

# Tender For Catering Services

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**Abstract :** This study has been undertaken to investigate the method for allotting catering tender. Usually tenders are allotted on the lowest rate, however in catering service, it is noticed that the offer on lowest rate does not give quality food and service. Hence, a new method has been devised based on quality check, statistics and normal distribution to allot the tender besides the quoted rates. In such cases, it is not necessary that the lowest quote may be awarded the work. The quality screening and the mathematical modeling is presented in this paper to take decision of awarding the work. This paper will be useful to the organizations seeking catering services.

**IndexTerms - catering,food,services,tender,taste.**

## I. INTRODUCTION

The tender procedure is mandatory in government organizations for purchase of goods and services. In case of purchase of goods the quality products and the competitive bidding can be invited by providing specifications of the standard codes. Books of standard specifications have been used in works departments and schedule of rates is available to guide the rates and the specification of the works. Usually two tender method is adopted to invite the tenders. In the first envelope the technical qualifications such as annual turnover, experience of the specified work and other relevant documents are invited. The technical bid is opened and the second envelope; called as commercial bid; is opened for the bidders who qualify the technical bid. The comparative statement of the rates quoted by various bidders is prepared and the lowest bidder is usually offered the work.

However, the parameters of senses can not be checked using conventional tender procedure. For example the tenders that involves feeling, cognition, behavior, taste, cleanliness, smell etc are difficult to choose on the lowest rates. It is observed that the bidders quote lowest rates and can not provide these non measurable quality services. Some bidders invited for supply of manpower on government minimum wages quote service charges lower than zero to two percent. The prevailing service tax is 2 to 4 percent and such bidders quote to get the tender at lowest rates. It clearly indicates that the bidder will work unethically after work is allotted. Indian government has issued a notification not to consider such tenders quoted below 0 percent service charges.

## II. CATERING SERVICES

In case of catering services tenders are invited for providing food to the guests during some functions. The number of invited guests may go upto 15000. Also, many organizations require catering for their canteen through out the year. If the work is allotted to lowest bidder, it is usually experienced that the quality and the taste of the food is not maintained as desired. The quality and the taste of food depend on various ingredients and the preparation method. The cost of ingredients varies from types of materials used. Many organizations mention the brands of oil, rice, wheat etc in the tender. But it may be pointed towards favoring specific brands.

So, a tendering method has been devised to get proper caterer through tendering process. These tenders have been successfully implemented and the selected bidder has provided satisfactory quality of food and services.

## III. TENDER FOR CANTEEN

In hostels, training centres, offices etc catering services are required every day. Usually the space, furniture, utensils, electricity and water is provided free of charge or with subsidized rates to the contractor. All the facilities provided such as dining tables, utensils should be mentioned in the tender. The rent of the facilities provided can be found out using rent fixation method. The monthly rent which is exempted should be clearly mentioned in the tender so that the bidders can quote the rates considering the subsidy provided. The estimated number of persons using the canteen every day should be mentioned. The various conditions such as facilities to be provided by the contractors such as refrigerators, water cooler, uniform to the workers, garbage disposal etc should be mentioned. The tender is called with two envelope method using online or offline tendering process.

### 3.1 Technical Bid

First envelope is called technical bid and the bidder has to provide technical requirements in this envelope. The technical bid contains tender cost and earnest money deposit. The registration under Food safety and Standards Act 2006 is mandatory for food

tenders. The experience of similar work executed earlier with countable particulars should be decided and shall be mentioned as an essential condition. The average annual turnover of the bidder providing catering services shall be 1.5 to 2 times the expected annual sale of the current tender.

Bidders who pass technical bid should undergo quality check.

### 3.2 Quality and Taste Check

A team of five persons including experts from catering field should visit the bidders establishments such as hostel, restaurants etc and examine the various parameters. The marks should be provided confidentially by each examiner in the format provided Table 1.

Table 1: Quality Check Committee

SN	Bidders Name	Cleanliness	Preparation	Presentation	Conversation	Taste	Total
		20	10	10	10	50	100
1							

Date:

Committee Member Name:

Signature:

The average marks obtained by each bidder shall be tabulated as below.

Table 2: Quality Check Average Marks (sample)

SN	Bidder	Average Marks (max 100)
1	TBH	82.4
2	HSN	60.75
3	SKK	72.00
4	HSD	55.00
5	SNK	73.25

The bidder who gets more than 50% should be eligible for commercial bid. The commercial bid envelopes of the bidders qualified as above should be opened.

### 3.3 Commercial Bid

Commercial bid should contain the spreadsheet in case of e-tender or rate sheet in case of offline tender where the bidder submits rates of various items. The menu of similar cost should be grouped with multiplier of approximate daily demand as mentioned in table below.

Table 3: Commercial Bid (Sample)

SN	Particulars	Unit	Rate Quoted (Rs)	Multiplier	Total
1	Rice Plate: 20cm Chapati 3 Nos, Vegetable Fry 1, Vegetable Grevy 1, Rice 1 plate, Dal, Papad, Pickle	one plate	40	25	1000
2	Full Meal: 20cm Chapati, Vegetable Fry, Vegetable Grevy, Rice, Dal, Papad, Pickle, Salad, Sweet 1	per	100	25	2500
3	Breakfast/ Snacks				
	a) Upama/Poha/ Shira	per plate	15		
	b) Onion Bhaja/ MugBhaja/ AaluBhaja	per plate	15		
	c) PotatoWada/ Samosa	per plate	20		
	d) Misal and Pav 2	per plate	50		
	e) Idaliwada Sambhar	per plate	40		
	f) Bread 2 and Omlet	per plate	40		

Average Rate: Total (3)/ 6= 180/6=30			30	50	1500
4	Drinks				
	a) Tea 100 ml	per	8		
	b) Cofee 100 ml	per	10		
	c) Milk 200 ml	per	20		
	d) Lassi 200 ml	per	30		
Average Rate: Total (4)/ 4			17	100	1700
TOTAL					6700

Multiplier is the average daily demand of different menu in the canteen.

The total amount of each bidder should be tabulated and the Rate Credit shall be calculated using formula mentioned in 3.1.

$$\text{Rate Credit} = \frac{\text{The lowest Total Amount}}{\text{The Total Amount of the bidder}} \times 100 \tag{3.1}$$

Table 4: Total Amount and Rate Credits

SN	Bidder	Total Amount	Rate Credit
1	TBH	6700	82.09
2	HSN	6250	88
3	SKK	6000	91.67
4	HSD	6750	81.48
5	SNK	5500	100

### 3.4 Rate Screening

It is observed that the bidder quotes very low rates to acquire the tender, however it is observed that the quality of the food of such bidder is not maintained. Hence the provision should be incorporated to the tender to omit such bidders.

It can be done using statistical methods by computing average, standard deviation and the normal distribution of the total amount. Normal distribution is the most important method in statistics that describes how values are distributed. The normal distribution curve is a bell shaped curve having mean or median at the center.

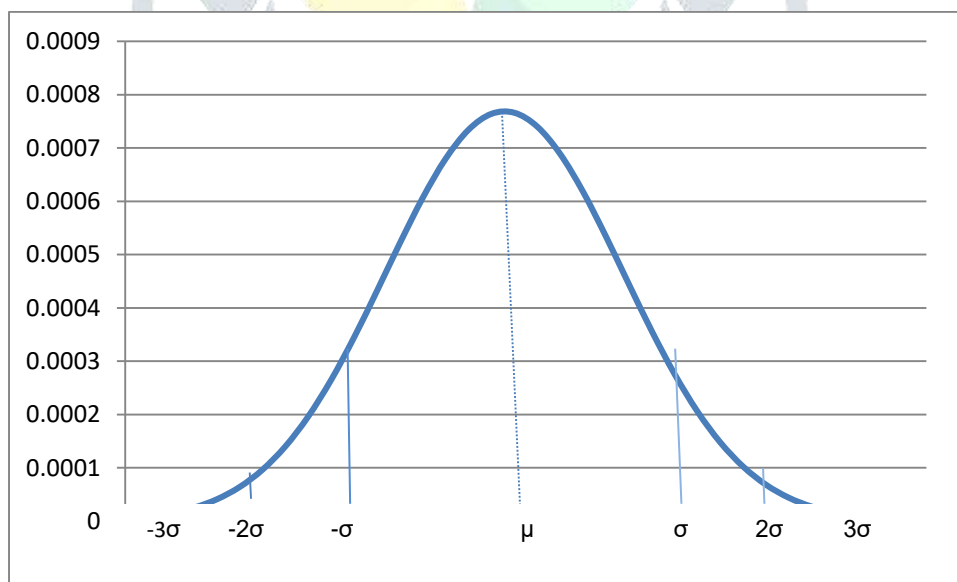


Fig 1: Normal Distribution Curve

Applying Normal Distribution Theory here,

The Average of Total Amount of above five bidders is sum of all five divided by five

$$\text{Average } \mu = (6700+6250+6000+6750+5500)/5=6240 \tag{3.2}$$

In normal distribution, the standard deviation becomes important variable. The proportion of values lying between the standard deviation from the mean becomes important in deciding values for decision making.

The standard deviation of the total amount of the bidders is

$$\sigma = \sqrt{\frac{1}{n} \sum (x - \mu)^2} \quad (3.3)$$

It can also be calculated using excel formula =STDEV(C2:C6)

The standard deviation for above total amounts is  $\sigma = 518.89$

In normal distribution, 68% of the observations fall within this limit of bell-shaped curve. The normal distribution curve for above amounts is a bell shaped curve and  $1\sigma$  area on either side of median is the most fair values.

The total amount on left hand side at  $-1\sigma$  will be  $\mu - \sigma$

Hence the limiting total value =  $\mu - \sigma = 6240 - 518.19 = 5721.11$

All total amounts, except that of SNK ( ie Rs 5500) is lower than 5721.11, hence this tender shall be discarded for not quoting fair values.

The total of Average quality marks and the rate credits shall be tabulated and Score Rating shall be done to the bidder in descending order from higher to lower bidder acquiring highest score shall be allotted the tender as shown in Table 5.

Table 5: Tender Allotment

SN	Bidder	Average Quality Marks (max 100)	Rate Credit	Total	Score Rating
1	TBH	82.4	82.09	164.49	I
2	HSN	60.75	88	148.75	III
3	SKK	72	91.67	163.67	II
4	HSD	55	81.48	136.48	IV
5	SNK	73.25	Discarded		

From the table 5, TBH has obtained highest score followed by SKK, hence this tender should be allotted to TBH. If only rates were compared, this tender would have been allotted to SNK (Lowest) and the second lowest would be SKK.

**IV. CASE STUDY :** A food tender for providing catering services from breakfast to dinner for a six day Inter University Cultural Program held at YCMOU Nashik where 19 universities and 1500 students and staff participated was issued based on above method. The tender get awarded to second lowest amount and the lowest was discarded as the amount was lower than the limiting value. The food quality was excellent and was appreciated by the guests.

V. **PROCESS FLOW DIAGRAM:** the process flow diagram for the complete bidding activity is as below.

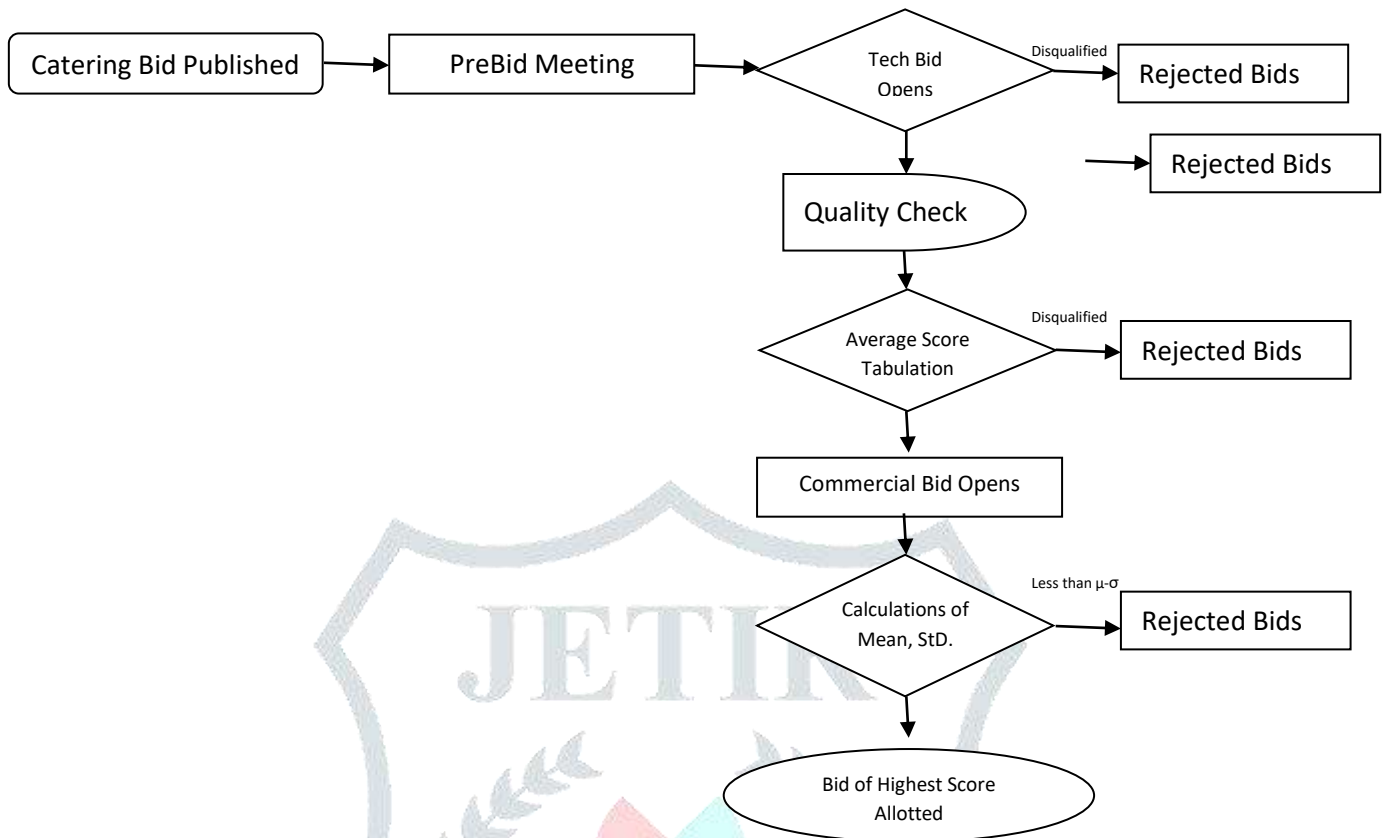


Fig. 2: Flow Diagram

VI. **SUMMARY :** The tender for the catering services can be invited and offered to the bidder using quality and statistical method of normal distribution. The standard deviation of the rates within  $-\sigma$  to  $+\sigma$  standard deviation which is 68% of the total area in normal distribution curve can be considered as limiting values of the rates to be accepted. The sum of percentile of the minimum total amount of each bidder and the quality marks scores can be used to decide best bidder.

**REFERENCES**

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