

Study on Replication of Routines in Organizations Based on Organization Ambidexterity Competence

Yan-Liang CHEN^{1,a,*}, Chuang GAO^{2,b}

¹Shandong Institute of Business and Technology, International Business College, Yantai, China

²Capital University of Economics and Business, The College of Business Administration, Beijing, China

^achenyanliang412@sina.com, ^bgch60@vip.163.com

*Corresponding author

Keywords: Replication of routine, knowledge template, organization ambidexterity, Replication path

Abstract. From the micro-perspective, the paper deeply analyzes the replication mechanism of routines, important value creation strategy, in order to solve the "replication dilemma" in the new environment. The paper researches on the connotation of routines based on knowledge, classify it as knowledge template, introduce the organization ambidexterity competence to match general routine/ exploitation competence pattern and flexible routine/exploration competence pattern, and then establish the replication path in organization by analysis of organization learning.

Introduction

By applying existing routines to a new organization environment (Szulanski and Winter, 2002, Parmigiani and Howard - Grenville, 2011) [1,2], replication of routines is to be organization value creation (Friesl and Larty, 2013) [3]. Traditional research, evolution economics paradigm, keeps on the analysis of the macro level, and pay less attention to the role and behavior in the new environment of replication, so "black box" of process of replication is not attracted attention. In recent years, studies have shown that replication of routines will depend on the organization's ability of adaption (Ambrosini and Bowman, 2009) [4], the ability to (re) integrate and (re) deployment to the new market, geographic location and customer group (Helfat and Peteraf, 2003) [5], but this view has caused an important argument, "replication dilemma", called by Winter and Szulanski (2001): the standardization of organization within the scope of and specific organizational environment of the game, in other words, how to adjust and modify the organization routines to matches new environment when replication of routines is implementing [6].

Definition of Replication of Routines: Knowledge Perspective

Research on evolutionary economics paradigm does not take into account routines agent in the replication process, and therefore did not dig into "black box" of replication of routines process. And from microscopic perspective, to explore the roles and behaviors of routines agents in the process of replication, knowledge has become an interesting and meaningful concept, this is because when it comes to individual compatibility strategy, knowledge is the datum of all strategies that include another individual strategies (Hayek, 1945) [7]. Along this perspective, Zollo and Winer (2002) argues that valuable knowledge is embedded in routines [8], many scholars also agree that knowledge is the essential connotation of routines (Zollo, et al., 2002, Pentland and Feldman, 2005) [9,10], so replication of routines is achieved through knowledge transfer mechanism.

Most scholars believe that routine is not a single knowledge structure but a collection of knowledge, that is to say, routine is made up of many different monomer (or knowledge) according to certain principles for compiling, and it is repeated many times to strengthen, or when the knowledge

aggregation with inertia (characterization of routines). The knowledge structure of the template is very complex and the same monomer knowledge will become different routines because of the combination of different structure (the performance for the diversity and difference of routines), the replication of routines templates is not carried out by direct knowledge transfer, this process depends on the efforts of participation and efforts of custom agents .Because templates should be deconstructed firstly to distinguish the different unit knowledge of and its sequence structure of template. They will be solidified into a series of different "template", thus become the core of organizational routines characterization, and which is also viewed as the solution to knowledge Stickiness embedded in routines and the important methods for eliminating barriers to knowledge transfer (Winter et al., 2012) [11].

Different connotation and types of knowledge determines the different routines templates, on which Sutcliffe and McNamara (2001) argue that routines can be divided into two kinds, first is confirmed clear normal routines, in which the knowledge embedded in general should be more specific, the connotation of the knowledge unit is relatively clear, combination of knowledge structure is relatively stable, and the evolution of knowledge generally is characterized by continuity and incrementality, therefore the performance of this kind of replication will be high in the relatively stable, and low competitive new environment[12], Another kind is called the flexible routines, in which knowledge embeded is usually by multivariate, some of the connotation of tacit knowledge is not clear, at the same time, combination of knowledge structure is complicated, the evolution of knowledge is characterized by discontinuity and radical, so the performance of this kind of replication will be high in the turbulent and high competitive new environment.

Organization Ambidexterity Competence and Replication of Routines

The "application" of normal routines template in a mature and stable environments, organization needs to use existing knowledge and learning ability to pursuit short-term interests, get positive feedback and profit of path dependence, and then achieve the goal of organization optimization, otherwise the "application" of flexible routines template in the turmoil and new environment, organization should be more consciously to create the needs of the organization, extend and improve organizational knowledge and learning ability, strengthen the organization ability to adapt, pay attention to long-term development, and strengthen the organization's ability to integrate configuration. It can be seen that the requirement of these two kinds for organizing ability is different, even opposite, so we found that the "organization ambidexterity " may be a beneficial attempt to solve this problem

Organization ambidexterity means that on the one hand, relying on the existing ability to make profits in the mature market, at the same time, cultivating its flexibility and adaptability to be able to explore new technology and market, (re) configuration of organization resources to cope with new opportunities and challenges (Teece, 2007) [13], it emphasize organization should own two competing ability on the basis of the tradeoff for complex scene (Rothaermel and Alexandre, 2009) [14]. Although research did not form a unified connotation of organization ambidexterity, but March (1991) with exploration and exploitation has a certain universality[15], this study will also accept this view. Scholars have different understanding the organization ability to improve organization ambidexterity competence, but most of them agree that organization ambidexterity competence is embedded in organizational behavior and processes, to help enterprises to realize resource integration and reorganization (Raisch and Birkinshaw, 2008) [16], that is to say, Bothe organization ambidexterity competence and routines are in the framework of enterprise competence theory (dynamic capability theory).

Replication of Routines Path based on Organization Ambidexterity Competence

Environment Matching

Routines is a situation dependencies, that is, relationship matching between replication of routines and environment comes from interaction of routines and specific situation, the performance of

replication of routines will be different under different environment, combined with classification of routines, we can do the matching according to the organizational environment and organization ambidexterity competence. Scaffolded action and situations action illustrate that how behavior is dependent on external support, external structure help control, encourage and coordinate the individual behavior, so in the face of a different environment, and routines and the situation will show the relationship between different sensitive degree, and on this basis, make a different decision, and different situations can also lead to the general rule is applied to specific scenes often have enough detail and loss occurs, the replication level may have different, and the relationship between late lead to practice in the ability and degree of duplication and adaptability are very different. Routines is transferred to other situations could be limited is the most important, the concreteness of when we will practice away from their original scenario, they may become meaningless, their ability to "production" may fall. Thus we set in Table 1.

Table 1, Matching relation between organization ambidexterity competence and replication of routines

Type of environment	Routines template/ OA competence	Relationship	Matching	Effect	Efficiency	Yes/No
Stable environment	Formal routines/ Exploitation	Sensitive	Matching	High	High	Y
	Formal routines/ Exploration	Non-sensitive	No matching	High	Low	N
Turbulent environment	Flexible routines/ Exploitation	Non-sensitive	Matching	Low	High	N
	Formal routines/ Exploration	Sensitive	No matching	High	High	Y

As is described , when the environment is relatively stable, the connotation of the routine structure is relatively stable and incremental, and the external environment is more uniform stability, so will be preferred to match. Replication of routine template depends on the exploitation, the relationship between them are sensitively matched, the effect and efficiency are great, it means that the organization can achieve the expected object, so the match will be adopted by organizations, and while exploration also can achieve a higher level of replication, but the efficiency is low, which means replication "cost" will be higher so that it can't be adopted by organizations, And when the organization at a competitive and turbulent environment, flexible routines is more suitable for the organization replication of routines, it depends on the organization's exploration, the relationship between them are sensitively matched, the effect and efficiency are great, it means that the organization can achieve the expected object, so the match will be adopted by organizations, otherwise exploitation can efficiently complete replication of routines, but the effect is not high, new routines may be very difficult to adapt the rapidly changing external environment, the organization is possible to be "core rigidity" and "Competence trap", and make the failure of replication of routines, so will not be adopted by organizations.

Organizational Learning and Establishment of Organization Ambidexterity Competence

As a kind of endogenous capability, dynamic capability depends on the organization of internal and external knowledge and resources accumulation and development that can only be acquired through the efforts of organizational learning, not through the market buying and selling. Zollo and Winter (2002) argue that dynamic capabilities derived from organizational learning, and is connected with the encoding process through the accumulation of experience, knowledge of prudent learning mechanism evolved [8]. Organizational learning on new technology and knowledge is to hold on to enhance organizational

competitive advantage and the key to the dynamic capabilities. Kogut and Zander (2003) also think that organizational learning, especially to the tacit knowledge, experience, and the absorption of organizational routines is the source of the dynamic capabilities [17]. So, dynamic capability depends on organizational learning, organization ambidexterity competence is no exception.

Both "exploration" and "exploitation" refer to organizational learning, improving and acquiring new knowledge (He and Wong, 2004) [18], but different connotation lead to different ways of organizational learning of these two kinds of dynamic capability cultivation. "Exploitation" is a kind of incremental dynamic innovation capability. It requires the organization to apply custom templates to the specific product or service, focuses on knowledge absorption ability of the organization. And exploitative learning, through perfecting and expanding organization existing knowledge, can be implemented to improve organizational routines reproduction and development, mainly to understand for the organization of knowledge absorptive capacity (Zahra's and George, 2002) [19]. "Exploration" is disruptive innovation dynamic capability, it requires the organization to obtain knowledge related to the new environment and demand, so as to modify custom templates and adapt to the application. It needs organizational ability to identify new knowledge and the digestion of knowledge by exploratory learning.

As mentioned above, different replication of routines need to different dynamic capability, organization ambidexterity competence adapted to different environment conditions may be able to fix the appeal. Ambidexterous learning is core of establishment of organization ambidexterity competence, but there is also a concern: the requirements of the organization's resources and capabilities of exploratory learning and exploitative learning are not consistent. The two may be competitive for the configuration of limited resources , and for any aspect of excessive reinforcement could lead to organization into a competence trap or innovation traps, so companies need to balance between them.

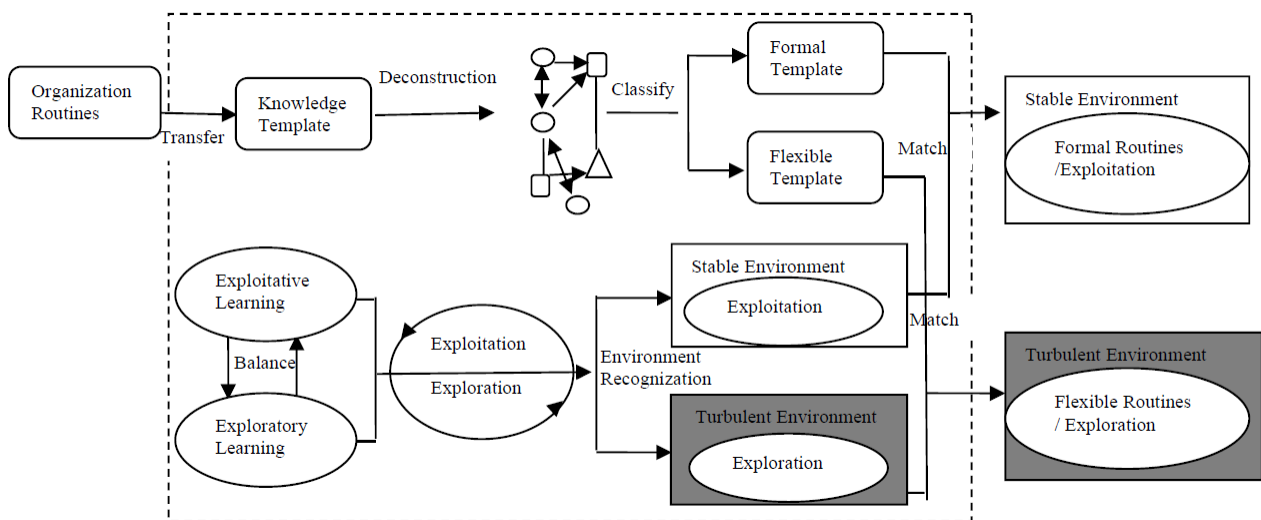


Fig. 1, Replication path of routines based on organization ambidexterity competence

Conclusion

Recently, digital wave swept across the world, some impressive digital technology of information, communication and connection, such as: social computing, cloud computing, mobile web connectivity, social platform online ,make the enterprise boundary spanning the limitation of time, space and function, and it is reshaping the organization's competitive environment, while adapting dynamic capabilities to the environment put forward more severe challenges. Some of the successful business model, the value strategy may become difficult to match digital strategy environment, so how to enhance the dynamic capability, adjust their strategy to improve flexibility, make replication of routines are the key questions. This paper takes the research on replication of routines based on organization ambidexterity competence, and opens the "black box" of replication dilemma. But we just has carried on the qualitative analysis, so the research conclusion remains to be tested by large sample data, inspection, and the categories of

environment are too simple, so the future research can focus on these aspects, and hope can help organizations to enhance adaption ability.

Acknowledgement

This research was financially supported by Education of Humanities and Social Science Research on Youth Fund Project(NO: 13YJC630013) and The National Natural Science Funds(NO: 71072072).

References

- [1] Szulanski G, Winter S. Getting it right the second time,J. Harvard Business Review, 80(1): 62-9, 125. (2002)
- [2] Parmigiani A, Howard-Grenville J. Routines revisited: exploring the capabilities and practice perspectives,J. The Academy of Management Annals, 5(1): 413-453. (2011)
- [3] Friesl M, Larty J. Replication of routines in organizations: existing literature and new perspectives,J. International Journal of Management Reviews, 15(1): 106-122. (2013)
- [4] Ambrosini V, Bowman C. What are dynamic capabilities and are they a useful construct in strategic management?,J. International Journal of Management Reviews, 11(1): 29-49. (2009)
- [5] Helfat C E, Peteraf M A. The dynamic resource-based view: capability lifecycles,J. Strategic Management Journal, 24(10): 997-1010. (2003)
- [6] Winter S G, Szulanski G. Replication as strategy,J. Organization Science, 2001, 12(6): 730-743.
- [7] Hayek F A. The use of knowledge in society,J. The American Economic Review, 35(4):519-530. (1945)
- [8] Zollo M, Winter S G. Deliberate learning and the evolution of dynamic capabilities,J. Organization Science, 13(3): 339-351. (2002)
- [9] Zollo M, Reuer J J, Singh H. Inter-organizational routines and performance in strategic alliances,J. Organization Science, 13(6): 701-713. (2002)
- [10] Pentland B T, Feldman M S. Organizational routines as a unit of analysis,J. Industrial and Corporate , 14(5): 793-815. (2005)
- [11] Winter S G, Szulanski G, Ringov D, et al. Reproducing knowledge: inaccurate replication and failure in franchise organizations,J. Organization Science, 23(3): 672-685. (2012)
- [12] Sutcliffe K M, McNamara G. Controlling decision-making practice in organizations,J. Organization Science, 12(4): 484-501. (2001)
- [13] Teece D J. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance,J. Strategic Management Journal, 28(13): 1319-1350. (2007)
- [14] Rothaermel F T, Alexandre M T. Ambidexterity in technology sourcing: the moderating role of absorptive capacity,J. Organization Science, 20(4): 759-780. (2009)
- [15] March J G. Exploration and exploitation in organizational learning,J. Organization Science, 2(1): 71-87. (1991)
- [16] Raisch S, Birkinshaw J. Organizational ambidexterity: antecedents, outcomes, and moderators,J. Journal of Management, 34(3): 375-409. (2008)
- [18] Kogut B, Zander U. Knowledge of the firm and the evolutionary theory of the multinational corporation,J. Journal of International Business Studies, 34(6): 516-529. (2003)

[19] Zahra S A, George G. Absorptive capacity: A review, reconceptualization, and extension,J. Academy of Management Review, 27(2): 185-203. (2002)