

Technology Acquisition and Innovation Strategies in the Internationalization Process of Enterprises in Emerging Market

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Abstract: Emerging market firms often make the acquisition of technology the focus of their main internationalisation strategy, creating a kind of "reverse internationalisation" pattern which both adds to and poses challenges to the standard multinational firm theories based on monopoly rents. Cross-border M&A, strategic partnerships and the establishment of overseas R&D facilities are identified as the main channels for emerging market firms to source the critical external technologies. However, the success of technology transfer is largely dependent on the firms' following innovation policy. Emerging market firms must go through a process of capability building to absorb and incorporate the technologies, market-driven incremental innovation and finally, independent innovation so that they can improve their status in the global value chain. The systematic study of this process provides a coherent framework for understanding the international expansion of firms from emerging economies, and provides useful practical guidance for corporate strategic planning. It also has important implications for the policymakers, investors and managers who are in charge of or helping to oversee such cross-border technological upgrading processes globally.

Keywords: Emerging Markets; Enterprises; Internationalization; Technology Acquisition.

1. Introduction

In the context of growing globalization and technology change, the internationalization pattern of enterprises from emerging markets exhibits unique features different from enterprises in developed countries. These enterprises tend to focus on foreign ventures for the purpose of grabbing strategic assets, especially cutting edge technologies. Such "reverse internationalization" process supplements and counters the monopoly advantage based multinational corporation theories, making studying the mechanisms of technology acquisition and innovation highly valuable both theoretically and practically [1]. Technological capability is the main limitation to the participation of emerging countries' firms in the global competition. With shortening technology life cycles and fierce international competition, the sole reliance on internal research is not enough to allow for a rapid catch up. By connecting with and integrating with technological resources around the world via internationalization, firms have been able to more actively overcome developmental bottlenecks and establish core strengths. The various international forms of cross-border mergers and acquisitions, strategic alliances, and overseas research are different ways of obtaining and absorbing knowledge about technologies. Such mechanisms of internationalization allow for rapid learning and improvement of the competitive position of firms throughout the world.

2. Relevant Theories of the Internationalization Process of Enterprises in Emerging Market

The traditional theory of multinational corporations faces limitations in explaining the internationalization behavior of enterprises in emerging markets. The classical framework represented by the Uppsala model of incremental expansion theory and the OLI paradigm of monopoly advantage theory,

mainly based on the mature experience of enterprises in developed countries, is difficult to fully explain the radical internationalization phenomenon of enterprises in emerging markets in the absence of explicit competitive advantages. These enterprises often show the characteristics of reverse investment with technology acquisition as the core, and their internationalization path shows obvious strategic asset-seeking orientation [2].

In response to this theoretical gap, the academic community has gradually developed a more explanatory analytical framework. From the perspective of resource patchwork, the theory of linkage leveraged learning regards internationalization as a process of acquiring and leveraging external knowledge and organizational learning through global network links. The springboard theory emphasizes that enterprises should take internationalization as a strategic springboard to obtain key resources and make up for competitive disadvantages. The institution-based view further points out that the institutional environment and government policies of the home country play an important role in shaping the mode of enterprise internationalization. These theories together provide a theoretical basis for understanding the internal logic of technological catch-up through internationalization of emerging market enterprises.

3. Approaches to Internationalized Technology Acquisition of Enterprises in Emerging Mar

3.1. Cross-border Mergers and Acquisitions and Technology Integration

As an important way for emerging market enterprises to acquire advanced technology, the core value of cross-border mergers and acquisitions (M & A) lies in its ability to quickly realize the ownership control of the target enterprise's technological resources. This way of technology acquisition enables enterprises to directly enter the mature technology

system and R & D (research and development) platform, and significantly shortens the time cycle and technology accumulation process required for independent R & D. Through M & A, enterprises not only obtain explicit knowledge such as patents and drawings, but also have access to tacit knowledge embedded in the organizational processes and R & D teams of target enterprises, which is of key significance to the fundamental improvement of technological capabilities.

However, the completion of merge transaction is only the starting point of technology acquisition, and the more critical challenge lies in the subsequent stage of technology integration [3]. The effectiveness of technology integration depends on whether enterprises can overcome the barriers of integration such as organizational culture differences and management style conflicts, and realize the smooth transfer and reconfiguration of knowledge between the two sides of M & A. Successful integration needs to establish effective governance mechanisms and communication channels, promote the decoding and sharing of tacit knowledge, and creatively integrate the acquired external technical resources with their existing technical basis. The depth and quality of this process directly determine whether cross-border M & A can ultimately achieve the expected goal of technological synergy and capability enhancement, rather than just forming a simple superposition of technological assets. The success or failure of technology integration is often the watershed to measure the ultimate effectiveness of cross-border mergers and acquisitions as a way of technology acquisition.

3.2. Strategic Alliances and Knowledge Transfer

As another important mode for enterprises in emerging markets to acquire advanced technology, the essence of strategic alliance is to realize the complementarity and sharing of knowledge resources by establishing cooperative relations with other enterprises or institutions. Different from the complete control pursued by cross-border mergers and acquisitions, strategic alliances focus more on building a two-way knowledge flow channel on the basis of maintaining their independence. This model is usually manifested in the form of joint R & D, technology licensing or long-term cooperative projects, which provides a window for enterprises to access cutting-edge technological knowledge and expertise. The success of strategic alliance depends on effective knowledge transfer to a great extent. This process does not happen automatically, but is influenced by the degree of trust, knowledge complementarity and communication mechanism among alliance partners. Emerging market enterprises need to overcome the obscurity of knowledge itself and the barriers of knowledge protection that may exist in cooperation through active learning and interaction, so as to transform the technical information obtained from the alliance into practical internal capabilities. The depth and breadth of this knowledge transfer determine whether enterprises can achieve substantial growth of technological capabilities through alliances.

However, there are specific issues associated with strategic partnerships. Companies may be rivals which limits the amount of proprietary information that can be exchanged. And yet, at the same time, companies become reliant on their partnership partners for technology which limits their strategic flexibility. It is therefore key that companies establish solid governance of collaborations as well as to

strike a balance between collaborative learning and maintaining a strong degree of independent control to ensure the long-term sustainability of using strategic partnerships as a route to technology acquisition. This means that there must be clear rules and monitoring in place and that there is a degree of trust between the partners to manage the risks and the incentives.

3.3. Overseas Research and Development and Talent Utilization

It also offers a more direct, on-the-ground path to technology. By setting up research posts in hubs of technological production, companies are positioned at the forefront of global knowledge flows. Its spatial embedding helps companies to monitor technological trajectories in real time and to build broad and deep relationships with local universities, research experts, and innovation ecosystems [4]. Its main value is in giving companies access to vast amounts of cutting edge knowledge and tacit know how. The human capital deployment is the key lever to make this model work. A main role played by international R & D is to gather and concentrate world class scientific and technical talent. These people bring with them a set of expertise and capabilities and act as intermediaries between the firm and the domestic innovation environment. By bringing together heterogeneous R & D players and creating an internal culture conducive to knowledge generation, companies can encourage cross fertilization of ideas among personnel from diverse backgrounds and thus spark novel technological concepts. Unlike mergers, acquisitions or alliances to buy established, mature technologies, overseas R & D places emphasis on the development of forward-looking knowledge creation and original invention [5]. It places greater demands on a firms' long-term strategic patience and commitment, but produces a deep development in their own independent innovation capabilities.

4. Technological Innovation Strategies in the Process of Internationalization of Enterprises in Emerging Markets

4.1. Cultivation of Technology Digestion and Absorption Capacity

The development of absorptive capacity is an evolving, long-term accumulation process, and is determined by the firm's pre-existing knowledge base, by the scale of R & D funding and by the structure of learning mechanisms. When the firm's knowledge base is in some respect aligned to the technology adopted, then assimilation is easier and the learning is more potent. Continuous R & D spending not only directly improves technical understanding but also creates a climate that encourages exploration and experiment. Structures such as cross-functional learning teams, codified knowledge-management systems and an experiment-rewarding culture create an internal setting where information can diffuse and where units can work, coordinate, and apply new knowledge to different areas of operations and strategies.

This drastically improves the internal efficiency of knowledge dissemination. The ability to effectively assimilate technology and high absorptive capacity enables the firm to understand the newly assimilated technology and adaptively use it instead of depending on externally-sourced technology. This forms the crucial basis for further adaptive

improvement and potential breakthrough innovation. Without sufficient accumulation in this stage, externally-sourced technologies are unlikely to be converted into a sustainable firm-specific strength [6]. And firms which suffer from a lack of such accumulation may run through a vicious cycle of repeated technology importation followed by stagnation and further imports. This stage for the first time in the process is the logical point of departure and the micro-level basis for achieving technological convergence and capability transformation. It therefore enables a slow and steady process of learning, incremental improvement and the building of internal capabilities necessary for long-term industrial upgrading and resilience.

4.2. Secondary Innovation and Market Application Expansion

However, subsequent innovation has become the key strategy for firms in emerging markets to use foreign technology to create a product for the market. Secondary innovation is not copying. It involves functional improvement, performance improvement or cost re-design based on deep understanding of what has been imported and how it will be applied to local needs. Secondary innovation is characterized by its strong market orientation. It involves selectively changing parts of the imported technologies to develop market offerings that better meet the needs of certain customers and can be provided at a lower cost. Secondary innovation is strongly linked to market deployment. Good market intelligence directs innovative activities at concrete problems in the market. It directs technical changes at what needs to be improved to address what is painful or troublesome for customers. Good market deployment and secondary innovation activities can lead to the identification of new markets and new customers. The link between secondhand innovation and the market reduces the risk involved in adopting original invention and speeds up the technology cycle and product cycle because of the close feedback from the market. Good market deployment and secondary innovation activity can lead to the identification of new markets and new customers. The link between secondhand innovation and the market reduces the risk involved in adopting original invention and speeds up the technology cycle and product cycle because of the close feedback from the market. Achieving this requires technology and market competencies in the firm. Good R&D and marketing activities need to be coordinated so that technical changes are aimed at creating customer value. This allows firms to take a differentiated position in a specific niche and build up technology and market position. Secondhand innovation allows firms in emerging economies to develop the skills needed to undertake original invention. This provides a bridge for firms with initial technology and market competencies to take on more original innovation.

4.3. Independent Innovation and Global Value Rise

Independent innovation marks the highest stage of technological capability building of enterprises in emerging markets, and is a fundamental leap from technological followers to technological leaders. The core of this strategy is that enterprises can independently carry out future-oriented

frontier technology exploration and basic scientific research, and form a core technology system with independent intellectual property rights. It is no longer an adaptive improvement on the existing technology track, but a way to define product architecture, dominate industry standards and even open up new market areas by creating new technical knowledge.

The rise of global value is the inevitable result of independent innovation strategy. When enterprises grasp the core technology dominance of industrial development through independent innovation, their position in the international division of labor system will change in essence. Enterprises are no longer confined to the manufacturing links with low added value in the global value chain, but can make a transition to the high-level links such as R & D, design, brand marketing and standard-setting. This process is not only reflected in the expansion of profit margins, but also in the significant improvement of global industrial ecological influence and voice.

5. Concluding Remarks

Cross-border takeovers, joint ventures and overseas R&D reflect different priorities. By contrast, technology absorption, incremental innovation and autonomous innovation are linked in a stepwise process of capability development, clarifying why firms in the latecomer category evolve from a focus on the acquisition of strategic resources to the attainment of a competitive position. Subsequent research should explore how the sourcing of technology changes in the age of digitalisation and also investigate the strategic uniqueness of green innovation and other areas emerging from the sustainability agenda, among other subjects.

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