



# Journal of Applied Sciences

ISSN 1812-5654

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## The Study on the High-end Equipment Manufacture Enterprise Organizational Innovation Path Forming Influence Factors Static Impact Mechanism

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**Abstract:** This study construct theatrical model among organization resource, organization behavior, organization ability, organization environment and organizational innovation path which based on organizational innovation theory. Then set 140 high-end equipment manufacture enterprise as research example, use PLS-SEM to verify the hypothesis correctness. The final answer shows: visible resource, innovation ability and technical innovation had strong impact on organizational innovation path; invisible resource, manage ability and institution innovation had strong impact on organizational innovation path; visible resource, integrate ability and structure innovation had strong impact on organizational innovation path.

**Key words:** Organizational innovation path, influence factors, PLS-SEM (Partial Least Squares Structure Equation Model), High-end equipment manufacture enterprise

### INTRODUCTION

Organizational innovation is the main driver for high-end equipment manufacture enterprise further development. The main character of high-end equipment manufacture enterprise organizational innovation is drive by technology, assistant by institution reform, protect by management innovation and operate by sustained innovation (Chen *et al.*, 2006). The conventional structure management method can't satisfy the operate management requirement. Organizational innovation path is the main part of organizational innovation, clarify the forming influence factors impact degree has great meaning for guiding enterprise management (Yang *et al.*, 2012). To analysis high-end equipment manufacture enterprise organizational innovation path forming influence factors impact mechanism not only can explore the instinct organizational innovation path forming, but also can familiar with organizational innovation change tendency. Theatrical Structure and relate hypothesis

We should analysis the aerospace organizational innovation path forming from influence factors perspective. The organization resource include visible resource and invisible resource, different resource had different impact degree on the path form (Wang and Long, 2011). Organization ability is the key element for driving the path forming, it include innovation ability, manage ability and integrate ability (Wong *et al.*, 2011). Organization behavior include technical innovation, institution innovation and structure innovation. Organizational innovation path include technical innovation oriented organizational innovation path,

institution innovation oriented organizational innovation path and structure innovation oriented organizational innovation path. Figure 1 is the theatrical model figure.

The influence factors relate hypothesis as follows:

- H1: organization resource had positive impact on organizational innovation path;
- H1a: visible resource had positive impact on technical innovation oriented organizational innovation path;
- H1b: visible resource had positive impact on structure innovation oriented organizational innovation path;
- H1c: visible resource had positive impact on institution innovation oriented organizational innovation path;
- H1d: invisible resource had positive impact on technical innovation oriented organizational innovation path;
- H1e: invisible resource had positive impact on structure innovation oriented organizational innovation path;
- H1f: invisible resource had positive impact on institution innovation oriented organizational innovation path;
- H2: organization ability had positive impact on organizational innovation path;
- H2a: innovation ability had positive impact on technical innovation oriented organizational innovation path;

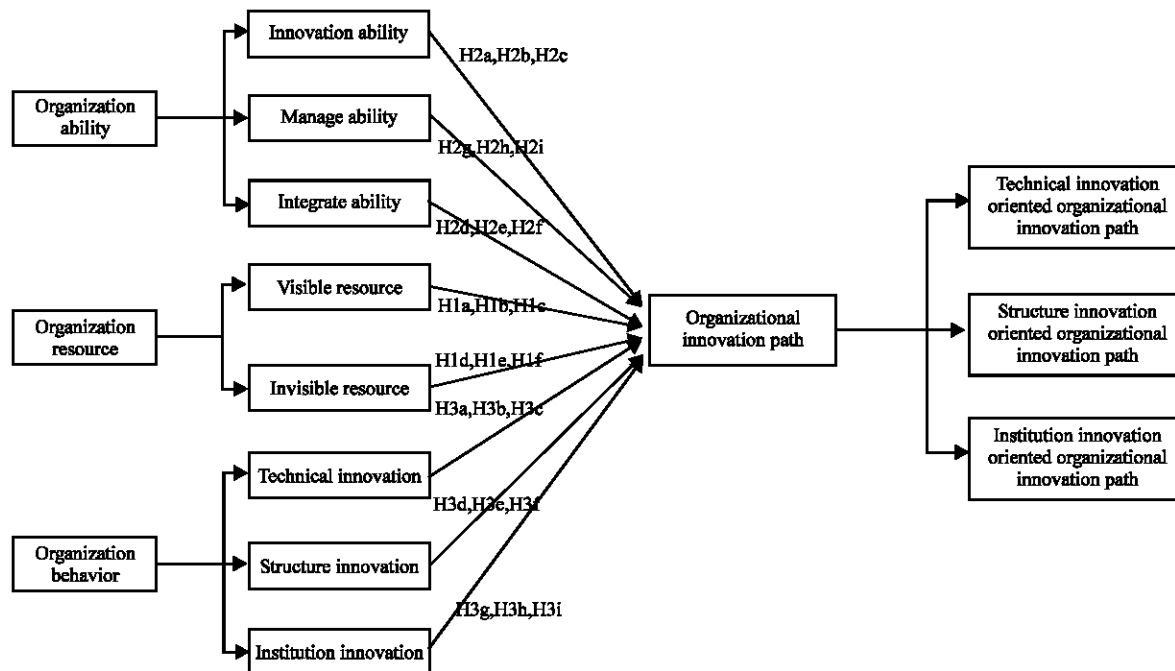


Fig. 1: Theatrical model

- H2b: innovation ability had positive impact on structure innovation oriented organizational innovation path;
- H2c: innovation ability had positive impact on institution innovation oriented organizational innovation path;
- H2d: integrate ability had positive impact on technical innovation oriented organizational innovation path;
- H2e: integrate ability had positive impact on structure innovation oriented organizational innovation path;
- H2f: integrate ability had positive impact on institution innovation oriented organizational innovation path;
- H2g: manage ability had positive impact on technical innovation oriented organizational innovation path;
- H2h: manage ability had positive impact on structure innovation oriented organizational innovation path;
- H2i: manage ability had positive impact on institution innovation oriented organizational innovation path;
- H3: organization behavior had positive impact on organizational innovation path;
- H3a: technical innovation had positive impact on technical innovation oriented organizational innovation path;

- H3b: technical innovation had positive impact on structure innovation oriented organizational innovation path;
- H3c: technical innovation had positive impact on institution innovation oriented organizational innovation path;
- H3d: structure innovation had positive impact on technical innovation oriented organizational innovation path;
- H3e: structure innovation had positive impact on structure innovation oriented organizational innovation path;
- H3f: structure innovation had positive impact on institution innovation oriented organizational innovation path;
- H3g: institution innovation had positive impact on technical innovation oriented organizational innovation path;

## RESEARCH-METHOD

This study send the asking study to 140 high-end equipment manufacture enterprise which according to organizational innovation documents, then modify the investigate item according to filter the collect information. The asking study include 32 items.

**Method adaption pre-condition verification:** This study use PLS-SEM method to test and verify theoretical model

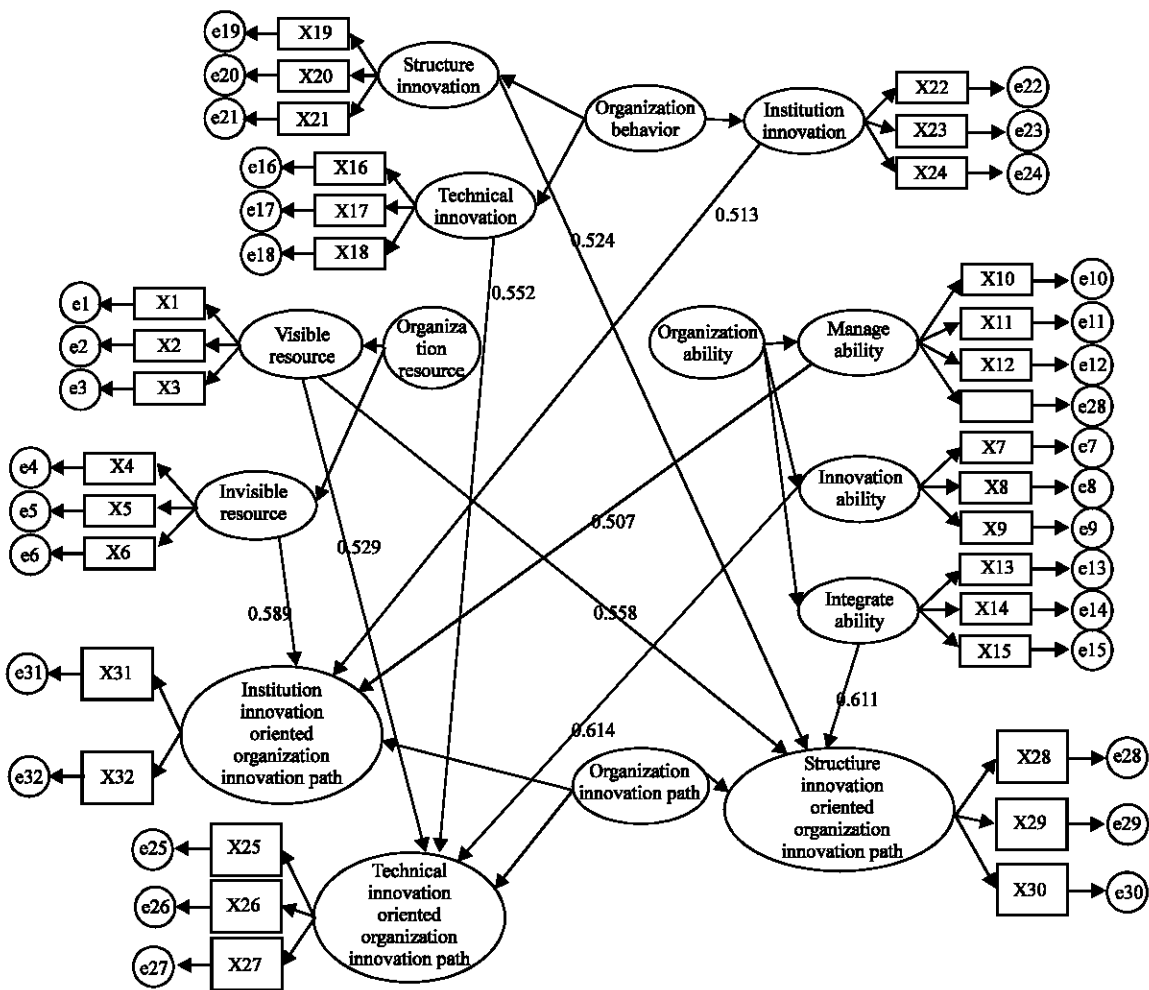


Fig. 2: structure equation model

and hypothesis correctness (Wu and Sheng, 2008). In order to guarantee verify result correctness, table 1 is the measure index normal distribution test results. It shows that the measurement indexes are not follow the normal distribution, the skewness answers are locate between -1 and 0.8, peakness answer are lower than 0.4 (Guaglianone and Matta, 2012).

**Hypothesis test and verification:** According to the miner factors load principle, if the load answer is larger than 0.3, we recognize it is obvious and keep it. If the load is larger than 0.4, we recognize is most obvious (Shi and Xin, 2006). Figure 2 is the SEM model. We can conclude that the influence factors path coefficient is bigger than 0.4. It shows that the observed variables can illustrate correspondent potential variables.

## CONCLUSION

This study recognize organization resource, organization ability and organization behavior as independent variables, these variables have positive impact on the dependent variable organizational innovation path. The empirical results prove the hypothesis correctness.

- Visible resource have positive impact on technical innovation oriented and structure innovation oriented organizational innovation path, invisible resource have positive impact on institution innovation oriented organization innovation path. The results support the H1a, H1b, H1f, partial support the H1c, H1d, H1e. These results are

consistent to the HEM enterprise reality. The technical innovation oriented organizational innovation path is drive by product innovation and process innovation, it need huge of martial resource, human resource and financial resource. Structure innovation focus on reform the organization key elements, so it need the visible resource backup. Institution innovation organizational innovation path is institutionalize organization behavior, it need invisible resource, such as the core complete ability and knowledge experience.

- Innovation ability have positive impact on technical innovation oriented organizational innovation path, integrate ability have positive impact on structure innovation oriented organizational innovation path, manage ability have positive impact on institution innovation oriented organizational innovation path. The results support the H1a, H1e, H1i, partial support the H1b, H1c, H1d, H1f, H1g. These results are consistent to the HEM enterprise reality. Innovation ability have positive impact on technical innovation oriented organizational innovation path is caused by it has product innovation and process innovation duality character, innovation ability is the key part of technical innovation. Integrate ability can integrate the key elements of organization, so it has positive impact. The institution innovation focus on optimize organization system, so it need manage ability.
- Technical innovation have positive impact on technical innovation oriented organizational innovation path, structure innovation have positive impact on structure innovation oriented organizational innovation path, institution innovation have positive impact on institution innovation oriented organizational innovation path. The results support the H3a, H3e, H3i, partial support the H1b, H1c, H1d, H1f, H1g, H1h. These results are consistent to the HEM enterprise reality.

#### **ACKNOWLEDGMENTS**

This study is supported by the National Natural Science Foundation of China (71272176)

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