Person-organization fit evaluation and process optimization based on the matching theory

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Abstract

To achieve an optimal bidirectional person-organization fit (P-O fit) and improve the overall satisfaction degrees for both of the two sides, a bidirectional P-O fit evaluation and process optimization model is established based on the Matching Theory in this paper. To begin with, the bidirectional P-O fit evaluation factors set is built after the analysis of the indexes of these factors, and the index weights are calculated with the Rough Set Theory; Then, a Bidirectional P-O fit Evaluation and Process Optimization Model is proposed, with the Fit Conflict Resolve Algorithm (CRA) to ensure the persons and organizations to be matched one-to-one; Finally, the validity of this model is verified by its implementation in the enterprise HXMS.

Keywords: persons and organizations, bidirectional fit, fit degree, Cauchy Distribution Function

1 Introduction

The person-organization fit (P-O fit) issue has received more and more public attentions nowadays. The Fit Theory argues that the proper P-O fit can have a positive effect on the rapid and healthy development of enterprises, and it contributes to the synergistic interactions, reducing conflicts and optimizing the production efficiency as well. Currently, the P-O fit issue has become the basic principle of the organizational management with its vital role to improve organizational effectiveness and build harmonious organizations.

Organizations in enterprises indisputably rely on their human resources management (HRM) to take the most advantage of their human resources, and the corn part of HRM is the management for the persons and the organizations. That is to say, HRM aims essentially to work out a proper, if not optimal, P-O fit solution, which is the premise of the smooth operation of HRM [1]. The P-O fit actually embodies the consistency degree of P-O characteristics, leading how to evaluate and measure the P-O fit degree effectively and accurately to be a priority. Previous researches in this field can be classified into two directions. One is the opinion of Supplementary Fit and Complementary Fit proposed by Muchinsky and Monahan [2], Supplementary Fit here referring to the fit between person characteristics or attributes (individual values, goals, attitudes, abilities, etc.) and organizational characteristics or attributes (organizational culture, structure, values, goals, etc.); while Complementary Fit here meaning that persons and organizations are complementary in terms of their characteristics and supplies. However, the other direction, Needs-supplies and Demands-abilities, is suggested by Cable and Judge [3]. Viewpoint of Needs-supplies points out if what the organizations supply can meet the needs, desires and preferences of their persons, the P-O fit can be achieved; while that of Demands-abilities regards if the persons have abilities demanded by the organizations , then the P-O fit can be achieved. Although these two P-O fit perspectives have already been researched in depth, both of them have failed to reflect the bidirectional P-O fit behaviour in an integrated way. On the contrary, they tend to define P-O fit from just one perspective and ignore the other one. Practically, various definitions are used to illustrate different fit operations so as to measure the P-O fit degree. Withal, Kristof [4] puts forward a luculent P-O fit conception model (Figure 1) based on previous studies. The P-O fit in this model is defined as the P-O consistency in case of any of the following conditions: (1) either the persons or the organizations, at least one of the two sides, can provide the resources required by their counterpart; (2) similar basic characteristics are shared by the two sides of persons and the organizations; (3) both of the two conditions above are available.

The P-O consistency, which is generally measured by the P-O fit degree, is used to study the P-O interaction relationship from the perspectives of persons and organizations [5-7]. The P-O fit evaluation is often regarded as a complex process with its multiple objectives, levels and uncertainties due to various factors from persons (their needs, attitudes, values, knowledge, skills, abilities, personality, etc.) ,organizations (their culture, rewards, motivation, innovation, etc.), and the environment (dynamics, complexity, uncertainty, etc.).

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For now, methods for P-O fit evaluation mainly focus on two forms: direct evaluation methods and indirect evaluation methods [8-10].

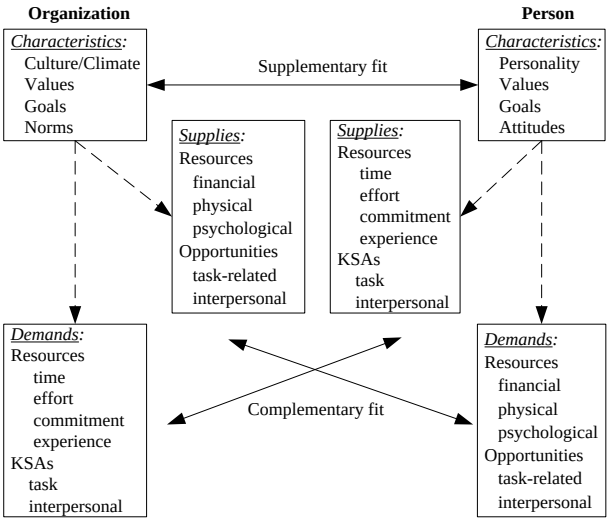

Figure 1 P-O fit model

Direct evaluation methods guide the persons to evaluate whether they have a proper P-O fit with their organizations, while indirect methods evaluate the persons' characteristics and organizations' characteristics under the same structure firstly and then compare the differences between the two sides with the method of D-score, Q methodology, Multi-regression methods and etc. Undesirable defects exist inevitably in these two methods thanks to their ignorance of the bidirectional P-O fit. The proper bidirectional P-O fit can on one hand stimulate the persons to improve their production efficiency with higher job satisfaction degrees, it can optimize the management level and organizational performance on the other hand, which make researches on approaches of bidirectional P-O fit necessary and beneficial. To resolve this issue, this paper focuses on the bidirectional P-O fit evaluation and process optimization at microscopic and macroscopic levels. First of all, the person evaluation factors set and the organization evaluation factors set are established respectively; Next, the P-O fit degree and the O-P fit degree are calculated respectively after persons and organizations make evaluations on their counterparts mutually; Then the integrated P-O fit degree is determined to measure the P-O consistency; Finally, the optimal bidirectional P-O fit result can be achieved to make sure the perfect fit of the organizations and the persons.

The rest parts in this paper are organized in the following way. Chapter 2 interprets the assumptions and notations presented in the research process. In chapter 3, two evaluation factor sets for persons and organizations are built separately to support the bidirectional P-O fit evaluation. Chapter 4 establishes the bidirectional P-O fit evaluation and process optimization model to calculate the integrated P-O fit degree and evaluate the bidirectional P-O fit process. This model is verified by an example in chapter 5. In the end, Chapter 6 makes a conclusion of the contents, which are introduced in this paper.

2 Descriptions of the assumptions and notations

2.1 ASSUMPTION

This paper is compiled under the following assumptions:

1 In the P-O fit evaluation process, evaluations given by the organization managers and the persons are given objectively;

2 In the P-O fit evaluation process, choices of the organization managers and the persons are made rationally;

3 In the P-O fit evaluation process, the organizations and the persons are matched one-to-one.

2.2 INTERPRETATIONS OF THE NOTATIONS

M_k: the person who fits the organization, k=1,2,3,…, K;
F_r: the organization which fit the person, r=1,2,3,…, R;
P_i: the ith evaluation index of the person evaluation factors set, i=1,2,3,…, m;
O_j: the jth evaluation index of the organization evaluation factors set, j=1,2,3,…, n;
W_i: the weight of the i^{th} evaluation index of the person evaluation factors set;
W_j: the weight of the j^{th} evaluation index of the organization evaluation factors set;
$S_{rk}^{(i)}$: the satisfaction degree from organization r to the person k;
$T_{kr}^{(j)}$: the satisfaction degree from person k to organization r;
S_{kr}: the P-O fit degree from person k to organization r;
T_{rk}: the P-O fit degree from organization r to person k;
ST_{kr}: the integrated P-O fit degree between person k and organization r.

3 P-O evaluation factors set and the calculations

3.1 P-O EVALUATION FACTORS SET

The bidirectional P-O Fit aims to study the causes and effects of the consistency between the persons and the organizations they belong to, which in fact reflect the relevant factors influencing the P-O fit process. The proper P-O fit reflects their mutual adaption and harmony, which not only have positive impacts on variables at persons' level, it also plays an important role in variables at organizations' level. Mutual impact relationship in the fit process can be classified into two categories: influences made by persons' characteristics on organizations and influences made by organizations on persons. The former one make differences mainly with their knowledge, skills and abilities, or whether their personality traits meet the needs of the organizations, whether their value views are consistent with that of the

organization, whether their job performances reach the organizations' relevant standards, whether their complex needs can be satisfied by the organization and so on, all of which affect the P-O consistency degrees and the result of the P-O fit. While the later influence mainly results from the following aspects: whether the resources the organizations provide meet the needs of their persons, whether their target is in line with that of their persons, whether their cultural are similar to that of their persons, whether their structure allows for the self-development of their persons and so on. Generally speaking, the P-O interaction reflects the principle of the mutual accommodation and development between organization and person. Therefore, this paper analyses the bidirectional P-O fit indexes and builds two evaluations factors sets (Table 1) to evaluate and optimize the P-O fit issue.

TABLE 1 P-O evaluations factors set

Person evaluation factors set		**Organization evaluation factors set**	
P	Evaluation index	O	Evaluation index
P_1	Communication Skills	O_1	Organizational Performance
P_2	Personal Values	O_2	Organizational Innovation
P_3	Professional Knowledge	O_3	Organizational Culture
P_4	Decision-making Ability	O_4	Organizational Strategy
P_5	Computer Application Ability	O_5	Organizations Working Environment
P_6	Individual Personality	O_6	Organizational Diversity
P_7	Personal Attitudes	O_7	Organizational Cohesion
P_8	Continuous Learning Ability	O_8	Organizational Norms
P_9	Research Capacity	O_9	Management Leading Level
P_{10}	Adaptation Ability	O_{10}	Employment Mechanism
P_{11}	Innovation Ability	O_{11}	Comprehensive Strength
P_{12}	Sense of Responsibility	O_{12}	Organizational Stability
P_{13}	Healthy Status	O_{13}	Organizational Image
P_{14}	Leadership Skills	O_{14}	Organization Working Content
P_{15}	Interpersonal Skills	O_{15}	Personnel Promotion Opportunities
P_{16}	Education Background	O_{16}	Personnel Learning Opportunities
P_{17}	Personal Image	O_{17}	Organizational Location

3.2 CALCULATION OF THE EVALUATION INDEX WEIGHTS

In the P-O fit evaluation process, the organizations and the persons vary in terms of their emphasis of the evaluation indexes, thus this paper calculates the evaluation index weights W_i and W_j by using the Rough Set Theory on the basis of the P-O evaluation factors set. The main contents are as follows:

For decision problems with more than one index, assume the condition attribute set is C and the decision attribute set is D. To facilitate the discussion, the relevant definitions are given firstly [11, 12]:

Definition 1 Assume the tetrad $I=(U,A,V,f)$ to be a decision information system. If $A=C\bigcup D$, $C\bigcap D=\varnothing$, then $I=(U,C,D,V,f)$ is the decision table, C is the condition attribute set and D is the decision attribute set.

Definition 2 In the decision information system $I=(U,A,V,f)$, $U=\{u_1,u_2,\cdots,u_{|U|}\}$ is the Domain, standing for the samples data collection (object or entity) with $U\neq\varnothing$; A is a set of non-empty finite attributes, with $A=\{a_1,a_2,\cdots,a_{|A|}\}$ presenting a collection of all attributes; $V=\bigcup_{a_j\in A}V_{a_j}$ with V_{a_j} presenting the attribute range of $a_j\in A$; $f:U\times A\to V$ is the information function , which is a single map to ensure the attribute of any object from U to have a unique information value, i.e., $\forall a_j\in A,\forall u_i\in U$ and $f(u_i,a_j)\in V_{a_j}$.

This paper exemplifies the weights calculation process of each index from the person evaluation factors set $P=\{P_1,P_2,\cdots,P_{17}\}$ so as to calculate all the other index weights W_i with the Rough Set Theory, and the basic steps are as follows [13]:

1) Determine the evaluation index P_i and the integrated evaluation value D, and calculate the dependence degree $\gamma_{P_i}(D)$ through formula (1), the coefficient $\gamma_{P_i}(D)$ here representing the dependence degree between D and Pi.

$$\gamma_{P_i}(D)=\frac{card\left(POS_{P_i}(D)\right)}{card(U)}. \tag{1}$$

Here $card(\bullet)$ represents the radix of the set.

2) Calculate the weight of index P_i

The weight of index P_i ($P_i\in P$) can be regarded as the decision-making changing degree if we remove index P_i from the evaluation system. The greater the change is the more significant index P_i is. Therefore, the importance value of P_i can be shown through formula (2)

$$Sig(P_i)=\gamma_{P_i}(D)-\gamma_{(P-\{P_i\})}(D) \tag{2}$$

3) Normalize the index weights

Normalize the importance value of each evaluation index, whose weight can be calculated through formula (3)

$$W_i=\frac{Sig(P_i)}{\sum_{i=1}^{m}Sig(P_i)}\ i=1,2,3\ldots m \tag{3}$$

Here, W_i is the weight of the i^{th} evaluation index.

Similarly, each evaluation weight W_j of the organization evaluation factors set can be calculated by following the steps above.

4 Bidirectional P-O fit evaluation and process optimization

4.1 BIDIRECTIONAL P-O FIT EVALUATION

Due to the prevalence of the discrepancy between the desired expectations the organizations have on their persons and the actual conditions the persons achieve, each organization has set a corresponding objective evaluation index system for their persons, known as "P-O fit degree". For this consideration, the satisfaction degrees can be divided into nine grades {extremely unsatisfied, fairly unsatisfied, unsatisfied, not very satisfied, basically satisfied , very satisfied, satisfied, fairly satisfied, extremely satisfied}, with its corresponding comment sets: {u_1, u_2, u_3, u_4, u_5, u_6, u_7, u_8, u_9}. On this basis, the satisfaction evaluation matrix from person k to organization r and that from organization k to person r can be obtained separately (in Table 2 and Table 3), where i = 1,2,3,...,m; j = 1,2,3,...,n; r = 1,2,3,...,R; k = 1,2,3,...,K.

TABLE 2 Satisfaction evaluation from person k to organization r

	O	O_1	O_2	O_3	O_j	O_n
	Organization 1	u_5	u_3	u_7	…	u_1
	Organization 2	u_2	u_6	u_3	…	u_7
Person k	Organization 3	u_1	u_3	u_9	…	u_8
	Organization r	…	…	…	…	…
	Organization R	u_4	u_1	u_2	…	u_3

TABLE 3 Satisfaction evaluation from organization r to person k

	P	P_1	P_2	P_3	P_i	P_m
	Person 1	u_2	u_7	u_3	…	u_2
	Person 2	u_2	u_5	u_3	…	u_6
Organization r	Person 3	u_3	u_7	u_5	…	u_5
	Person k	…	…	…	…	…
	Person K	u_6	u_4	u_7	…	u_2

In reality, persons are more sensitive to the dissatisfaction degree than to the satisfaction degree. That is to say, various complaints can be made by the persons if the evaluations from organizations on their persons decrease a level; while a slight increase, if any, of the satisfaction degree can be obtained if the fit degree increase a level. Considering this, we take advantage of Cauchy Subjective Distribution Function [7-10].

$$f(u)=\begin{cases}\left[1+\alpha(u-\beta)^{-2}\right]^{-1} & 1\le u\le 5\\ a\ln u+b & 5\le u\le 9\end{cases} \tag{4}$$

Here, α , β , a, b are undetermined coefficients. When the satisfaction degree is rated as "extremely satisfied", membership is 1 and $f(9)=1$; when the satisfaction degree is rated as "basically satisfied", membership is 0.8 and $f(5)=0.8$; when the satisfaction degree is rated as "extremely dissatisfied", the membership degree is 0.01 and $f(1)=0.01$. α , β , a, b can be calculated separately through equation (1), and then the language-based evaluation value from Table 2 and Table 3can be transferred into a numeric type. Take the organization evaluation process for example; the satisfaction evaluation matrix after the transformation is expressed in Table 4.

TABLE 4 Satisfaction evaluation matrix post-transformed from person k to organization r

		O_1	O_2	O_3	O_j	O_n	**Integrated degree**
Weight		W_1	W_2	W_3	W_j	W_n	
	Organ. 1	$T_{k1}^{(1)}$	$T_{k1}^{(2)}$	$T_{k1}^{(3)}$	$T_{k1}^{(j)}$	$T_{k1}^{(17)}$	T_{1k}
	Organ. 2	$T_{k2}^{(1)}$	$T_{k2}^{(2)}$	$T_{k2}^{(3)}$	$T_{k2}^{(j)}$	$T_{k2}^{(17)}$	T_{2k}
Person k	Organ. 3	$T_{k3}^{(1)}$	$T_{k3}^{(2)}$	$T_{k3}^{(3)}$	$T_{k3}^{(j)}$	$T_{k3}^{(17)}$	T_{3k}
	Organ. r	$T_{kr}^{(1)}$	$T_{kr}^{(2)}$	$T_{kr}^{(3)}$	$T_{kr}^{(j)}$	$T_{kr}^{(17)}$	T_{rk}
	Organ. R	$T_{kR}^{(1)}$	$T_{kR}^{(2)}$	$T_{kR}^{(3)}$	$T_{kR}^{(j)}$	$T_{kR}^{(17)}$	T_{Rk}

Here, T_{rk} presents the fit degree organization r has on person k, which can be calculated through formula (5)

$$T_{rk}=\sum_{j=1}^{n}T_{kr}^{(j)}W_j \quad j=1,2,3,\ldots,n \tag{5}$$

Similarly, the fit degree person k has on organization r can be calculated through formula (6)

$$S_{kr}=\sum_{i=1}^{m}S_{rk}^{(i)}W_i \quad i=1,2,3,\ldots,m \tag{6}$$

Therefore, the integrated fit degree ST_{kr} between organization r and person k can be calculated through formula (7)

$$ST_{kr}=\sqrt{S_{kr}T_{rk}} \quad r=1,2,3,\ldots,R;\ k=1,2,3,\ldots,K \tag{7}$$

In a summary, after sequencing the integrated fit degree ST_{kr} in a descending order, the fit result with the maximum ST_{kr} is the optimal P-O fit result for person K and organization r , meaning person k finds organization r the most satisfying and vice versa.

4.2 BIDIRECTIONAL P-O FIT CONFLICT RESOLVE ALGORITHM

According to assumption 3, the persons and the organizations should be matched one-to-one. However, it is often the case in reality that more than one person is selected by the same organization or an organization is selected by more than one person, which inevitably leads to bidirectional P-O fit conflicts. If not resolved properly, the fit conflicts are bound to destroy the organization's harmony and jeopardize the organizational efficiency.

To solve these fit conflicts, this paper comes up with a Fit Conflict Resolve Algorithm to achieve the process optimization.

1) List the desired persons of organization F_r based on their ST_{kr} values in a descending order, and the persons ranking the first few places are more desirable than their

followers by organization F_r. The sequence result is $M_1,M_2,M_3,...M_K$;

2) Fit organization F_r to the person with the maximal ST_{kr}, where r = 1,2,3,..., R;

3) Detect the P-O fit conflicts. If none, then go to step (5); otherwise, go to step (4);

4) Organization F_r and F_v select the same person M_k (or person M_k and M_u select the same organization F_r). Compare the S_{kr} value of person K and organization F_r and *the* S_{kv} value of person K and organization F_v)

1) If $S_{kr}>S_{kv}$, then M_k should select F_r;

2) If $S_{kr}<S_{kv}$, then M_k should select F_v;

3) If $S_{kv}=S_{kr}$, then M_k can select F_v or F_r at random.

5. Terminate the algorithm.

To sum up, the process of bidirectional P-O fit evaluation and optimization is shown in Figure 2.

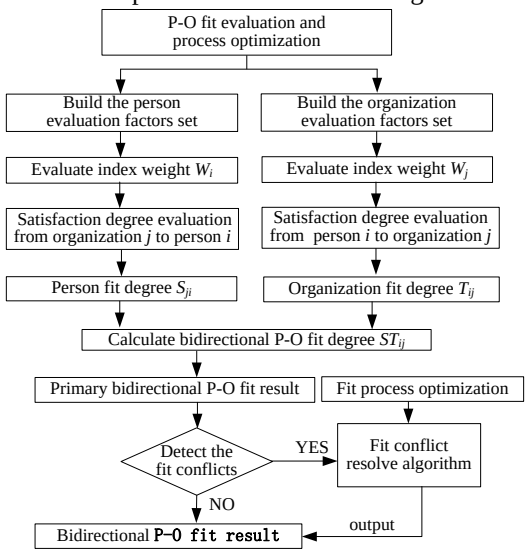

FIGURE 2 Bidirectional P-O fit evaluation and process optimization model

5 Case study

The method proposed in this paper is verified by an example in HXMS, a high-tech enterprise famous for its integration of the precision molds, precision stamping parts and plastic injection molding parts. With its ever-increasing development and rapid growth, HXMS plans to enlarge its recruitment scale in 2013 to deal with talent shortage issue in its expansion process. It launches activities to achieve a proper bidirectional P-O fit so as to get higher productivity efficiency and a better quality. Eight product development organizations and twelve persons are introduced in this paper as the objectives to verify the method proposed. The P-O fit evaluation index system is shown in Table 1. Specific analysis steps of bidirectional P-O fit evaluation and process optimization are as follows:

Step 1 Evaluate the index weights

Determine the index weights of P-O fit evaluation factors set. Calculation results are shown in Table 5 and Table 6.

TABLE 5 Index weights of the person evaluation factor set

Index	P_1	P_2	P_3	P_4	P_5	…	P_{13}	P_{14}	P_{15}	P_{16}	P_{17}
Weight W_i	.048	.061	.066	.070	.078	…	.070	.042	.064	.046	.040

TABLE 6 Index weights of the organization evaluation factors set

Index	O_1	O_2	O_3	O_4	O_5	…	O_{13}	O_{14}	O_{15}	O_{16}	O_{17}
Weight W_i	.042	.060	.069	.082	.073	…	.035	.047	.059	.054	.044

Step 2 Calculate the P-O fit degree and the O-P fit degree

1) Calculate the P-O fit degree

Firstly, construct the satisfaction evaluation matrix organization r for person K; Next, construct the post-transferred satisfaction evaluation matrix through formula (4); Then the satisfaction degree T_{rk}(k=1,2,3,……,12) from the eight development organizations on the twelve persons can be obtained through formula (5). The result is shown in Table 7.

TABLE 7 Sequence of T_{rk} (from organization r to person k)

No.	**Tr1**	**Tr2**	**Tr3**	**…**	**Tr10**	**Tr11**	**Tr12**
1	F_3|0.727	F_2|0.901	F_8|0.775	…	F_1|0.778	F_7|0.821	F_8|0.863
2	F_5|0.714	F_5|0.879	F_3|0.752	…	F_5|0.763	F_2|0.802	F_6|0.839
3	F_7|0.692	F_6|0.851	F_4|0.733	…	F_4|0.733	F_5|0.899	F_2|0.721
4	F_4|0.681	F_7|0.721	F_2|0.721	…	F_2|0.712	F_1|0.872	F_7|0.717
5	F_1|0.651	F_4|0.611	F_5|0.701	…	F_6|0.690	F_4|0.853	F_5|0.702
6	F_8|0.645	F_1|0.601	F_1|0.762	…	F_7|0.682	F_3|0.792	F_1|0.686
7	F_6|0.623	F_8|0.587	F_6|0.731	…	F_3|0.673	F_6|0.627	F_3|0.654
8	F_2|0.521	F_3|0.563	F_7|0.669	…	F_8|0.564	F_8|0.517	F_4|0.627

2) Calculate the O-P fit degree

Firstly, construct the satisfaction evaluation matrix person K on organization r; Next, construct the post-transferred satisfaction evaluation matrix through formula (4). Then the satisfaction degree S_{kr}(k=1,2,3,……, 12) from the twelve persons to the eight organizations can be obtained through formula (6). The result is shown in Table 8.

TABLE 8 Sequence of S_{kr} (from person k to organization r)

No.	S_{k1}	S_{k2}	S_{k3}	**…**	S_{k6}	S_{k7}	S_{k8}
1	M_3|.827	M_2|.901	M_8|.875	…	M_1|.887	M_7|.921	M_8|.893
2	M_5|.814	M_5|.899	M_{10}|.852	…	M_9|.872	M_{10}|.902	M_6|.859
3	M_7|.792	M_6|.871	M_4|.833	…	M_3|.834	M_5|.899	M_{12}|.821
4	M_4|.781	M_7|.821	M_2|.821	…	M_5|.827	M_1|.882	M_7|.817
5	M_1|.771	M_4|.811	M_{11}|.801	…	M_{10}|.811	M_4|.873	M_5|.702
6	M_{10}|.765	M_9|.801	M_1|.792	…	M_7|.801	M_9|.852	M_1|.786
7	M_6|.743	M_{11}|.787	M_6|.771	…	M_2|.799	M_{12}|.827	M_9|.754
8	M_2|.721	M_3|.763	M_9|.769	…	M_4|.763	M_3|.817	M_{11}|.727
9	M_{11}|.690	M_1|.752	M_{12}|.732	…	M_8|.732	M_6|.798	M_{10}|.717
10	M_9|.688	M_8|.716	M_5|.721	…	M_6|.691	M_8|.763	M_2|.698
11	M_8|.650	M_{12}|.703	M_3|.702	…	M_{11}|.627	M_2|.754	M_3|.678
12	M_{12}|.643	M_{10}|.691	M_7|.698	…	M_{12}|.584	M_{11}|.733	M_4|.653

Step 3 Calculate the integrated P-O fit degree ST_{kr}

Calculate the integrated P-O fit ST_{kr} through formula (7) based on the results from Table 7 and Table 8. Choose organization r as the fit objective, the integrated P-O fit result between the twelve persons and the eight organizations are shown in Figure 3 (A-H).

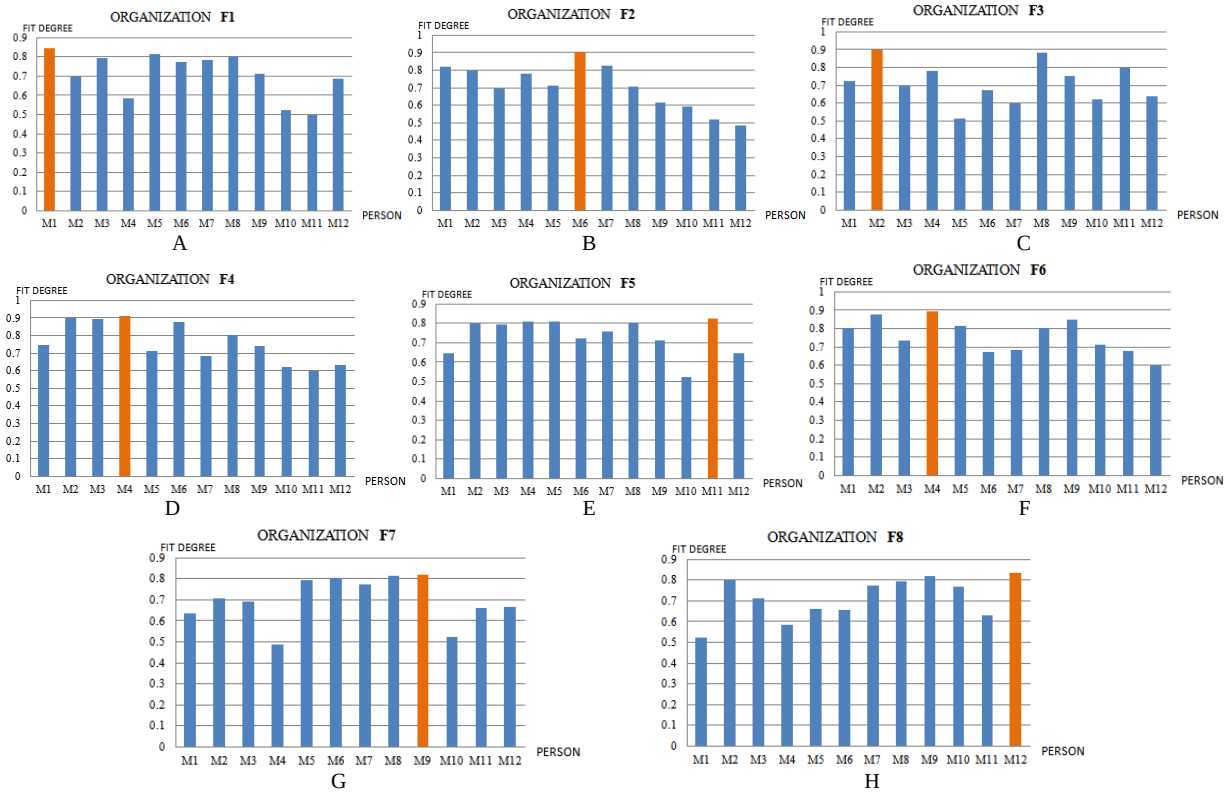

FIGURE 3 Integrated evaluation results between persons and organizations

Step 4 Resolve the P-O fit Conflicts

Figure 3 reveals a conflicting phenomenon where organization F4 and organization F6 regard persons M4 as their optimal objective simultaneously, a typical P-O fit conflict against assumption 3. Thus we resolve the fit conflict with the Fit Conflict Resolve Algorithm. Since $T_{44}>T_{64}$, person M_4 should be the optimal for organization F4, and organization F6 should select person M2. Now that person M2 chooses organization F3, organization F6 is supposed to select person M5 finally.

Steps 5 Optimize the bidirectional P-O Fit result

According to the P-O fit evaluation and optimization process above, the final result of P-O fit for this enterprise is shown in Table 9.

TABLE 9 P-O bidirectional fit results

Organ. F_r	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8
Person M_k	M_1	M_6	M_2	M_4	M_{11}	M_5	M_9	M_{12}
Fit degree	0.844	0.904	0.897	0.912	0.824	0.813	0.821	0.837

It can be seen from table 9 that the optimal P-O fit result for HXMS is M_1-F_1, M_6-F_2, M_2-F_3, M_4-F_4, M_{11}-F_5, M_5-F_6, M_9-F_7, M_{12}-F_8, which ensures the perfect bidirectional P-O fit.

6 Conclusions

The P-O fit issue, with its essential role in human resource management, exists widely in various management practices in almost all types of enterprises. The proper P-O fit have an overwhelming impact to make sure that the persons are attracted to their organizations with higher job satisfaction degrees and minimum demission rates. This paper studies the bidirectional P-O fit issues based on the Matching Theory, calculates the P-O fit degrees, the O-P fit degree and the integrated P-O fit by establishing the bidirectional P-O fit evaluation and process optimization model, thus to achieve a proper bidirectional P-O fit. Meanwhile, this paper provides references for the college students to make wise decisions during their job hunting process and guides the enterprises to seek for their perfect potential cooperative partners.

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References

[1] Tomoki Sekiguchi 2004 *Osaka Keidai Ronshu* **54**(6) 179-96 *(In Chinese)*
[2] Muchinsky P M, Monahan C J 1987 *Journal of Vocational Behavior* **31** 268-77
[3] Cable D M, Judge T A 1994 *Personnel Psychology* **47** 317-31
[4] Kristof A L 1996 *Personnel Psychology* 49 1-49
[5] Cable D M, Judge T A 1997 *Journal of Applied Psychology* **82**(4) 546-61
[6] Becker B, Gethart B 1996 *Academy of Management Journal* **39**(4) 779-801
[7] O'Reil C A, Chatman, Caldwell D F 1991 *Academy of Management Journal* **34**(3) 487-516
[8] Verquer M L, Beehr T A, Wagner C H 2003 *Journal of Vocational Behaviour* **63** 473-89
[9] Kelly A, Piasentin Derek S C 2006 *Journal of Vocational Behaviour* **5** 1-19
[10] Karen J, Jansen A L 2006 *Journal of Managerial Issues* **18**(2) 193-209
[11] Yang J, Yang Y, Wang W L 2009 *China Mechanical Engineering* **20**(20) 2452-05 *(In Chinese)*
[12] Li Y Y, Yun J 2009 *Wuhan University of Technology (In Chinese)*
[13] Yang Y, Liang X D, Li X L 2010 *Computer Integrated Manufacturing Systems* **16**(5) 1020-06 *(In Chinese)*

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