

# Analysis on the Factors Influencing the Validity of Quality Talents Evaluation

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**Abstract:** Analysis on the factors influencing the validity of quality talents evaluation is the premise of evaluation. Factors influencing the validity of evaluation for quality talents are evaluation mechanism, personnel policy, evaluation experts, quality characteristic and social relations. The result of factor analysis can be justified with 19 indicators such as the rationality of evaluation program and the scientific of evaluation criterion. The results of SPSS show that, the evaluation mechanism, personnel policy, evaluation experts and evaluation index have obvious effect on the evaluation validity. Among the four influential factors the quality characteristic is the most effective. Human social relationship factor is ineffective at all to the evaluation validity.

## Introduction

In the twenty-first century, the way China's economic development faces a major transformation. We have to rely on scientific and technological innovation if we want to join the ranks of the international industrial chain of high-end links. In essence, the key to technological innovation is quality talent's innovation, and quality talent introduction and evaluation indeed affects the overall situation [1]. Now the human resources strategy has risen to national strategy, and the evaluation of quality talent led by government must be given response to the new challenges and requirements of efficiency and effectiveness of research in the public sector human resource development and management theory and government management: Whether the current quality talent evaluation is effective? Which factors are influenced the effectiveness of quality talent evaluation?

## Research variables and hypotheses

This study selected the dependent variable is the evaluation of the effectiveness of quality talent, which use "high, medium, low" three levels to measure and represent with "low = 1, medium = 2, High = 3 ". Variable is factors affecting the effectiveness evaluation of quality talents, mainly rely on literature research and expert consultation acquisition, including the evaluation mechanism factor, personnel policy factors, evaluation specialists factors, quality factors and social relationships. This study presents the following hypotheses: H1: evaluation mechanism influence quality talent evaluation effectiveness; H2: personnel policy impact quality talent evaluation effectiveness; H3: experts influence quality talent evaluation effectiveness; H4: Quality characteristics affect the effectiveness of quality talent evaluation; H5: social relations affect the effectiveness of quality talent evaluation.

## Research Methods

Questionnaires were distributed with three forms: the first, we distributed to talent evaluation experts and some human resources departments of high-tech enterprises who were commissioned to distribute them to their quality talent; the second, we went to High-tech Zone Management Committee talent Office and issued to civil servants to fill in; the third, we took part in High-tech

zone of talent Sharon and issued to participants to do. A total of 500 questionnaires were returned questionnaires 469 copies, deleting the 89 invalid questionnaires. This survey actually recovered 380, and the effective response rate was 76%.

In this paper, we first test the KMO statistic (a measure of the degree of partial correlation between variables)[2]. Analysis results show that the KMO value is 0.874, greater than 0.7, significant test of spherical, two conditions are met; variables related to the extent are suit to do the factor analysis. In the reduction process, delete the item "talent market supply and demand balance" which is less than 0.4, and the remaining 19 question items were extracted five common factors. Results based on exploratory factor analysis showed that the index measuring the questionnaire and derives from common factors fit better relationship, as shown in Table 1, while carried out by common factors explain more than 75% of the total variance, which show that the proposed design Good structure and scale models.

Table 1: exploratory factor analysis (N = 117)

Project	Evaluation Mechanism of Talent	Policy Evaluation	Expert	Quality	Social characteristics	Common degree
Evaluation procedures of the rationality	.686					.559
Evaluation criteria of scientific	.729					.673
Formal review of the intensity	.630					.537
Evaluation of the transparency of information	.602					.548
The introduction of high-level personnel policy efforts		.694				.588
Talent policy propaganda		.735				.617
Talent strategy of prospective		.624				.569
Evaluation expert evaluation ability			.749			.587
Evaluation expert's emotional bias			.736			.683
Evaluation of the academic level of experts			.643			.558
Innovative of talents				.722		.670
The contribution of talent				.769		.524
Talent performance level				.676		.537
Ability				.569		.561
Talent achievement motivation				.648		.625
Qualified personnel				.658		.622
Talent education background				.672		.559
Social background of talent					.665	.589
Chief executive's influence					.734	.639

## Data analysis and results

### Reliability Analysis of the questionnaire

This study used internal consistency reliability to test the questionnaire reliability measure, namely a multi measure index of the degree of consistency. Currently, the academic community generally uses the internal consistency coefficient (Cronbach's  $\alpha$ ) examine the internal consistency of the questionnaire. In general, Cronbach's  $\alpha > 0.7$ , proved effective scale. When the number of items is less than 6, Cronbach's  $\alpha > 0.6$ , can also prove the validity of the scale[3]. Cronbach's  $\alpha$  coefficient of each variable in this questionnaire 0.703 ~ 0.901, exceeding the acceptable level of 0.7, indicating that the scale has high reliability (see Table 2).

Table 2: each variable Cronbach's alpha table

Variable names	measuring several items	Cronbach's alpha
Evaluation Mechanism	4	.784
Personnel Policy	3	.727
Evaluation Expert	3	.735
Quality features	7	.901
Social relations	2	.703

### Validity of the questionnaire

The construct validity of the questionnaire was tested by confirmatory factor analysis [4]. The factor analysis is used to analyze the maximum variance rotation of the principal component, imposed decimation factor of 1-4 on existing samples. The overall results of the model fitting and comparison are shown in Table 3, the impact of each indicator result of the high level of talent evaluation of the effectiveness of the five-factor model are significantly better than the other factor model. Specifically,  $\chi^2/df < 3$ ,  $RMSEA < 0.08$ ,  $RMR < 0.05$ ,  $PNFI > 0.5$ ,  $GFI$ 、 $CFI$  are close to or greater than 0.9, the indicators have reached a good fit or acceptable level.

Table 3: confirmatory factor analysis (N = 380)

project	$\chi^2/df$	$GFI$	$CFI$	$RMR$	$RMSEA$	$PNFI$
Single factor model	14.39	0.813	0.574	0.092	0.167	0.237
Two-factor model A	9.113	0.873	0.683	0.084	0.149	0.275
Three-factor model A	5.863	0.886	0.747	0.081	0.112	0.349
Four-factor model A	3.73	0.745	0.817	0.077	0.093	0.424
Five-factor model	2.74	0.911	0.917	0.037	0.067	0.710

### Empirical Analysis

#### (1) Descriptive statistical analysis

Descriptive statistical analysis of all the variables in the research results are shown in Table 5, the effectiveness of the average quality talent evaluation was 2.03, in the middle level, indicating that the survey for the evaluation of quality talent, there are many expectations, also means that the quality talent evaluation still needs to improve the space. In addition, Table 4 can also find quality features and evaluate the effectiveness of quality talent significantly positive correlation, personnel policies and quality characteristics and evaluation mechanism positively correlated expert factors and evaluation mechanism significantly positive correlation, experts and personnel policy a significant positive correlation, Quality features significant positive correlation with the personnel policy, the quality characteristics of a significant positive correlation with the experts. To continue to analyze the results of the above studies the relationship between the variables of each research study lays a foundation.

Table 4: Descriptive Statistics table

	Mean	standard deviation	Effectiveness	evaluation mechanism	talent policy	expert	quality characteristics
Effectiveness	2.03	.545					
Evaluation Mechanism	3.80	.621	.216				
Personnel Policy	3.66	.696	.274	.464*			
evaluation specialists	3.79	.741	.059	.563***	.471**		
Quality features	4.06	.486	.403*	.352*	.518***	.347*	
social relations	3.24	.913	.069	.079	.330	.109	.116

Note: \*is  $p < 0.050$ , \*\* is  $p < 0.010$ , \*\*\* is  $p < 0.001$ .

## (2) Analysis of significance

### 1) The overall significance analysis model

The paper used multiple linear regression function with SPSS20.0 statistical software to test, and found regression determination coefficient  $R^2=0.627$ , adjusted determination coefficient  $R^2 = 0.475$ , F statistic is 21.128 and associated probability is 0.032, indicating that the effect of the regression model is better, there is a significant linear relationship between the variables and to evaluate the effectiveness. The overall model was significant in Table 5.

Table 5: model overall significance table

Model	sum of squares	degree of freedom	mean square	F	Sig.
Regression term	3.877	5	.7754	21.128	.032
Residual term	9.870	269	.0367		
Sum	13.747	274			

### 2) Regression coefficient significance analysis

The paper tested the significance of the variables mainly through spss20.0 statistical software; table 6 listed in detail the results of significance test of the variable.  $p=0.597$  variables of social relations, was much higher than that P should be less than 0.05 significant level, and did not pass the significance test, so that H5: the effectiveness of social factors influence quality talent evaluation is false. Other four independent variables of P values between 0.005-0.038 were less than 0.05 and has passed the significance test[5], and illustrated that the evaluation mechanism, personnel policy, evaluation experts and evaluation index have obvious effect on the evaluation validity. Therefore, the other four hypotheses were established.

Table 6: significance of each variable table

Model	Non-standardized coefficients		standardized coefficients	t	Sig.	Research hypotheses
	B	Std. Error	Beta			
Constant	2.223	.300		7.448	.000	
evaluation mechanism	.142	.055	.141	2.785	.006	establish
Personnel policy	.112	.058	.095	2.152	.041	establish
evaluation specialists	.098	.048	.089	2.092	.038	establish
Quality features	.324	.082	.352	3.784	.001	establish
Social relations	.0001	.101	.000	.021	0.597	false

## Conclusions

(1) The results of SPSS show that, the evaluation mechanism, personnel policy, evaluation experts and evaluation index have obvious effect on the evaluation validity. Among the four influential factors the quality characteristic is the most effective. Human social relationship factor is

ineffective at all to the evaluation validity. Because the social background of quality talents does not reflect the people's strength in talent evaluation[6], in fact, evaluation expert assessors are randomly selected in the library, and signed confidentiality undertaking assessment, evaluation system is only opened to evaluation experts on the evaluation day, The information of the person being reviewed is distributed and took back on the spot. The reviewer has no chance to approach the review expert or to introduce his social background, who was only allowed to introduce the project and product related information in 15 minutes of speech, so evaluation experts were unable to focus on their social background.

(2) Among the four influential factors the quality characteristic is the most effective. Its non-standardized coefficient  $B = 0.324$ , the impact was higher than the other three factors. It explains that it's crucial to construct evaluation index system scientifically and reasonably based on the quality characteristics of the quality talent, which will also be focused on the next study.

(3) We should develop a reasonable evaluation mechanism scientific, standardized evaluation process, and clear evaluation criteria, using a variety of assessment techniques and methods to improve the scientific evaluation methods; we should step up publicity efforts to build good talent soft environment and to expand the selection range of evaluation experts, regular training evaluation experts, which committed to improve the evaluation capacity of evaluation experts and reduce interference of emotional factors, and improve the effectiveness of quality talent evaluation.

(4) Expansion of content. This paper studies the effects of quality talent to evaluate the effectiveness and impact of the size, however, how the interaction between these factors and how they affect each other do not conduct an in-depth study and the research direction are very value and significance. Among them, for the effectiveness of quality talent evaluation only quantitative analysis of overall feeling, can also dimensions of the effectiveness of in-depth discussion, followed by a measure of the influence factors on the influence degree.

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