A Study Related to the Evaluation of University Education by Companies Implementing a new Personnel Recruitment Management System

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Abstract. The development of human resource management practices, management scholars and practitioners is increasingly concerned with the strategic value of human resources. Since the acquisition, development and retention of human resources are embedded in the unique history and culture of a company, they are a source of unique competitive advantage (Barney L. 1991; Robert L Heneman 2002), this study implements a new recruitment management system for new employees of the company, based on the recruitment of Beijing Alpha Company, which corresponds to the current university This study is based on the implementation of a new recruitment management system for new employees of the company based on the recruitment of Beijing Alpha Corporation, which corresponds to the current university education, in order to partially meet the objective of the university's strategic plan to "develop excellence", and to apply it to the school training of related professions and to update the university campus education (Zeichner K. 2010) from a practical company study to the university student education. It is also hoped that the promotion of this indicator will provide direction to new graduates who need to prepare their abilities in advance to improve their employment level before graduation.

Keywords: university education, company recruitment, company operations, competitive advantage, talent acquisition management, talent development and development
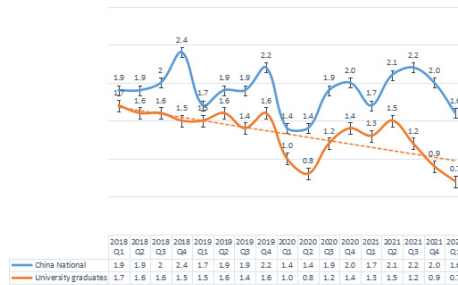
1 Introduction

In 2020, in the face of the impact of the new crown pneumonia epidemic, China's economy experienced negative quarterly economic growth for the first time since the establishment of the quarterly GDP accounting system in 1992, with a 6.8% year-on-year decline in the first quarter. [1]In order to understand the strategic value of human resources, the management and operation of human resources must be strategically oriented and companies need to engage in strategic human resource management (Ulrich, 1997). In a study of 115 subsidiaries of 89 Fortune 500 companies, it was found that 40% to 69% of the subsidiaries' HR departments were involved in the corporate strategic management process to some degree. (Jing W. April C. & Tung Chun H. 2005)[13][7]

The study of the impact of strategic human resource management on firm performance has been an important topic in human resource management research. (Milorad M. Novicevic & Michael Harvey, 2010) argues that strategic HRM is used by firms to influence the stock of

human capital and guide the behavior of employees, which in turn affect the performance of the firm.(Barry A. Colbert ,2004)[10][2]

Depending on the latest statistics from the China Bureau of Statistics, the number of college graduates in 2012 will reach a record high, expected to exceed 7 million, an increase of 400,000 compared to 2011. According to the new situation, new circumstances and new problems, we will analyze them scientifically and strengthen employment guidance and services for graduates comprehensively. It is not only imperative but also meaningful to improve the curriculum and system of career guidance during college and to provide comprehensive and systematic career guidance to college students. (PARTHA ROY, 2020)[11]

In this situation, HR teams are spontaneously designing core training programs and mechanism guarantees from the bottom up to help traditional HR grow up to be a business partner. (Liangtie D. & Jun Q, 2016) In the field of education, the concept of school leadership becomes of increasing interest.[9]

	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1
China National	1.9	1.9	2	2.4	1.7	1.9	1.9	2.2	1.4	1.4	1.9	2.0	1.7	2.1	2.2	2.0	1.6
University graduates	1.7	1.6	1.6	1.5	1.5	1.6	1.4	1.6	1.0	0.8	1.2	1.4	1.3	1.5	1.2	0.9	0.7

Fig. 1. 2018- 2022 Q1 CIER index comparison between national and university graduates(From Ai Rui Consulting Research Institute's independent research and mapping)

As shown in Figure 1 China Employment Research Institute, Tsinghua University and Fudan University, China Labor Market Skills Gap Study, independent research and mapping by Ariadne Research Institute.School and professional autonomy in some high-income countries have been accompanied by accountability systems designed to monitor and steer school improvement (UNESCO, 2017)[12][5]
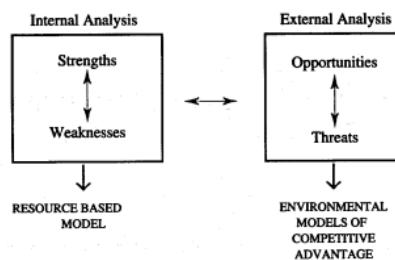
Fig. 2. Jay Barney (1991)Firm Resources as Sustained Competitive Advantage (Author's own drawing)

As showed in Figure 2 The relationship between traditional "strengths-weaknesses-opportunities-threats" analysis, the resource based model, and models of industry attractiveness.[6]Thus, it is clear that university education, improving competitive advantage is not only

a matter of internal factors, but also of external factors. In the field of academic burnout, there are intricate correlations among various factors, and few studies have considered internal and external factors in an integrated manner and explored the influence mechanisms of these factors in depth. [8]A resource based model environment to understand your specific situation, recognize your competitive mind, and get to follow more developmental growth.. (Fangyu L. , Kaidan Y. 2021)[4]According to social identity theory, the proposed framework suggests that when employees identify strongly with the organization, this affects the way employees view external stakeholders in the social landscape at work, thus promoting some more and better consequences. (DANIEL KORSCHUN, 2015) It is beneficial for corporate enterprise development.[3]

2   The company implements new staffing factors

The current evaluation system is based on basic competencies, special competency analysis, giving the criteria for special analysis, as part of the implementation of the new performance management system, Beijing Alpha provides specific examples of specific personnel evaluation, corresponding to the 3 major categories

1. Sales and marketing direction (can be paired with green to enhance interpersonal resource attributes), 2. Internal middle and back office (adding yellow and green can alleviate conflicts and increase personnel atmosphere), and R&D direction (introducing blue and orange personnel in business strategic direction has improved)

And then according to the 10 indicators (risk control, sales development, service support, professional technology, human resources. Business start-up, consulting planning, R & D design, production and operation, marketing) will correspond to the personnel in the company's finance-related personnel; quality-related personnel; human resources; physical control, production, operations class; sales positions; management or independent responsibility; and other departmental positions. Using the subsystem, the company can quickly screen the most applicable positions for newcomers. Quickly improve efficiency and provide a more concrete reference basis.

The system also provides employees and supervisors with ratings and comments on the core competencies that university leadership has decided employees should be evaluated on. As everything is executed, the definitions and examples provided by the University for these competencies are necessarily generic.

3   Overall analysis of the measurement:

Table 1. Basic Capabilities(Author's own drawing)

Compe-tence items	Market average	Market average	Segmentation Capabili-ties	Market average	Company average
Targeted Decision Making	3.6	3.8	Goal-oriented	3.8	4.0(+0.2)
			Decision-making ac-tions	3.2	3.5(+0.3)

			Review Iteration	3.7	3.8(+0.1)
Strategic Landscape	3.7	3.8	Business Insights	3.5	3.9(+0.4)
			Strategic Thinking	3.8	4.0(+0.2)
			Strategic Management	3.7	3.4(-0.3)
Communication Impact	3.5	3.3	Network building	3.8	3.3(-0.5)
			Convincing influence	3.5	3.2(-0.3)
			Negotiation skills	3.3	3.3
Adversity Quotient	3.2	3	Resistance to adversity	2.9	2.9
			Adaptability	3.8	3.3(-0.5)
			Emotion Management	3.0	2.9(-0.1)
Learning Ability	3.6	3.8	Study Research	3.7	4.0(+0.3)
			Logical Analysis	3.7	3.7
			Summarization	3.3	3.7(+0.4)

3.1 Overall Analysis

As can be seen from Table 1, the operations of Chinese companies continue to be analyzed from these perspectives. [goal decision] [strategic pattern] [learning ability] overall higher than the market average, the company's overall humanistic traits belong to the vision pattern high, strong strategic awareness overall belongs to the high learning power of the organization, the overall development potential is high, which risk is [strategic management] awareness is lower than average, so the general management in the management is not strong business awareness. Managers are difficult to be liberated, in each segment of the layout strategy, business strategy needs to be controlled by managers, middle and senior management operations thinking need to be improved.

[Communication Impact]The company as a whole is generally low in communication impact, and most belong to introverted personality, favoring internalized thinking rather than external output..

3.2 Specialized capabilities:

[Adversity quotient] is slightly lower than the average adaptability and emotional control, more personnel belong to like to do things under the standard system and rules, the company's internal system and process systematization and standardization of the degree of improvement, for the overall development of the company into a positive correlation; emotional management is slightly low combined with low communication influence, internal personnel are prone to disputes, you can introduce the central department in the communication and coordination of the bias (yellow-green) style personnel have done Coordination buffer.
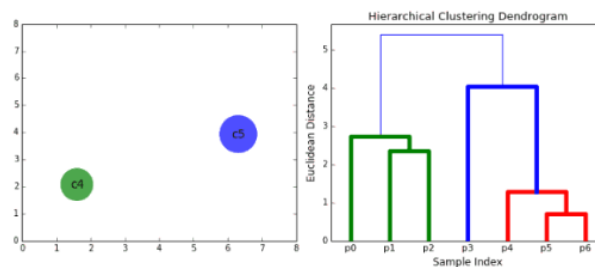

Fig. 3. Cohesive Hierarchical Clustering(Author's own drawing)

As shown in Figure 3 Hierarchical clustering algorithms actually is divided into two categories: top-down or bottom-up. Bottom-up algorithms first consider each data point as a single cluster and then merge (or aggregate) two clusters consecutively until all clusters are grouped into a single cluster containing all data points. Thus, bottom-up hierarchical clustering is called cohesive hierarchical clustering or HAC. This hierarchy of clusters is represented by a tree (or dendrogram). The root of the tree is the unique cluster that collects all samples, and the leaves are the clusters with just one sample. Before turning to the algorithm steps, see the following illustration.(Table 2)

Table 2. Specialized Capabilities(Author's own drawing)

Compe-tence items	Market average	Com-pany average	Segmentation Capa-bilities	Mar-ket aver-age	Company aver-age
Man-agement Capabil-ity	3.5	3.5	People Management	3.4	3.3(-0.1)
			Leadership Supervi-sion	3.9	3.9
			Program Organiza-tion	3.2	3.3(+0.1)
Expertise	3.6	3.7	Technology Research	3.7	4.1(+0.4)
			Innovation and Crea-tion	3.6	3.3(-0.3)
			Enduring Focus	3.5	3.7(+0.2)
Resource Devel-opment	3.3	2.9	Customer Develop-ment	3.3	2.7(-0.6)
			Results Delivery	3.0	3.0
			Customer Service	3.5	3.0(-0.5)

3.3 Overall Analysis:

Cohesive Hierarchical Clustering

1. We first consider each data point as a single cluster, i.e., if we have X data points in our dataset, then we have X clusters. Then, we choose a distance metric that determines the distance between two clusters. As an example, we will use average linkage, which defines the distance between two clusters as the average distance between the data points in the first cluster and the data points in the second cluster.

2. In each iteration, we merge two clusters into one. These two clusters to be done merged should have the smallest average linkage. I.e., according to the distance metric we choose, these two clusters have the smallest distance between them and are therefore the most similar and should be merged together.

Modularity can be calculated using the following formula:

$$M = \frac{1}{2l} + \sum_{ij=1}^{N} \left(A_{ij} - \frac{k_i k_j}{2L} \right) \delta c_i, c_j$$

Using the above formula Where L represents the number of edges in the network, and ki and ki are the degree of each vertex, which can be obtained by adding up the terms of each row and column. Multiplying the two and dividing by 2L represents the expected number of edges between vertices i and j when the network is randomly assigned. Overall, the term in parentheses is the difference between the actual structure of the network and the expected structure when the network is randomly combined. Examining its value reveals that it returns the highest value when $A\_ij = 1$ and $(\text{ki ki}) / 2L$ is small. This means that the value obtained is higher when there is an "unintended" edge between fixed points i and j. The last $\delta c_i, c_j$ se is the famous Kronecker-delta function.Management potential in business management is relatively high, but people management is relatively weak, in humanistic care (cultural atmosphere, cohesion, interpersonal sensitivity) related to the possibility of arranging some management courses and the introduction of management tools. (The score is not much worse, can be improved through tools and training)

The overall are high technology towards, internal technical staff is heavy; resource-based talent is low, in [resource development] related score difference is large; can introduce some personnel in human resources, sales development, marketing and other business direction;

3.4   4D color distribution:

Using Mahalanobis distance analysis Let x, y be samples drawn from the overall X with mean μ and covariance Σ. The Mahalanobis distance between two points x and y within the overall X (referred to as Mahalanobis distance) is defined as (8.1) Define the Mahalanobis distance between the sample x and the overall X as $d(r,y) = V(-)\Sigma-1(-y)$. $dx, X) = v(- μ) \Sigma-(- μ)$. (8.2)
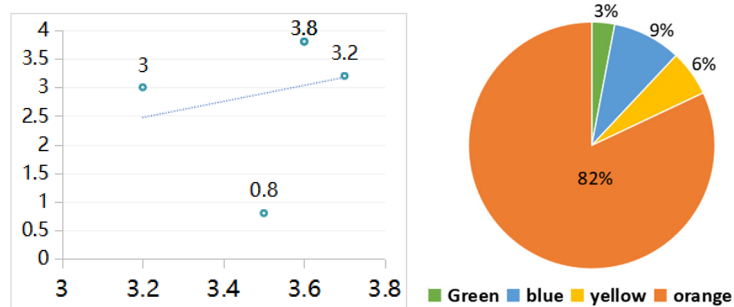

Fig. 4. Overall Analysis(Author's own drawing)

The overall analysis is shown in Figure 4 :The company's overall internal orange personality accounts for most of the orange belongs to the goal result-oriented, analysis plan strictly enforced; belongs to the strong logic and high implementation of the team style; the risk is that orange is relatively direct and tough personality, there will be internal disputes and friction; orange is biased towards the implementation, for the future strategy and business development layout is relatively weak (but because the founder is blue, so the overall impact is not significant) Several business segments can properly adjust the color ratio: sales and marketing direction (can be paired with green to enhance interpersonal resource attributes), internal middle and back office (increase yellow green, can ease the conflict and increase the atmosphere of

the personnel), R & D direction (the introduction of blue and orange personnel, for the direction of business strategy has improved)

Orange style companies: More focus on goals, rhythm, plans and results; so the standardization of the system process, the digitalization of the results assessment, is a necessary direction. Will greatly enhances efficiency;

4 Results

For the present 20 recruitment subjects, the following results were obtained from the research analysis. Risk control, sales development, for the status qua university education, the basic requirement of talent training is the company employment, 2.2 Occupational type tendencies (related personnel career tendency degree and job suitability)Table 3 reads as follows

【Note: focus on our attention to the candidate, there may be unreasonable work distribution or positions at risk, the need to adjust the duties or equipped with team members】

Table 3. Take the recruitment of finance staff as an example, the results are as follows(Author's own drawing)

Researchers	Employee A	Employee B	Employee C	Employee D (Highlights)
Content				
Results	Career bias toward R&D, consulting and planning, management and entrepreneurship	The financial work is adapted (risk control, expertise, information planning, business start-up)	The financial work is adapted (risk control, expertise, service support)	Risk control class positions have low suitability, repeat class positions and rigorous class positions will not be very suitable

[Finance-related personnel (Risk control, professional and technical category]

Employee A: career bias in favor of research and development design, consulting planning, business start-ups; as the person in charge of finance, relatively weak in the professional level (risk control, professional technology); typical expert consulting type of personnel, work similar to experts and will not go deep into the actual business; financial level of professionalism should be more biased to listing and financing and other business level;

Employee B: financial work is appropriate (risk control, professional technology, information planning, business start-up), on this basic business start-up and consulting planning type work is also apposite, with management potential.

Employee C: financial work is apt (risk control, professional technology, service support), is a typical executive and supporter. Skilled positions or assistant support positions are a great match.

Employee D: risk control class positions are low in suitability, repeat class positions, rigorous class positions will not be very suitable; biased research and development, promotion, consulting class positions. [Focus on]

5   Conclusion

Developmental Context: College education can help students develop their personal career goals and plans through career planning course. Through career planning course, students can understand their interests and skills, and thus better develop their career goals and plans.

Current demand: For the standard employment scenario, high-tech enterprises that focus on talents and human efficiency and traditional labor-intensive enterprises that advocate digital change have a stronger demand for human resources, where managers focus on reducing costs and increasing efficiency, and company employees prefer to realize individual value.

Trend outlook: University education concept in [target decision] [strategic pattern] [learning ability] [strategic management] [communication influence] [adversity quotient] awareness and manpower integration and promotion gradually become a consensus on both the supply and demand side.

The training of university education is a period of preparation and preparation for work in society right after the university education. In this analysis of the charts, the results of the algorithm two groups of cross-sectional results of the study of directionality of learning during university According to Cohesive Hierarchical Clustering, we know that Collaboration with companies: Universities can also collaborate with companies so that they can provide internships for students to assist them to build professional relationships and achieve employment and career development. Individual students are more purposeful in their learning self-breakthrough and personal growth. Have your own regulations to analyze your internal and external factors, analyze and adjust your personal learning goals.

In terms of individual capabilities, the school's one-stop, full process as well as full service HRM is the ultimate goal of development, but achieving integration is not an easy task and requires upstream and downstream, internal and external cooperation and synergy in the industry chain. Therefore, the market ecology is also a major tendency in the future.

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