Evaluating the effect of organisational practices on work effectiveness of employees

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Abstract: This is a case study to identify most significant organisational practices determining the work effectiveness of the employees of a government undertaking, Maharashtra Housing and Area Development Authority (MHADA) India. Four key elements influencing the work effectiveness were mapped with the organisational practices employed by MHADA. The average value of employee responses was used to prepare a matrix. Data were collected from 148 officers and clerical staff of seven regional boards of MHADA selected on a random basis. The data were analysed using two multiple criteria decision-making (MCDM) techniques namely PROMETHEE and TOPSIS. Results obtained by PROMETHEE appear to be more logical. Results indicate e-tender system as the most significant practice influencing the work effectiveness closely followed by process standardisation. The outcome of this study will be helpful for the organisation to develop an appropriate strategy for employees of every board.

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1   Introduction

E-governance is the effective utilisation of information and communication technology (ICT) to provide government services and facilitate the exchange of information between government and citizens, government and business and between government and government. According to the working group on convergence and e-governance (Planning Commission Government of India, 2001), electronic governance is the application of information technology to the processes of government functioning in order to bring about simple, moral, accountable, responsive and transparent (SMART) governance. Development of any country depends upon the use and penetration of e-governance. The rise of e-governance is perhaps one of the most remarkable developments (Yadav and Singh, 2012). E-governance minimises corruption, takes into account the views of minorities and ensures that voice of most vulnerable elements of the society are heard in decision making (Dwivedi and Bharti, 2010).

Standard is a document established by consensus and approved by a recognised body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context (Hatto, 2010). Standardisation is the ability to realise in practice, immediately as well as in long run, a set of methods and conditions that enables repeated high performances. There are at least five main benefits of standardisation. These include

efficiency, accuracy, greater coherence and resemblance of data across the organisation, improved level of process and outputs and positioning of the organisation to be responsive to new requirements and relevance (Linacre, 2011). Standardisation ensures that the end product delivers consistent quality and the final results are comparable with other similar items of the same class.

In 1976, Government of Maharashtra constituted Maharashtra Housing and Area Development Authority (MHADA) under the State Housing Department. The intension was to provide a comprehensive and coordinated solution for solving the housing problems faced by the people of the state. At present MHADA coordinates and controls the activities of seven regional housing boards setup for each revenue division in the state viz. Mumbai, Konkan, Pune, Nashik, Nagpur, Amravati, Aurangabad and two special purpose boards viz. Mumbai Building Repairs and Reconstruction Board (MBR&R) and Mumbai Slum Improvement Board (MSIB).

A recent study has revealed that e-governance practices and process standardisation are significant factors influencing the performance of government organisations and undertakings in India (Joshi et al., 2017b). In the current study an attempt is made to assess the impact of organisational practices on officers and clerical staff of MHADA using well known multiple criteria decision-making (MCDM) techniques namely TOPSIS and PROMETHEE. Both TOPSIS and PROMETHEE methods can be categorised as multiple attribute decision making techniques that are discrete and have a limited number of pre-specified objectives.

2   Literature review

Performance of any organisation largely depends on the satisfaction of its employees and customers. The human resource management decisions exert a unique influence on the organisational performance (Becker and Gerhart, 1996). Findings of several studies suggest a positive relationship between employee and customer satisfaction (Schneider, 1973; Jeon and Choi, 2012; Bernhardt et al., 2000; Schneider and Bowen, 1985; Schmit and Allscheid, 1995). Research findings have also shown that employee satisfaction influences customer satisfaction (Koys, 2001; Rabbanee et al., 2015; Nichol, 1992). Employee satisfaction influences the customer satisfaction even if the employee groups are not in direct contact with the customers (Wangenheim et al., 2007). Satisfied employees are highly motivated in providing good service to its customers and satisfied customers in turn influence the financial performance of the organisation (Christina and Dogan, 2009). Results of many studies have also indicated a strong correlation between employee satisfaction and performance of the organisation. An employee is therefore considered as the keystone of any organisation.

A research survey was undertaken to study the impact of e-governance on the performance of employees (Khan and Vijayashree, 2015). Data with the help of questionnaires were collected from 125 officers of Government of Karnataka working in an e-governance scenario. The main objective was to find out factors that influence the performance of employees and hence to find out relationship between creativity, personal efficacy and effectiveness of employees and determine the overall impact of e-governance on the performance of Government of Karnataka employees. Results showed a positive correlation between creativity and personal efficacy and creativity and

personal effectiveness amongst employees of Government of Karnataka in an e-governance scenario.

Black and Lynch (2001) carried out a survey covering employees of manufacturing sector to assess the impact of workplace practices and use of computers on the productivity. Computer assisted telephone interviewing method was employed and data collected from 638 manufacturing establishments in the USA was analysed using the Cobb-Douglas production function. Results indicate that the average education of non-production workers had a significant impact on productivity. The proportion of non-managerial workers using computers had a significant and positive impact on productivity. The paper also points out that the productivity is higher for establishments that promote joint decision making linked with incentive-based compensation.

In other study (Gilson et al., 2005), a research was undertaken to examine the relationship between creativity, use of standardised work practices and effectiveness on team performance and customer satisfaction. Survey data were collected from 492 customer service technicians of a multi-national organisation. Results indicate that creativity is positively related to team performance and standardised work practices are positively related to customer satisfaction. Work standardisation was also found to moderate the relationship between the creative team environment and satisfaction of customers. The positive relationship became stronger as work standardisation increased.

In the past researchers have employed different MCDM tools to evaluate and improve the overall performance of the employees (Manoharan et al., 2011; Chang, 2015). Researchers have also used statistical tools which include AHP, FAHP and TOPSIS to evaluate and improve the overall performance of the employees. In contrast, the present study employs TOPSIS and PROMETHEE to evaluate the effect of organisational practices on work effectiveness of the employees. The outcome will enable the organisation to formulate a separate policy for every employee category ultimately leading to an increase in the overall performance of the organisation.

3   Methodology

Methodology comprises of identification of variables for the problem under study, organisational practices, solution methodology using MCDM methods and data collection through questionnaire method as discussed below.

3.1   Variables identified as criteria for work effectiveness

Success of any organisation depends on its ability to attract and retain employees (Martensen and Lars, 2001). It is not possible to produce world-class products and achieve customer satisfaction without having satisfied and motivated employees (Eskildsen and Dahlgaard, 2000). Various elements of work effectiveness considered in the proposed study are shown in Figure 1. These are reduction in time required to execute work, convenience and ease of work, organisational transparency and reduction in work load. Some of the elements such as salary, increments, promotional policy and perks have been excluded as these are already taken care of in the government undertaking under consideration.

Figure 1   Key elements of work effectiveness
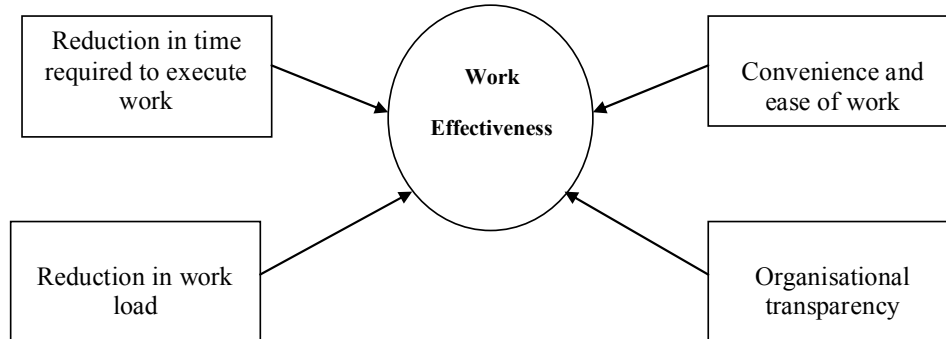
3.2   Organisational practices

Six organisational practices (seven in case of Mumbai, Konkan and Pune Board) were considered. These organisational practices are as follows:

3.2.1   Personalised e-mail

Electronic mail is a popular cost effective means of communication. To overcome the delay in communication and reduce the burden on infrastructural facilities, MHADA encourages the use of e-mail for official work. The organisation has also provided personalised e-mail id to all employees on its portal. It is expected that the employees should make use of this e-mail id for all official communication and limit the use of fax and surface mail.

3.2.2   Document scanning

Lot of documents and records are created every day. The physical storage and security of these documents has become a challenging task. In an attempt to reduce the paper work and provide quick access, the organisation is in the process of digitisation of all records. Tender has been given for digitising the records of all boards. Besides digitising previous records of all departments, applications submitted by the customers visiting the estate management department are scanned and marked to the concerned employee. Decisions are taken based on the scanned image received by the employees while the original documents are stored in the store room.

3.2.3   E-tender process

Electronic tendering is carrying out the traditional tender process in an electronic form through a computer system connected to an internet. All activities such as preparation of tenders, bidding for tender, bid payment, opening and award of tenders are executed online. In order to speed up the work, bring transparency and eliminate corruption, e-tender process has been implemented by the organisation. It is now mandatory to make purchases and place orders worth Rs. 3 lakh and above through the e-tender process only.

3.2.4   E-Mitra service

The acronym MITRA stands for MHADA's Initiative for Transparent and Responsive Action. This service was developed by the Pune Board in order to provide efficient service to its customers. Around 17 important processes of the estate management department are covered under e-Mitra. It also provides one window facility for resolving all types of customer queries. The service has now been effectively implemented across all boards.

3.2.5   E-lottery

MHADA provides housing units to its customers at affordable rates (Joshi et al., 2017a). As a result, the response for the housing units constructed by MHADA is overwhelming. Initially the housing units were provided to the applicants by conducting a manual lottery. The ratio of applications to the housing units available for sale (in some regions) is very high and therefore it becomes difficult to manage the manual lottery. Computerised lottery (e-lottery) was therefore introduced to handle the volume of applicants. Introduction of computerised lottery has also brought transparency in the lottery process. At present E-lottery has been implemented only in Mumbai, Konkan and Pune region. Therefore this practice has not been considered for the remaining boards.

3.2.6   Video conferencing

In the initial stages of establishment of MHADA, officers and employees of all regional boards had to travel to Mumbai for attending meetings. In order to reduce the cost involved in the meetings and speed up the decision making process, video conferencing facility was established in all regional boards and meetings are mostly conducted through video conferencing. This has resulted considerable savings in time and cost.

3.2.7   Process standardisation

Standardisation ensures that the end product delivers consistent quality and the final results are comparable with other similar items of the same class. In order to achieve uniformity in the work process across all boards, efforts are being taken to standardise the processes of various departments of MHADA. Process standardisation will also facilitate in designing e-service modules. Important processes standardised across all boards include uniform process for employee payment, billing process for vendors, estate management processes, tender process and display of informative boards.

3.3   Solution methodology

Seven key practices employed by MHADA (discussed in Subsection 3.2) were mapped with the four key elements of work effectiveness. Three employee categories for every board (namely officers, clerical staff and all employees, i.e., officers plus clerical staff taken together) were considered and accordingly 21 matrices were prepared.

3.3.1 Methodology using TOPSIS

TOPSIS stands for 'technique for order of preference by similarity to ideal solution'. This multi-criteria decision analysis method was originally developed by Hwang and Yoon (1981) with further developments by Yoon (1987) and Hwang et al. (1993). The technique is based on the concept that the chosen alternative should have the shortest geometric distance from the positive-ideal solution (PIS) and farthest geometric distance from the negative-ideal solution (NIS). A PIS maximises the benefit criteria/attributes and minimises the cost criteria whereas NIS maximises the cost criteria and minimises the benefit criteria (Rao, 2007). The detail steps are discussed in Subsection 4.1.

3.3.2 Methodology using PROMETHEE

PROMETHEE stands for Preference Ranking Organization METHod for Enrichment Evaluation. This MCDM method was first developed by Professor Brans in 1982 and later developed and implemented by Brans and Mareschal in 1984. The underlying philosophy and application steps of this method are quite simple as compared to that of other methods (Goumas and Lygerou, 2000). PROMETHEE I and PROMETHEE II methods provide partial and complete ranking of the alternatives respectively and can deal with qualitative and quantitative criteria simultaneously. Detail steps are discussed in Subsection 4.2.

3.4 Data collection

The seven regional boards (namely Amravati, Aurangabad, Konkan, Mumbai, Nagpur, Nashik and Pune), directly involved in providing housing units to the customers have been selected for the study. Remaining two special purpose boards (namely MBR&R and MSIB), involved in repair and reconstruction of dilapidated buildings and slum improvement respectively, have been excluded from the study. There are around 1458 regular employees in these seven boards. These include 313 officers (class I and class II), 945 clerical staff (class III) and 200 ministerial staff (class IV).

The ministerial staff (class IV employees) is not directly involved in planning and execution of work and hence has been excluded from the study. Out of the remaining employees the data were collected from 148 employees of all seven regional boards selected on a random basis. A structured questionnaire was used to collect the opinion of the employees. Attributes (elements) were mapped with strategies and the average value of employee responses obtained through questionnaire, was used to prepare the matrices. Outcome of this study will be useful in suggesting an effective strategy for both employee groups (i.e., officers and clerical staff). The study also highlights the opinion of employees in providing additional services to the customers.

4 Results

Both TOPSIS and PROMETHEE are well known MCDM techniques. TOPSIS functions by comparing criteria vs. criteria with respect to every alternative while PROMETHEE functions by comparing alternative vs. alternative with respect to every criterion. Hence

both methods have been used for ranking and to determine an appropriate strategy. The result will also highlight the nature of the collected data.

4.1   Application of TOPSIS method

Step 1: identifying evaluation attributes

Four key elements of work effectiveness (as shown in Figure 1) were mapped with the organisational practices employed by MHADA. The opinion obtained from the employees was converted to a 0–1 scale and tabulated in an electronic spreadsheet. Average values obtained from the spreadsheet were used to prepare the evaluation matrix. Accordingly 21 evaluation matrices (three per board) were prepared. The three evaluation matrices prepared for every board include one evaluation matrix each for officers (classes I and II), clerical staff (class III) and all employees (classes I, II and III) taken together.

Step 2: creating evaluation matrix and obtaining a normalized decision matrix

An evaluation (decision) matrix consisting of m attributes and n criteria for every employee category and board was prepared. The intersection of every attribute and criteria is given as x_{ij}. Thereafter 21 normalized decision matrices were prepared using following equation:

$$R_{ij} = \frac{x_{ij}}{\sqrt{\sum_{j=1}^{M} x_{ij}^2}} \tag{1}$$

where $i = 1, 2, …, m$ and $j = 1, 2, …, n$.

Step 3: obtaining of weighted normalised matrix

It was assumed that all attributes are equally important. Hence equal weights (0.25) were assigned to every attribute. 21 weighted normalised matrices were obtained by multiplying every normalised decision matrix by the assigned weight. The weighted normalised matrix was calculated using the following equation:

$$V_{ij} = w_j \times R_{ij} \tag{2}$$

where $i = 1, 2, …, m, j = 1, 2, …, n$ and w_j represents weight of the jth attribute.

   The weighted normalised matrix for officer category of Konkan Board is shown in Table 1. Similar matrices were obtained for clerical staff (class III) and all employees (classes I, II and III).

Step 4: determining positive ideal (V+) and negative ideal (V–) solution

The values for positive and negative ideal solution were determined using the following equation:

$$V^+ = \left(V_1^+, V_2^+, \ldots, V_n^+\right) \text{ maximum values and}$$
$$V^- = \left(V_1^-, V_2^-, \ldots, V_n^-\right) \text{ minimum values}$$

(3)

Table 1 Weighted normalised matrix for officer category of Konkan Board

Strategies	Weighted normalised matrix for officers (class I and II)			
	Reduction in time	Convenience and ease of work	Organisational transparency	Reduction in work load
E-mail	0.115	0.107	0.062	0.08
Scanning	0.069	0.112	0.079	0.068
E-tender	0.111	0.089	0.108	0.122
E-Mitra	0.072	0.092	0.108	0.116
E-lottery	0.095	0.086	0.107	0.104
Video conferencing	0.092	0.083	0.085	0.02
Process standardisation	0.098	0.086	0.102	0.109

Step 5: calculation of separation measures using n-dimensional Euclidean distance

Separation of every alternative from the positive and negative ideal solution was carried out using the following equation:

$$S_j^+ = \sqrt{\sum_{i=1}^{n}\left(V_{ij} - V_i^+\right)^2} \quad \text{and} \quad S_j^- = \sqrt{\sum_{i=1}^{n}\left(V_{ij} - V_i^-\right)^2}$$

(4)

where $j = 1, 2, \ldots, N$.

Step 6: calculation of closeness coefficient (P) and percentage contribution

Using the separation values of PIS and NIS, closeness coefficient was calculated with the help of following equation:

$$P_j = \frac{S_j^-}{S_j^+ + S_j^-}$$

(5)

Finally percentage contribution of every strategy was calculated using following equation:

$$PC_j = \frac{P_j}{\sum P_j} \times 100$$

(6)

The percentage contribution of every strategy for different employee groups of Konkan Board is shown in Table 2.

Table 2   Percentage contribution of every strategy (Konkan Board)

Strategy	Percentage contribution for Konkan Board		
	Class I and II	Class III	Combined (class I, II and III)
E-mail	13.34	9.12	10.2
Scanning	10.3	6.97	7.84
E-tenders	19.78	19.43	20.53
E-Mitra	16.32	14.3	15.83
E-lottery	17.18	19.44	19.37
Video conferencing	5.39	11.02	6.79
Process standardisation	17.69	19.72	19.44

Similar process was carried out for the remaining boards namely Mumbai, Pune, Amravati, Aurangabad, Nagpur and Nashik. Results indicate that the percentage contribution of e-tender service for almost every employee category is higher than that compared with other organisational practices.

4.2   Application of PROMETHEE method

To compare the results with TOPSIS, same set of data has been used and 21 normalised matrices were prepared with the help of equation (1). Six organisational practices (seven in case of Mumbai, Konkan and Pune Board) and four key elements of work effectiveness namely savings in time, ease of work and convenience, transparency and reduction in workload were considered. All elements have been considered as beneficial (i.e., higher values for all elements are desirable). The important steps of PROMETHEE are as follows (Rao and Rajesh, 2009):

Step 1: preparing dominance matrix

A dominance matrix for every element (criterion) was prepared. Information is sought on the decision maker preference function, which the decision maker uses while comparing the contribution of alternatives for every criteria. Out of the six different types of preference function, 'usual function' has been adopted in the study due to its simplicity. For every criterion of the corresponding normalised matrix, each alternative is compared with the remaining alternatives. '0' is assigned if the value of the reference function (i.e., difference between alternatives) is less than or equal to 0 and '1' is assigned if the value of the reference function is greater than 0. Thus for alternatives a_1 and a_2 for criterion C_i of the normalised matrix, the reference function P_i,a_1a_2 is calculated as follows:

$$P_i a_1 a_2 = C_i(a_1) - C_i(a_2) \tag{7}$$

12 dominance matrices per board (four criteria × three employee categories) were prepared. Accordingly 84 dominance matrices (12 per board × seven boards) have been prepared. The pair wise comparison dominance matrix for criteria 'savings in time' for officer category of Konkan Board is shown in Table 3. Remaining 83 pair wise comparison dominance matrices are not shown here for space reasons.

Table 3 Dominance matrix with respect to criteria 'savings in time' for officer category of Konkan Board

Alternative elements	A1	A2	A3	A4	A5	A6	A7
A1	-	1	1	1	1	1	1
A2	0	-	0	0	0	0	0
A3	0	1	-	1	1	1	1
A4	0	1	0	-	0	0	0
A5	0	1	0	1	-	1	0
A6	0	1	0	1	0	-	0
A7	0	1	0	1	1	1	-

Step 2: assigning weights of relative importance to criteria

As stated earlier, PROMETHEE does not provide a systematic way of assigning relative importance weights to the criteria. In order to compare the results of TOPSIS and PROMETHEE, same weights (adopted for computation of results by TOPSIS method) have been assigned to every criterion.

Step 3: preparing weighted dominance matrix

The values of weighted dominance matrix are calculated using the following equation:

$$\prod_{a1a2} = \sum_{i=1}^{M} w_i P_{i.a1a2} \tag{8}$$

The weighted dominance matrix for officer category of Konkan Board is shown in Table 4.

Step 4: determining leaving flow, incoming flow, net flow and ranking

The leaving flow, entering flow and net flow are calculated using the following equations:

$$\text{Leaving flow} \quad \Phi^+(a) = \sum_{x\varepsilon}\prod_A xa \tag{9}$$

$$\text{Incoming flow} \quad \Phi^-(a) = \sum_{x\varepsilon}\prod_A ax \tag{10}$$

$$\text{Net flow} \quad \Phi(a) = \Phi^+(a) - \Phi^-(a) \tag{11}$$

Table 4 shows the values of leaving flow, incoming flow, net flow and ranking for alternatives of Table 3. From these values, alternative A3 (i.e., e-tender) appears as the best choice among the seven alternatives (i.e., organisational practices) considered for officer category of Konkan Board.

Table 4 Weighted dominance matrix as well as leaving flow, entering flow, net flow and ranking for officer category of Konkan Board (weight = 0.25)

Alternative elements	A1	A2	A3	A4	A5	A6	A7	$\Phi^+(a)$	$\Phi(a)$	Ranking
A1	-	0.5	0.5	0.5	0.5	0.75	0.5	3.25	0.5	3
A2	0.5	-	0.25	0.25	0.25	0.5	0.25	2	–2	6
A3	0.5	0.75	-	0.5	0.75	1	1	4.5	3.5	1
A4	0.5	0.75	0.25	-	0.5	0.75	0.75	3.5	1.5	2
A5	0.5	0.75	0	0.25	-	1	0.25	2.75	0	5
A6	0.25	0.5	0	0.25	0	-	0	1	–4	7
A7	0.5	0.75	0	0.25	0.75	1	-	3.25	0.5	3
$\Phi^-(a)$	2.75	4	1	2	2.75	5	2.75			

Similar matrices were obtained for the remaining boards.

5 Comparison of TOPSIS and PROMETHEE results

Comparison of the ranks obtained by TOPSIS and PROMETHEE method reveals that out of the 21 combinations, results for the best alternative (organisational practice) obtained by PROMETHEE and TOPSIS method are identical in 14 cases. Out of the remaining seven cases, PROMETHEE is preferable in four instances, while in three instances ranks obtained by either of the two methods can be adopted. Therefore overall results obtained by PROMETHEE method may be adopted for further study. The comparison of ranks obtained by these two methods reveals that the data is criteria dominant. Any change in the criteria and/or weights assigned to the criteria will have a significant impact on the ranks.

Table 5 shows the comparison of results obtained by applying TOPSIS and PROMETHEE method for selecting the best alternative.

Table 5 Comparison of TOPSIS and PROMETHEE method for selecting best alternative

Board	Employee category	Best alternative	PROMETHEE rank	TOPSIS rank	Justification
Amravati	Officers	E-mail	1	1	-
	Clerical staff	E-tender	1	1	-
	All employees	E-tender	1	1	-
Aurangabad	Officers	E-tender	1, 2	1	Analysis with PROMETHEE shows equal preference for alternatives e-tender and e-Mitra. Therefore e-tender may be considered as the best choice.

Table 5   Comparison of TOPSIS and PROMETHEE method for selecting best alternative
(continued)

Board	Employee category	Best alternative	PROMETHEE rank	TOPSIS rank	Justification
Aurangabad	Clerical staff	E-Mitra	2	1	Comparison of values for e-Mitra and process standardisation in the normalised matrix reveals that two criteria are dominant in case of both e-Mitra and process standardisation.
		Process standardisation	1	2	
	All employees	E-Mitra	2	1	Comparison of values for e-Mitra and process standardisation in the normalised matrix reveals that three criteria are dominant in case of process standardisation. Hence results obtained using *PROMETHEE* may be adopted.
		Process standardisation	1	3	
Konkan	Officers	E-tender	1	1	-
	Clerical staff	E-lottery	1	2	Comparison of values for e-lottery and process standardisation in the normalised matrix reveals that two criteria are dominant in case of both e-lottery and process standardisation.
		Process standardisation	2	1	
	All employees	E-tender	1	1	-
Mumbai	Officers	E-scanning	1	5	Comparison of values for e-scanning and e-tender in the normalised matrix reveals that two criteria are dominant in case of e-scanning, one criterion is dominant in case of e-tender and both criteria are equal in one instance. Hence results obtained using *PROMETHEE* may be adopted.
		E-tender	2, 3	1	
	Clerical staff	E-lottery	1	1	-

Table 5 Comparison of TOPSIS and PROMETHEE method for selecting best alternative (continued)

Board	Employee category	Best alternative	PROMETHEE rank	TOPSIS rank	Justification
Mumbai	All employees	E-lottery	3	1	Comparison of values for e-lottery and process standardisation in the normalised matrix reveals that two criteria are dominant in case of both e-lottery and process standardisation.
		Process standardisation	1, 2	3	
Nagpur	Officers	E-Mitra	1	2	Comparison of values for e-Mitra and process standardisation in the normalised matrix reveals that three criteria are dominant in case of e-Mitra. Hence results obtained using *PROMETHEE* may be adopted.
		Process standardisation	3	1	
	Clerical staff	E-scanning	1	2	Comparison of values for e-scanning and e-tender in the normalised matrix reveal that three criteria are dominant in case of e-scanning. Hence results obtained using *PROMETHEE* may be adopted.
		E-tender	2	1	
	All employees	E-tender	1	1	-
Nashik	Officers	E-tender	1	1	-
	Clerical staff		1	1	-
	All employees		1	1	-
Pune	Officers	E-tender	1	1	-
	Clerical staff	Process standardisation	1	1	-
	All employees	E-tender	1	1	-

6   Conclusions

Results obtained from TOPSIS and PROMETHEE reveal that different organisational practices are dominant for different employee categories. Out of the seven practices employed by the organisation, four practices namely e-tender, e-Mitra, e-lottery and

process standardisation appear to influence the work effectiveness. However, it is observed that the overall effect of e-tender followed by Process standardisation is significant than the other organisational practices. E-Mitra is a service introduced to facilitate the interaction of customers with the organisation and hence the influence of this service on the employees appears to be less. Out of the seven regional boards, e-lottery has been introduced only in three boards where the customer response is extremely high and it is not feasible to allocate housing units through a manual lottery. This might be one of the main reasons for the lower influence of e-lottery practice.

It has been observed that the use of personalised e-mail ID provided by the organisation for official communication is very low. At the same time, presence of the employees on electronic social media is on the rise. The organisation should slowly try to move away from the customary communication channels such as fax and surface mail and make the use of official e-mail ID provided by the organisation mandatory. Besides e-mail, use of other electronic social media for official communication should also be encouraged to increase the employee participation and performance. A suitable policy in the initial phase may be framed to reward the boards and employees making the maximum use of e-services in a given period. Conscious efforts should be made to motivate the employees in using all e-practices adopted by the organisation.

It has also been observed that contribution for the video conferencing activity across all boards is low. One of the main reasons behind this fact is probably that only heads of the departments are involved in the video conferencing activity. The involvement of the remaining employees is limited to generating and providing the required information. In case of e-scanning practice, task of scanning and uploading of documents for Mumbai board has been completed whereas for other boards, the work is in process. Therefore the influence of e-scanning practice on work effectiveness appears to be low.

This study however suffers from some limitations. Certain demographic variables such as educational qualification, hometown, number of transfers and promotions since appointment, gender and age of the employees which are likely to influence the employee opinion have not been considered.

In spite of these limitations it is believed that this study has been able to assess the contribution of various organisational practices on work effectiveness of MHADA employees and has highlighted areas that can be worked upon by the organisation.

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