Research on Psychological Contract of Knowledge Workers  
— the Influence on OCB of Knowledge Workers  

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\textbf{Abstract.} This paper investigates the psychological contract (PC), career commitment and organizational citizenship of knowledge workers by consulting the literature and issuing the questionnaire. We analyze and verify the influence of knowledge workers' PC on their organizational citizenship behavior and the mediating role of career commitment by data analysis, and provide the reference for the management of knowledge workers.  

1. Introduction  
Based on the research of Peter Drucker (1959) and Horibe (2013)\cite{1}, we conclude that knowledge workers should generally have the following three basic conditions: (1) the ability to create knowledge, add value to knowledge and apply knowledge; (2) creative mental work; (3) bring value to the organization's intellectual capital and bring high added value to the product or service.  
A large number of studies have shown that the uncoordinated on PC between business and employees is the main reason for the decline in employee loyalty. The labor process and outcomes of knowledge workers are difficult to monitor and measure, so PC of the knowledge workers is particularly important. Therefore, we should fully understand the PC of knowledge workers, grasp the attitudes and behaviors of knowledge workers and organizations, and help the organization to carry out targeted management for knowledge workers to reduce the wastage rate of knowledge workers and improve organization competitiveness.  

2. Concepts  
2.1 The Psychological Contract (PC) of Knowledge Workers  
Many scholars have studied the connotation and dimension of PC. The PC of this paper is based on the result of the verification of the three-dimensional structure of the PC of the knowledge workers in the organization by Xiaomei Zhu and Chongming Wang (2005). The PC of knowledge workers includes three dimensions: transactional psychological contract (TPC), relational psychological contract (RPC) and developmental psychological contract (DPC).  

2.2 OCB of Knowledge Workers  
We used the top five dimensions of the eight dimensions of the organization's citizenship behavior of the knowledge workers those were obtained through the central group experiment conducted by Dekas K H, Bauer T N, Welle B, et al (2013). They are: Employee sustainability (ES, 18\%), social participation (SP, 17\%), civic ethics (CE, 12\%), voice (12\%) and assistance (7\%).  

2.3 Career Commitment  
We defined career commitment as the degree to which the employee is reluctant to change the occupation due to the individual's professional and professional identity and emotional dependence, especially for the knowledge workers, the extent to reluctance to give up because of his love on his career based on the previous scholar 's study.
3. Hypothesis

3.1 The Influence of PC of Knowledge Workers on OCB

Robinson and Morison (1995) found that for employees, the higher the level of the PC, the more willing to show OCB [2]. Turnley, Bolino, Lester (2003) found that the RPC was significantly positively related with the OCB which is evaluated by the supervisor [3]. Hui, Lee and Rousseau (2004) found that Chinese employees' TPC and OCB were directly related [4].

If a stable PC is established between the knowledge worker and the organization, the organization will show a good working atmosphere, and the employee will tend to regard the OCB as his in-role behavior. Therefore, we made following hypothesis:

H1: The PC of the knowledge worker positively affects their OCB.
H1.1: The knowledge worker's TPC positively affects their OCB.
H1.2: The knowledge worker's RPC positively affects their OCB.
H1.3: The knowledge worker's DPC positively affects their OCB.

3.2 The Medium Role of Career Commitment

Holmes (1981) argues the emotional commitment in career commitment plays an important role in the relationship between PC and OCB in the employment relationship. Restubog, Bordia, Tang (2006) validates the complete medium role of emotional commitment for PC breaks and civic ethical behavior [5].

If the knowledge worker's professional commitment has a high level, in the case of they were satisfied with their PC, they will be more active to participation in the activities of the organization. Therefore, we made following hypothesis:

H2: The career commitment of knowledge workers is a mediator between PC of knowledge workers and OCB.

4. Research Design

4.1 Scale Selection

The results of the scale selection are shown in Table 1.

<table>
<thead>
<tr>
<th>Item</th>
<th>Author</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>Chuanyu Peng (2008)</td>
<td>&gt;0.80</td>
</tr>
<tr>
<td>Career commitment</td>
<td>Lirong Long (2002)</td>
<td>&gt;0.74</td>
</tr>
<tr>
<td>OCB</td>
<td>Dekas K H et al (2013)</td>
<td>&gt;0.70</td>
</tr>
</tbody>
</table>

4.2 Data Collection

Questionnaire issued 639 copies, and finally received 487 effective questionnaires. In the samples, there are 23 men, accounting for 6.5%, 328 women accounting for 93.5%; there are 290 undergraduate people, accounting for 82.6%, 55 master graduate people, accounting for 15.7%, 6 doctoral candidates, accounting for 1.7%; there are 84 people under the age of 25, accounting for 23.9%, 245 people's ages are between 25 and 35, accounting for 69.8%, 22 people are older than 35, accounting for 6.3%; there are 174 ordinary employees, accounting for 49.6%, 118 first-line managers, accounting for 33.6%, 59 mid-level managers, accounting for 16.8%.

5. Data Analysis

5.1 Homologous Variance Analysis

In this study, homologous variance analysis was performed using the harman single factor test. All the items in the questionnaire were analyzed together. Ten factors were precipitated in the absence of rotation, and there was no case where the explanatory rate of the single factor was too large. The study found that the homologous variance of the questionnaire was not serious.
5.2 Reliability and Validity Analysis

The Cronbach's α values of the three scales in the questionnaire were above 0.7, reaching an acceptable level, and the questionnaire had better internal consistency. The 10 factors accumulate 70.209% of the total variance of variance. The KMO of the questionnaire was 0.924 and passed the Bartlett's spherical test (P <0.000), indicating that the questionnaire data had a high degree of validity. So the questionnaire passed the reliability and validity test.

5.3 Correlation Analysis

Using SPSS20.0 to measure the correlation between the PC of knowledge workers and their OCB, we get the correlation coefficient matrix as shown in Table 2. It can be seen that the PC of knowledge workers is positively related to their OCB (r = .492, p <0.01). Obviously, the three dimensions of PC were significant positive related to OCB. (r_{TPC} = .317, p <0.01; r_{RPC} = .430, p <0.01; r_{DPC} = .492, p <0.01). Therefore, H1, H1.1, H1.2, H1.3 were supported.

In addition, the PC of the knowledge worker is also positively related with the professional commitment (r = 0.661, p <0.01), and the PC of the knowledge worker significantly affects his career commitment.

Table 2 Person correlation coefficient matrix for each variable (N = 351)

<table>
<thead>
<tr>
<th></th>
<th>TPC</th>
<th>RPC</th>
<th>DPC</th>
<th>PC</th>
<th>CC</th>
<th>ES</th>
<th>SP</th>
<th>CE</th>
<th>V</th>
<th>A</th>
<th>OCB</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPC</td>
<td>1</td>
<td>.490*</td>
<td>.628*</td>
<td>.851*</td>
<td>.465*</td>
<td>.229*</td>
<td>.219*</td>
<td>.334*</td>
<td>.267*</td>
<td>.194*</td>
<td>.317*</td>
</tr>
<tr>
<td>RPC</td>
<td>1</td>
<td>.532*</td>
<td>.796*</td>
<td>.505*</td>
<td>.404*</td>
<td>.266*</td>
<td>.413*</td>
<td>.355*</td>
<td>.271*</td>
<td>.430*</td>
<td></td>
</tr>
<tr>
<td>DPC</td>
<td>1</td>
<td>.863*</td>
<td>.691*</td>
<td>.324*</td>
<td>.351*</td>
<td>.498*</td>
<td>.431*</td>
<td>.320*</td>
<td>.492*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC</td>
<td>1</td>
<td>.661*</td>
<td>.378*</td>
<td>.332*</td>
<td>.495*</td>
<td>.418*</td>
<td>.312*</td>
<td>.492*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC</td>
<td>1</td>
<td>.459*</td>
<td>.351*</td>
<td>.512*</td>
<td>.410*</td>
<td>.318*</td>
<td>.518*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ES</td>
<td>1</td>
<td>.507*</td>
<td>.538*</td>
<td>.417*</td>
<td>.526*</td>
<td>.733*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>1</td>
<td>.599*</td>
<td>.508*</td>
<td>.508*</td>
<td>.804*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE</td>
<td>1</td>
<td>.579*</td>
<td>.543*</td>
<td>.833*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>1</td>
<td>.549*</td>
<td>.785*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>A</td>
<td>1</td>
<td>.784*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>OCB</td>
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</table>

** Significant correlations at p <.01 levels (bilateral).

For the sake of neatness, in this table, we use CC instead of career commitment, use V instead of Voice, use A instead of Assistance.

5.4 Mediation Test

This study examined the mediation through establishing a multiple regression analysis model. As shown in Table 3, the model M1 determines that the coefficient R^2 is .283, where the RPC (β = .159, p <0.01) and DPC (β = .240, p <0.01) had significant positive effect on OCB. In the model M2, the judgment coefficient R^2 value is .326. Compared with the model M1, the explanatory power is improved by 4.9% (ΔF = 41.812, p <0.01), the RPC and the DPC are still significant related to the OCB, but the relationship become weaker. For RPC, β_{M1} = .159, β_{M2} = .123; for DPC, β_{M1} = .240, β_{M2} = .135. At the same time, career commitment has a significant positive effect on OCB (β = .167, p <0.01). Therefore, the career commitment of knowledge workers is a mediator between PC of knowledge workers and OCB, H2 was supported.
### Table 3: The results of the regression analysis

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th></th>
<th>M2</th>
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<tbody>
<tr>
<td></td>
<td>Standard coefficient</td>
<td>β</td>
<td>p</td>
<td>Standard coefficient</td>
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<tr>
<td>TPC</td>
<td>-.051</td>
<td>-.030</td>
<td>.000</td>
<td>-.051</td>
</tr>
<tr>
<td>RPC</td>
<td>.246</td>
<td>.159</td>
<td>.400</td>
<td>.190</td>
</tr>
<tr>
<td>DPC</td>
<td>.393</td>
<td>.240</td>
<td>.000</td>
<td>.220</td>
</tr>
<tr>
<td>Career commitment</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.293</td>
</tr>
</tbody>
</table>

<p>| | | | | |</p>
<table>
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<tr>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>R²</td>
<td>.283</td>
<td>.277</td>
<td>.318</td>
<td>.326</td>
</tr>
<tr>
<td>Adjust R²</td>
<td>45.691</td>
<td>41.812</td>
<td>21.915</td>
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<td>F</td>
<td>45.691</td>
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<tr>
<td>ΔR²</td>
<td>.283</td>
<td>.043</td>
<td></td>
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</tr>
<tr>
<td>ΔF</td>
<td>45.691</td>
<td></td>
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</tbody>
</table>

Dependent variable: Organizational citizenship behavior.

### 6. Conclusion

According to this empirical study, the PC of knowledge workers has a significant positive impact on their OCB, especially the RPC and the DPC. And the career commitment is a mediator between PC of knowledge workers and OCB.

Therefore, manager should focus on PC and career commitment in the management process of knowledge workers. First of all, both enterprises and employees should conduct regular and sincere exchanges for more information. Second, pay attention to build and rebuild the PC of knowledge workers by needs analysis and training. Finally, provide a climate to encourage stuff perform more OCBs.

### Acknowledgements

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### References


