the leftover experience of the end users following the consumption of services (Fassnacht & Koese, 2006; Gronroos, 1984). In accordance to the social service programmes, these qualities include convenience, social connect and economic connect.

These two qualities determine the customer preference towards a service and his/her level of satisfaction. Table-1 summarizes the different dimensions

of the two qualities undertaken in the study. The figure-1 gives the framework of the multi-dimensional model used in the research.

Table No. 1: Multi-Dimensional Service Quality Model

Service Quality Dimensions	Definition
Functional Service Quality Dimensions	
Reliability	The ability to perform the promised service dependably and accurately within the stipulated time period
Assurance	The ability of the service provider to convey trust and confidence through their knowledge, skill and courtesy
Tangibility	The appearance of the physical facilities, equipments, personnel and communication materials
Empathy	The caring attitude of the service provider with personalized individual attention to the customers
Responsiveness	The willingness of the service provider to provide prompt services and always ready to help and address the issues of the customers
Technical Service QualityDimensions	
Convenience	Reduction of physical effort and time to avail the service. The easily accessible service with seamless transaction
Social Connect	Creating social image in the community and improving status and engagement
Economic Connect	Provide better economic opportunities and potential to extend better standard of living

Source: Compiled by the Researcher

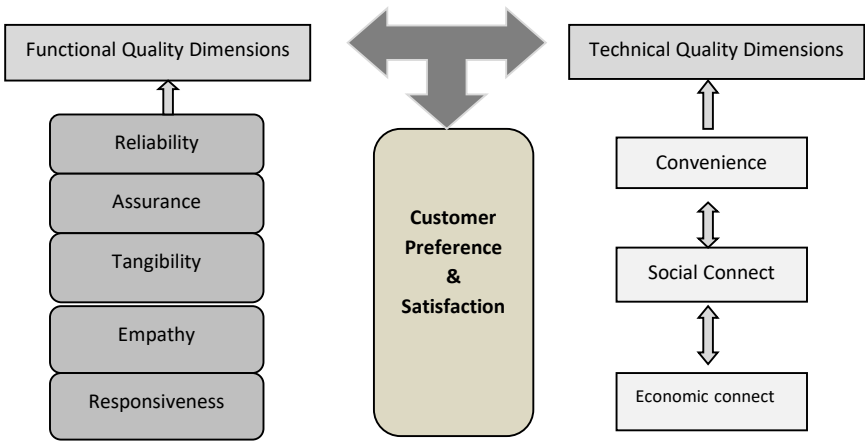

Figure No-1.1: Conceptual Framework of Multi-Dimensional Service Quality Model

Source: Compiled by the Researcher

The multi-dimensional model adopted in the study includes both the functional qualities (delivery process) and technical qualities (outcome process). The figure-1 depicts that the functional and technical quality dimensions determine the perception or image of the social schemes. The functional quality includes 18 questions covering 5 dimensions and there are 21 questions comprise 3 dimensions under technical qualities. The questionnaire designed to collect the primary response from the slum dwellers include these questions and measured with 5-point Likert-scale across multiple quality dimensions. The functional and technical qualities establish a perception/image towards the social schemes. There are seven different questions put to the respondents to capture their perception towards the social schemes. These questions are also measured with 5-point Likert-scale. The set of questions are different for different social schemes undertaken.

In order to assess the perception towards the scheme, a regression model is applied, where the perception is the dependent variable and the all the dimensions are the independent variable. The dependent variable, the perception is the average score of each respondent to the set of questions covering perception measured in 5-point scale. Similarly the average score of each respondent to the set of questions associated with each dimension form the independent variable. The regression model equation (1) includes the dependent and independent variables.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 \quad \text{------ (2)}$$

Where,

Y	:	dependent variable, i.e. perception of respondents towards a particular social scheme
α	:	the intercept in the model
$X_1, X_2 \ldots X_8$	:	the independent variables, the eight dimensions including both the functional and technical qualities
$\beta_1, \beta_2 \ldots \beta_8$	:	the coefficient of the independent variables

Figure-1 gives the conceptual framework of the service quality dimensions and the customer satisfaction. Like the perception or image of the social scheme, the functional and technical dimensions are also the determinants of customer satisfaction. However, the social schemes are not like any other service (banking/insurance) where the customers' level of satisfaction decides

the success or failure of the service. The difference lies with the mission of the government to lunch social programmes for the target group of the society for their wellbeing. Therefore, irrespective of customer satisfaction, the social programmes will continue to be there for the people. The mission of the government is always to provide basic services to the deprived class in the society in order to maintain harmony and equitable development. The social programmes undertaken in the study have similar objective for the target group. The PMUY aims to provide subsidized cooking gas to the under privileged section of the society to prevent them of using other hazardous alternative sources of fuel, that causes chronic disease. Similarly the objective of launching PMJDY is to bring the under privileged people into the banking net and to provide them financial security.

Since the level of acceptance of the beneficiaries not deciding the continuity/success/failure of the social programme, therefore the final outcome of the social scheme cannot be in a binary form (either satisfied or dissatisfied). The beneficiaries' response towards the acceptance of the social programme may either be low or high or neutral. Therefore the outcome or the dependent variable (acceptance or level of satisfaction) is categorical in nature (low or high or neutral). In order to find the impact of explanatory variables (both functional and technical quality dimensions) on these categorical variables, multinomial logistic model is applied.

The simplest approach to multinomial data is to nominate one of the response categories as a baseline or reference group, calculate log-odds for all other ıe, and $\eta_{ij} = \log \frac{\pi_{ij}}{\pi_{iJ}} = \alpha_j + \boldsymbol{x}_i'\boldsymbol{\beta}_j,$ ınction of the predictors. In the multinomial logistic model it is assume that the log-odds of each response follow a linear model like equation (2).

----(2)

Where, α_j is a constant and β_j is a vector of regression for j=1, 2..., J-1. This model is equivalent to a logistic regression model, except that the probability distribution of the response is multinomial instead of binomial and there are J-1 equations instead of 1. The J-1in the multinomial logistic regression equations contrast each of categories 1, 2.....,J-1 with category J, whereas the single logistic regression equation is a contrast between success and failure. If J=2, the multinomial logistic model reduces to the usual logistic regression.

In the study the beneficiaries' level of satisfaction is measured from the three questions asked related to the social schemes. All these questions are measured with 5 point likert scale. The average score of each respondent to all three questions are summarized, where the minimum and maximum scores are ranged between 1 and 5 respectively. The scores within the range of 1.0 to 2.5 are considered as low category and

denoted with 1. The scores within the range more than 2.5 to 3.5 are taken as neutral category and designated as 2. Similarly the higher scores from 3.5 to 5 are categorized as high and symbolized 3. These three categories i.e. 1, 2 and 3 represent the level of satisfaction and adopted as the dependent variable for the multinomial logit model. The independent variables are the same as taken for earlier perception analysis. The independent variables include- reliability; assurance; tangibility; empathy; responsiveness; convenience; social connect and economic connect.

Conclusion:

The social welfare schemes ultimately protect the deprived group of people and drive them to better participate in the process of economic acceleration. The welfare schemes provide all types of assistance to the economically weaker section of the society to fulfill their basic requirements and improve their standard of living. The study is a part of the project that focused on evaluating two social schemes (PMUY & PMJDY) from the Bhubaneswar slum dwellers' prospective. The study undertakes several service quality dimensions i.e. functional qualities (delivery process) and technical qualities (service outcome) for evaluation of these social schemes. The service quality models used in prior studies focused only on service delivery process. However, the service quality passes through functional quality as well as the technical quality that determines the perception/image of a service and provides some degree of satisfaction to the beneficiaries. Therefore the present study extended the service quality model beyond the delivery process and included the technical process that derives the outcome to the end user. The extended model is more realistic and provides a better result.

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