

## Present Scenario and Possible Scope of Film Industry: a Case Study on Bangladeshi Film (Dhallywood)

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### Abstract

The present condition of the Bangladeshi film industry is not as good as compared to other countries' film industry like Hollywood, Bollywood, Chinese, etc. This industry is plunging day by day as though it reflects not only one country's people, their customs, society, etc., just like a window of a society but also a huge amount of profit can be earned through it. If it can be improved anyway the country of that film industry can be easily highlighted all over the world and can bring the benefit in multi-dimensional way. This research is conducted to identify the ins and outs of Bangladeshi film industry namely Dhallywood in order to bring out the possible scopes that can be improved for making film more attractive and interesting along with getting financial benefit. A customer survey of different ages is taken to know about their attitude towards the contemporary commercial Bangladeshi cinema, environment of cinema hall, etc. According to their opinions and suggestions regarding to this subject, a comprehensive analysis is conducted by adopting Quality Function Deployment (QFD) and Fuzzy TOPSIS group decision making techniques. Finally a list of scopes with their priority is mentioned.

Keywords: Film, Dhallywood, Survey, QFD, Fuzzy TOPSIS

### 1. Introduction

Cinema of a country is nothing but a reflection of the culture, customs, society and all other things having the nation of its own. Therefore it can portray the pros and cons of a society and it can also introduce the nation to the world as doing different big film industries such as Hollywood, Bollywood etc. The first Bangladesh based full length film is Mukh O Mukhosh produced in 1956 after the release of Pather Pachali by Satyajit Roy. In 1957, Bangladesh Film Development Corporation (BFDC) was established and Suryo Dighal Bari was the first internationally recognized film. Before it, Bangla cinema means the production of Kolkata. But now the scenario is different, Bangladesh is producing huge number of films in a year. Among them very few number of films are successful and one or two film is world standard. Therefore it has been demanded that there are some actors, actresses, directors and others who have sufficient potentialities to gift the world standard films. If the problems of the Bangladeshi Film industry (namely Dhallywood) can be found out and possible to solve, then it will be the most profitable sector of the government and one day it will lead with the world famous film industries such as Hollywood and Bollywood [1].

The successive comparison among the different film industries such as Hollywood, Bollywood, Kolkata, Korean, Telegu, and Dhallywood in the year of 2013 with respect to the gross income for the top five movies in the box office are as follows:

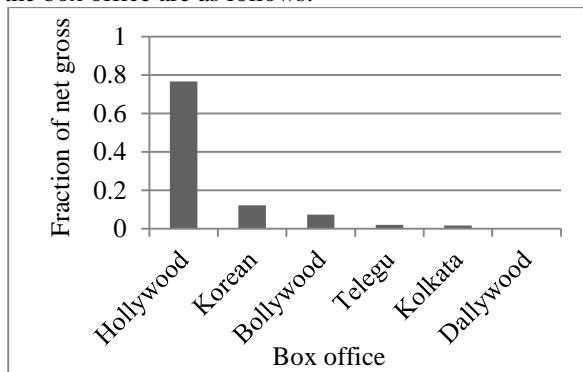


Fig. 1. Fraction of net gross

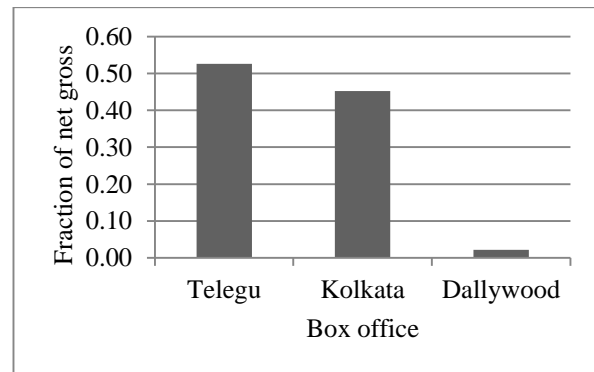


Fig. 2. Fraction of the net gross

In the fig. 1 there is no sign of the fraction of net gross of Dallywood with respect to other big film industries in the world. Excluding the first three, the Fig.1 is redrawn as follows. In fig.2 the bar of the Dallywood is appeared as though it is little hope. If the problems of the Bangladeshi film industry can be identified by any means and these problems can be overcome then it will be world standard film industry. This study will accommodate different views of different people from different classes of society having a variety of age range. According to their views the existing laggings of our film industry will be identified. Possible ways of improvement according to the requirements of people to make a higher standard films will be recommended. Suitable tasks are to be performed and to be prioritize to wipe out the existing laggings.

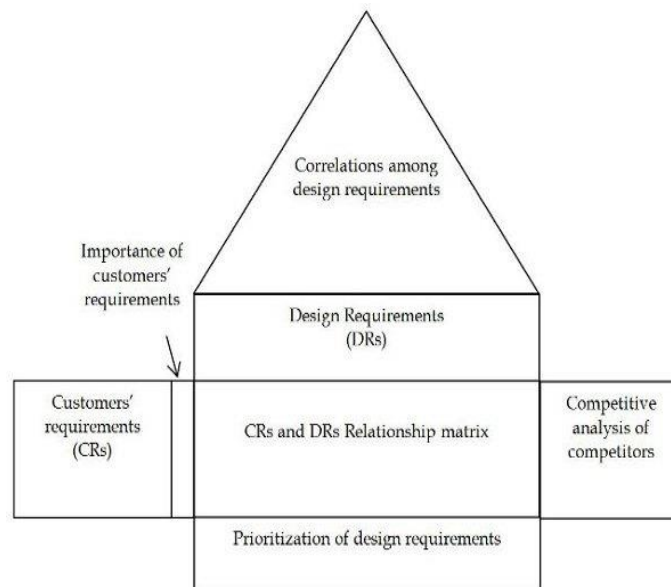
## 2. Research methodology

A questionnaire consisting of 34 questions is distributed among 150 people and their opinions are taken. The age of those people is ranging from 18 to 50 years. According to their viewpoint the existing problems, probable solutions and their expectations are indicated. Interview and some propositions are collected of a renowned Bangladeshi Film director. The principal factor which is a crying need for the improvement of our films is determined by using QFD tool. Other factors are also sort out by applying the same process. Fuzzy TOPSIS is also used for determining what technical specification is getting first priority to solve and finally a comparison between QFD and Fuzzy TOPSIS are made.

## 3. Data collection and analysis

### Quality function deployment

QFD is a way to assure the design quality while the product is still in the design stage [2]. QFD consists of two components which are deployed into the design process: quality and function. The "quality deployment" component brings the customer's voice into the design process. The "function deployment" component links different organizational functions and units into to the design-to-manufacturing transition via the formation of design teams [3].



**Fig. 3.** Description of the house of quality (HOQ)

The following steps are taken to implement the QFD in the film industry domain.

Step 1: List the customer requirement (WHATs): QFD starts with list of customer requirements. 150 voices of customers in the age of 18 to 50 are collected and the key customer requirements are listed into the QFD diagram shown its location in fig. 3.

Step 2: List the corporate language (HOWs): it is then required to breakdown general customer requirements into more specific technical requirements which here is called corporate language by probing what is needed.

Step 3: Develop a relation matrix between WHATs and HOWs: it is very important to develop relationship between customer requirements and the corporate languages. It should be taken extra care because each customer requirement may relate with more than one corporate language. It is completed by breakdown the relation into three categories such as strong, medium, and low.

Step 4: Develop an interrelationship matrix between HOWs: A comprehensive relationship is represented at the roof of the house of quality in between the corporate languages. Blank block represents no relationship.

Step 5: Customer rating of the competition: understanding the customers' rating to the competitors and how they rating our film provide the tremendous advantages for the improvement of the target. At most right of the house of quality diagram represents it.

Step 6: Develop prioritized customer requirements: the prioritized customer requirements consists of we today, target value and improvement ratio.

Step7: Prioritization of design requirement: the QFD team identifies technical descriptors that are most needed to fulfill customers' requirements and need to further improvement.

The final house of quality diagram is shown in fig. 4.

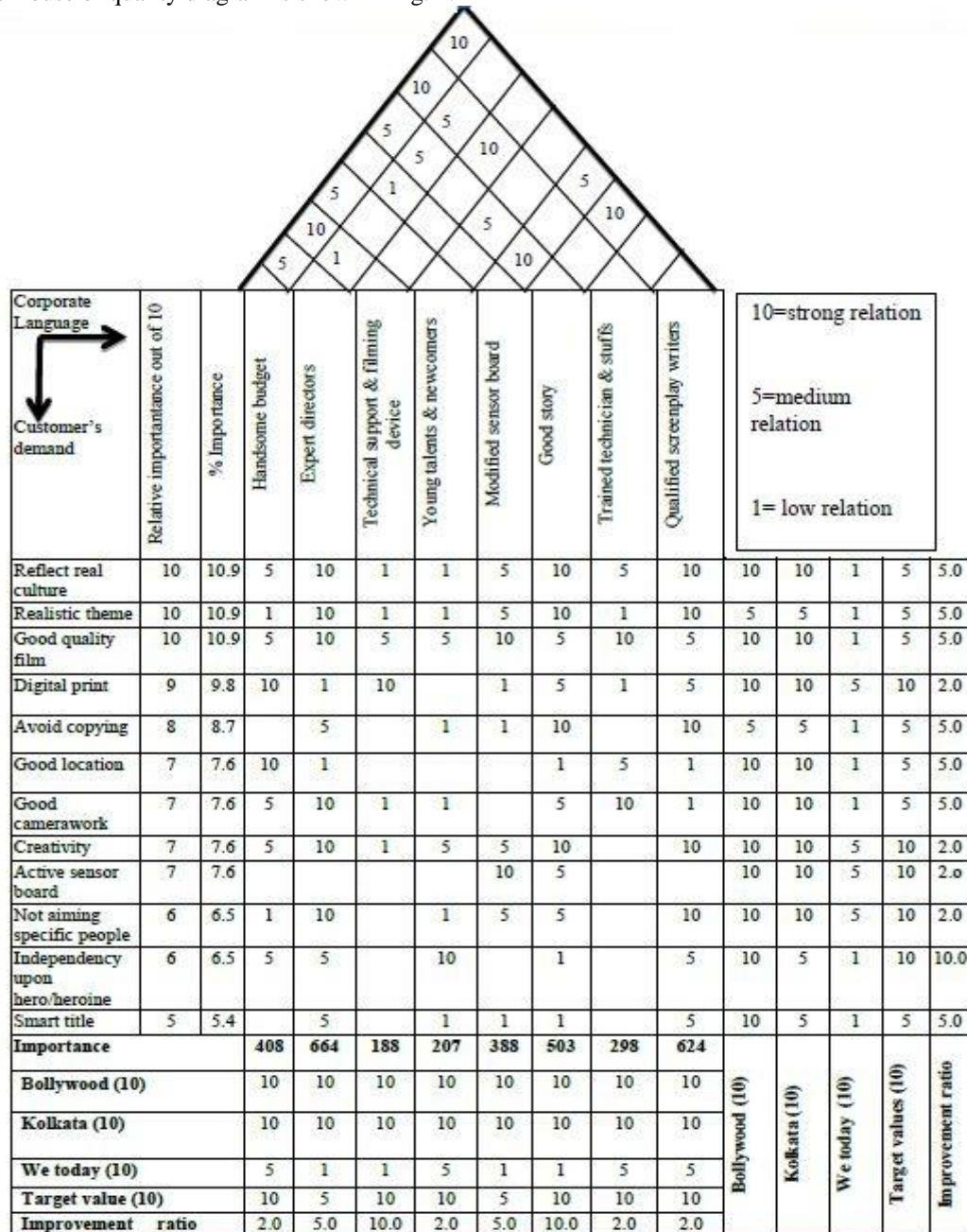


Fig. 4. The house of quality diagram

### Fuzzy TOPSIS

Fuzzy TOPSIS (Technique for Order Preference by Similarity to Ideal Situation) is widely used approach to evaluate potential alternatives against the selected criteria [4]. Fuzzy TOPSIS has been applied to facility location problems by researchers in [5-9]. The following steps are generally followed for this approach.

Step 1: Define the customer requirements those they want to see in the Bangladeshi film. It is defined in the WHATs part of HOQ.

Step 2: define the customer requirements into the engineering term denoted as corporate language in this study. Corporate language is presented in the HOWs part of the HOQ.

Step 3: Build relationship between the customer requirements and the corporate language and finally select the potential corporate language for incorporating into the Bangladeshi film as priority basis Fuzzy TOPSIS is adopted. According to [4], the following steps required for the completion of Fuzzy TOPSIS:

Assignment of ratings to the customer requirements and the corporate language: Let consider the customer requirements weight are denoted by  $w_i = \{w_1, w_2, \dots, w_i\}$ . The performance ratings of each decision maker  $D_k = \{D_1, D_2, \dots, D_k\}$  for each corporate language  $A_j = \{A_1, A_2, \dots, A_j\}$  with respect to customer requirements  $C_m = \{C_1, C_2, \dots, C_m\}$  are denoted by  $R_k = x_{ijk}$  with membership function  $\mu_{R_k}(x)$ .

Assignment of ratings to the customer requirements and the corporate language: If the fuzzy rating and the importance weight of the  $k^{\text{th}}$  decision maker are  $x_{ijk} = (a_{ijk}, b_{ijk}, c_{ijk})$  and weight  $w_{ijk} = \{w_{ij1}, w_{ij2}, w_{ij3}\}$ , then the aggregated fuzzy ratings of alternatives with respect to each criterion are given by  $x_{ij} = (a_{ij}, b_{ij}, c_{ij})$  where,

$$a_{ij} = \min_k \{a_{ijk}\} \quad ; \quad b_{ij} = \frac{1}{k} \sum_1^k b_{ijk} \quad ; \quad c_{ij} = \max_k \{c_{ijk}\}$$

The aggregated fuzzy weights of each criteria are calculated as  $w_j = (w_{j1}, w_{j2}, w_{j3})$ , where,

$$w_{j1} = \min_k \{w_{jk1}\} \quad ; \quad w_{j2} = \frac{1}{k} \sum_1^k w_{jk2} \quad ; \quad w_{j3} = \max_k \{w_{jk3}\}$$

Compute the fuzzy decision matrix: the fuzzy decision matrix and the criteria are constructed as follows:

$$D = \begin{matrix} & C_1 & C_2 & \dots & C_n \\ \begin{matrix} A_1 \\ A_2 \\ A_3 \\ A_4 \end{matrix} & \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1n} \\ x_{21} & x_{22} & \dots & x_{2n} \\ \dots & \dots & \dots & \dots \\ x_{m1} & x_{m2} & \dots & x_{mn} \end{bmatrix} \end{matrix}$$

$$W = (w_1, w_2, \dots, w_n)$$

Normalized the fuzzy decision matrix: The normalized fuzzy decision matrix R is given by  $R = [r_{ij}]m * n$  where  $i=1,2,\dots,m$  and  $j=1,2,\dots,n$ ;

$$r_{ij} = \left( \frac{a_{ij}}{c_j^*}, \frac{b_{ij}}{c_j^*}, \frac{c_{ij}}{c_j^*} \right) \text{ and } c_j^* = \max_i c_{ij} \text{ (benefit criteria)}$$

$$r_{ij} = \left( \frac{a_j^-}{c_{ij}}, \frac{a_j^-}{b_{ij}}, \frac{a_j^-}{a_{ij}} \right) \text{ and } a_j^- = \min_i a_{ij} \text{ (cost criteria)}$$

Compute the weighted normalized matrix: it is the multiplication of the weight of evaluation criteria and the normalized fuzzy decision matrix as follows:  $V = [v_{ij}]m * n$  where  $v_{ij} = r_{ij}(\cdot)w_j$

Compute the fuzzy Ideal solution (FPIS) and Negative Ideal Solution (FNIS): it is computed as follows:

$$A^* = (v_1^*, v_2^*, \dots, v_n^*), \text{ where } v_j^* = \max_i \{v_{ij3}\}, i=1,2,\dots,m; j=1,2,\dots,n$$

$$A^- = (v_1^-, v_2^-, \dots, v_n^-), \text{ where } v_j^- = \min_i \{v_{ij1}\}, i=1,2,\dots,m; j=1,2,\dots,n$$

Compute the distance of each alternative from FPIS and FNIS: it is computed as follows:

$$d_i^* = \sum_{j=1}^n d_v(v_{ij}, v_j^*); \quad d_i^- = \sum_{j=1}^n d_v(v_{ij}, v_j^-)$$

Where,  $j=1,2,\dots,n$ ,  $d_v$  is the distance measure between two fuzzy number (a, b).

Compute the closeness coefficient (CC<sub>i</sub>) of each alternative: it represents the distance to FPIS and FNIS simultaneous. It is calculated as follows:

$$CC_i = \frac{d_i^-}{d_i^- + d_i^*}, \text{ where } i=1,2,\dots,m$$

Rank the corporate language (alternatives): select the alternative with the highest closeness coefficient for final implementation. The best alternative is the closest to the FPIS and farthest from FNIS.

**Table 1.** Customer requirements and corporate languages

Customer Requirements(C)	Definition	Corporate Language (Alternative A)
Reflect real culture (C <sub>1</sub> )	the more the better	Handsome Budget (A <sub>1</sub> )
Realistic Theme (C <sub>2</sub> )	the more the better	Expert directors (A <sub>2</sub> )
Good quality film (C <sub>3</sub> )	the more the better	Technical support & filming devices (A <sub>3</sub> )
Digital print (C <sub>4</sub> )	the more the better	Young talents and new comers (A <sub>4</sub> )
Copying (C <sub>5</sub> )	the less the better	Modified sensor board (A <sub>5</sub> )
Good location (C <sub>6</sub> )	the more the better	Good story (A <sub>6</sub> )
Good camera work (C <sub>7</sub> )	the more the better	Trained technician and stuffs (A <sub>7</sub> )
Creativity (C <sub>8</sub> )	the more the better	Qualified screen play writers (A <sub>8</sub> )
Active sensor board (C <sub>9</sub> )	the more the better	
Film for only targeted people (C <sub>10</sub> )	the less the better	
Independency to hero or heroine (C <sub>11</sub> )	the more the better	
Smart title (C <sub>12</sub> )	the more the better	

Table 2. Linguistic terms for customer requirements rating as well as corporate language rating

For customer requirements rating		For corporate language rating	
Linguistic term	Membership function	Linguistic term	Membership function
Very Low	(1,1,3)	Very Poor	(1,1,3)
Low	(1,3,5)	Poor	(1,3,5)
Medium	(3,5,7)	Fair	(3,5,7)
High	(5,7,9)	Good	(5,7,9)
Very High	(7,9,9)	Very Good	(7,9,9)

Table 3. Linguistic Assessment of the criterion

Criteria	Decision Maker			
	D1	D2	D3	D4
Reflect real culture (C <sub>1</sub> )	VH	VH	H	VH
Realistic Theme (C <sub>2</sub> )	VH	H	VH	VH
Good quality film (C <sub>3</sub> )	VH	H	H	VH
Digital print (C <sub>4</sub> )	VH	H	M	H
Copying (C <sub>5</sub> )	H	H	M	VH
Good location (C <sub>6</sub> )	H	M	M	VH
Good camera work (C <sub>7</sub> )	VH	VH	H	VH
Creativity (C <sub>8</sub> )	M	H	H	M
Active sensor board (C <sub>9</sub> )	M	M	M	H
Film for only targeted people (C <sub>10</sub> )	M	M	M	M
Independency to hero or heroine (C <sub>11</sub> )	M	M	L	M
Smart title (C <sub>12</sub> )	M	M	H	M

Table 4. Linguistic assessment of the corporate languages based on customer requirements

C	A	Decision Maker (D)															
		D1	D2	D3	D4	C	A	D1	D2	D3	D4	C	A	D1	D2	D3	D4
C <sub>1</sub>	A <sub>1</sub>	F	G	G	F	C <sub>5</sub>	A <sub>1</sub>	VP	VP	VP	VP	C <sub>9</sub>	A <sub>1</sub>	VP	VP	VP	VP
	A <sub>2</sub>	VG	VG	VG	G		A <sub>2</sub>	F	G	F	F		A <sub>2</sub>	VP	VP	VP	VP
	A <sub>3</sub>	VP	VP	P	P		A <sub>3</sub>	VP	VP	VP	VP		A <sub>3</sub>	VP	VP	VP	VP
	A <sub>4</sub>	VP	P	P	VP		A <sub>4</sub>	VP	P	P	VP		A <sub>4</sub>	VP	VP	VP	VP
	A <sub>5</sub>	F	F	F	G		A <sub>5</sub>	VP	VP	VP	VP		A <sub>5</sub>	VG	G	G	VG
	A <sub>6</sub>	VG	VG	G	VG		A <sub>6</sub>	VG	VG	VG	G		A <sub>6</sub>	F	G	G	F
	A <sub>7</sub>	F	G	F	F		A <sub>7</sub>	VP	VP	VP	VP		A <sub>7</sub>	VP	VP	VP	VP
	A <sub>8</sub>	VG	G	VG	VG		A <sub>8</sub>	VG	VG	VG	G		A <sub>8</sub>	VP	VP	VP	VP
C <sub>2</sub>	A <sub>1</sub>	VP	VP	VP	P	C <sub>6</sub>	A <sub>1</sub>	VG	VG	VG	G	C <sub>10</sub>	A <sub>1</sub>	VP	P	P	VP
	A <sub>2</sub>	VG	VG	VG	G		A <sub>2</sub>	VP	VP	VP	P		A <sub>2</sub>	VG	G	G	VG
	A <sub>3</sub>	VP	P	VP	VP		A <sub>3</sub>	VP	VP	VP	VP		A <sub>3</sub>	VP	VP	VP	VP
	A <sub>4</sub>	VP	VP	VP	VP		A <sub>4</sub>	VP	VP	VP	VP		A <sub>4</sub>	VP	P	P	VP
	A <sub>5</sub>	F	F	G	G		A <sub>5</sub>	VP	VP	VP	VP		A <sub>5</sub>	F	F	F	F
	A <sub>6</sub>	VG	G	G	G		A <sub>6</sub>	VP	P	VP	P		A <sub>6</sub>	F	G	G	G
	A <sub>7</sub>	VP	VP	VP	P		A <sub>7</sub>	F	F	F	F		A <sub>7</sub>	VP	VP	VP	VP
	A <sub>8</sub>	VG	VG	VG	VG		A <sub>8</sub>	VP	P	P	P		A <sub>8</sub>	VG	G	G	VG
C <sub>3</sub>	A <sub>1</sub>	F	F	F	G	C <sub>7</sub>	A <sub>1</sub>	F	G	F	G	C <sub>11</sub>	A <sub>1</sub>	F	F	F	F
	A <sub>2</sub>	VG	G	VG	VG		A <sub>2</sub>	VG	G	G	G		A <sub>2</sub>	F	G	F	G
	A <sub>3</sub>	F	G	G	G		A <sub>3</sub>	VP	P	P	VP		A <sub>3</sub>	VP	VP	VP	VP
	A <sub>4</sub>	F	G	F	G		A <sub>4</sub>	VP	VP	VP	P		A <sub>4</sub>	VG	G	VG	VG
	A <sub>5</sub>	VG	G	G	G		A <sub>5</sub>	VP	VP	VP	VP		A <sub>5</sub>	VP	VP	VP	VP
	A <sub>6</sub>	F	G	F	G		A <sub>6</sub>	F	F	F	F		A <sub>6</sub>	VP	VP	VP	VP
	A <sub>7</sub>	VG	G	G	VG		A <sub>7</sub>	VG	VG	G	G		A <sub>7</sub>	VP	VP	VP	VP
	A <sub>8</sub>	F	F	F	F		A <sub>8</sub>	VP	P	P	P		A <sub>8</sub>	F	G	F	G
C <sub>4</sub>	A <sub>1</sub>	VG	G	G	VG	C <sub>8</sub>	A <sub>1</sub>	F	F	F	F	C <sub>12</sub>	A <sub>1</sub>	VP	VP	VP	VP
	A <sub>2</sub>	VP	G	G	F		A <sub>2</sub>	VG	VG	VG	G		A <sub>2</sub>	F	G	F	F
	A <sub>3</sub>	VG	G	VG	VG		A <sub>3</sub>	VP	VP	P	P		A <sub>3</sub>	VP	VP	VP	VP
	A <sub>4</sub>	VP	VP	VP	VP		A <sub>4</sub>	F	VG	G	G		A <sub>4</sub>	VP	VP	VP	VP
	A <sub>5</sub>	VP	P	P	P		A <sub>5</sub>	F	F	F	F		A <sub>5</sub>	VP	P	P	P
	A <sub>6</sub>	F	F	F	G		A <sub>6</sub>	VG	G	G	VG		A <sub>6</sub>	VP	VP	VP	P
	A <sub>7</sub>	VP	VP	VP	VP		A <sub>7</sub>	VP	VP	VP	VP		A <sub>7</sub>	VP	VP	VP	VP
	A <sub>8</sub>	F	G	G	F		A <sub>8</sub>	VG	G	G	G		A <sub>8</sub>	F	G	F	G

Table 5. Closeness coefficient (CC) of alternatives

	A1	A2	A3	A4	A5	A6	A7	A8
d+	65.516	64.032	74.455	76.661	69.712	67.113	70.388	67.397
d-	51.963	52.543	38.800	37.302	43.904	47.716	42.842	46.778
CC <sub>i</sub>	0.442	0.451	0.343	0.327	0.386	0.416	0.378	0.410
Rank	2	1	7	8	5	3	6	4

#### 4. Results and Findings

The importance of the corporate languages those are strongly related to the customer requirements is obtained from the house of quality diagram. According to the rank, if those can be incorporated into the Bangladeshi film then it will be world standard and can keep pace with the market leader film industries. Another analysis is also adopted called Fuzzy TOPSIS that also ranks the corporate language on the basis of customer requirements. The results of both methods are summarized as follows:

Quality Function Deployment	Fuzzy TOPSIS
A2>A8>A6>A1>A5>A7>A3	A2>A1>A6>A8>A5>A7>A3>A4

#### 5. Conclusion and Recommendation

Bangladeshi films have lot of opportunities to achieve the world standard. Because it has lot of talents and creative faces who are able to direct the international level film. It has been already proved. But numbers of such level film are directed and produced very few. Therefore, Bangladesh Film Development Corporation with the help of Bangladesh government should take steps for patronizing the expert film directors and should welcome the young talents in the domain. Most of the people of Bangladesh want to go to cinema hall for expending their leisure period with family watching cinema. But nowadays it is very difficult to go into cinema hall with family due to unsecured environment and absence of art, culture, qualified story etc in the cinema. If these can be improved the arrival rate of audience of the viewers will increase tremendously. Therefore the Bangladeshi commercial films will not flop. In the mean time the new producers dare not to invest in this sector. Both Educated and uneducated film viewers always want to watch clean, morally sound, cultured films according to statistics. Actually none want to watch vulgar, unsocial, or illogical film. The film which is good quality is liked to all. From few decades past to present, the parents whatever they are upper class or lower class do not feel free to allow their children to go into cinema hall for entertainment. Even they do not like Bangladeshi cinema to be watched of their children at home. If the aforesaid problems along with modified sensor board; trained technician and stuffs; qualified screen play writers can be improved it will not take no longer time to become world standard film to lead with the big film industries.

#### 11. References

- [1] S. Yasmin, "Contemporary Bangladeshi commercial cinema: A perspective from young generation of Bangladesh", *ASA University Review*, Vol. 5, No. 1, 2011.
- [2] Y. Akao, Quality Function Deployment, *Productivity Press*, Cambridge MA, 1990.
- [3] A. Lockamy, A. Khurana, "ATotal quality management for new product design", *International Journal Quality and Reliability Management*, Universal Press Ltd. (UK), 1995.
- [4] A. Awasthi, S.S. Chauhan, S.K. Goyal, "A multi-criteria decision making approach for location planning for urban distribution centers under uncertainty", *Mathematical and Computer Modelling*, Vol. 53, pp. 98-109, 2011.
- [5] T.C. Chu, "Facility location selection using Fuzzy TOPSIS under groups", *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, Vol. 10, No. 6, pp. 687-701, 2002.
- [6] D. Yong, "Plant location selection based on fuzzy TOPSIS", *International Journal of Advanced Manufacturing Technology*, Vol. 53, pp. 1762-1772, 2007.
- [7] G.R. Jahanshahloo, L.F. Hosseinzadeh, M. Izadikhah, "Extension of the TOPSIS method for decision-making problem problems with fuzzy data", *Applied Mathematics and Computation*, Vol. 181, pp. 1544-1551, 2006.
- [8] Y.J. Wang, H.S. Lee, "Generalizing TOPSIS for fuzzy multi-criteria group decision making", *Computers and Mathematics with Applications*, Vol. 53, pp. 1762-1772, 2007.
- [9] S. Saghafian, S.R. Hejazi, "Multi-criteria group decision making using a modified fuzzy TOPSIS procedure", *Control and Automation, and International Conference on Intelligent Agents, Web Technologies and Internet Commerce*, IEEE, 2005.