Digital Driven Heritage Enterprise Organizational Routine Reconstruction for Revitalization: A Case Study in China

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Abstract. In order to acquire sustainable development, how does a heritage enterprise with accelerated decline capture the lost brand equity again in order to reverse the recession trend of the brand through “organizational routine reconstruction” in the digital era? In this paper, taking heritage enterprise FT as the case study object, it deeply discussed the heritage enterprise reconstructed its organizational routine to revitalization. This study found that the process model of organizational routine reconstruction includes reactivation mechanism, innovation mechanism and balance mechanism in both cognition and action aspects. This research benefits both academics and practitioners by contributing to cumulative theoretical developments and by offering practical insights.

Introduction

A heritage enterprise is essentially an enterprise with a heritage brand [1], which stands for longevity and sustainability, as proof that the core values and performance of the given products are reliable [2]. In the digital age, the drastic changes in market environment and technology environment lead to some heritage brands cannot match with the outside changes in technology R & D, product update, operation mode and other aspects. All of these have accelerated the decline of the heritage brand value and market recognition, and the brand weakening and aging phenomenon has become more prominent [1]. Many heritage enterprises fall into the business predicament that cannot surpass, even some heritage enterprises have disappeared, such as Nanjing Guanshengyuan Food Company and Eastman Kodak Company. However, there are still many hundred-year heritage enterprises that survive in the fast-changing environment, such as Chinese Tongren Temple, Coca-Cola, etc.

Organizational routine refers to a repeatable, identifiable, interdependent behavioral pattern that is implemented by multiple actors. This behavioral pattern represents the regularity of organizational behavior [3] and are the primary means of organizing most activities [3]. The organizational routine reconstruction (ORR) involves a series of actions such as the retention, alteration, elimination, and solidification of the constituent elements of the routine [3], in order to achieve the matching of the organization with the new environment. Therefore, ORR helps enterprises with declining brands adapt to changes in the environment for sustainability. However, few studies have discussed on how to realize the heritage enterprise revitalization through ORR. At the same time, the existing studies on heritage enterprise revitalization overlook the importance of technology, products and management innovation. Above all, the conclusions of existing studies are hard to provide workable proposals for heritage enterprises to revitalize themselves through ORR in the digital age.

In the digital era, due to the changes of market environment and technical environment, many heritage enterprises have reached a development bottleneck even dying, in urgent need of ORR with the help of digital technologies, to achieve revitalization. However, in recent years, although the revitalization of heritage enterprises has triggered the wide attention of the academic world [4], there are few studies on the internal mechanism and implementation process of how to realize he revitalization of the heritage enterprise through ORR with the help of digital technologies. In this paper, taking the heritage enterprise FT as the case study object, three kinds of mechanisms of how
ORR can promote the revitalization of the heritage enterprise have been identified, and these three mechanisms of ORR has been built in the organizational recognition and action levels.

**Case Background**

Fengtong Antique Inkstone Co. Ltd. (FT) is an inkstone manufacturer founded in 1980 and located in Yi County, Baoding City, Hebei Province, P.R. China. For almost four decades since its establishment, the company has been specializing in the development, production, and marketing of Traditional Chinese inkstone products. With its exquisite inkstone craft and unique design philosophy, FT enjoys an excellent reputation in the circle of Chinese calligraphy and painting.

However, the development of FT was not a smooth journey. FT started to face a severe drop in brand reputation and product sales since 2010 because the firm could not well respond to environmental changes triggered by the advancement of digital technologies. Until 2014, FT changed its corporate strategies and gradually revitalized its brand through the application of digital technologies, leading to the enhancement of product reputation and the increase of sales volume.

**Case Analysis**

According to the case data we collected, the core competitive advantages of FT are its heritage brand equities, such as the purely hand-made inkstone craft, unique product design philosophy, and so on. However, when facing the impacts of digital technologies and the changes of the entire industry, FT blindly disregarded these valuable equities of its heritage brand and failed to respond to the changes of market demands, resulting in gradual brand decline. To achieve its revitalization, FT reconstructed its organizational routine by reactivating its old brand equities, innovating new brand equities and balancing them in the aspect of cognition and action respectively.

**The Reactivation Mechanism of ORR**

“Old entities” such as the originality, historical continuity and special context of a heritage enterprise often have a strong nostalgic value, which may create strong personal and cultural association between the brands and their potential consumers [5]. The loss of old brand equity will directly lead to the decline of the heritage brand [1]. Through our case analysis, we find that FT reconstructed its organizational routine through the reactivation of old brand equities, which restored the nostalgic bonding between consumers and the heritage brand [6, 7], and eventually recovered the lost heritage brand entities (See Table 1).

<table>
<thead>
<tr>
<th>Cognitive Aspect</th>
<th>Action Aspect</th>
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<td>(1) increase employee’s awareness of existing brand equities</td>
<td>(1) restore purely hand-made inkstone craftsmanship</td>
</tr>
<tr>
<td>(2) evoke customers’ heritage brand memories and association</td>
<td>(2) establish the heritage brand culture museum</td>
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To achieve revival, FT believed that it should rapidly reactivate the old heritage brand equities. Under the guidance of this organizational cognition, FT adopted the corresponding actions.

On the one hand, in order to evoke consumers’ good memories which FT was the leader of inkstone industry, FT established the “Digital Historical Museum of Inkstone Culture.” Through the “Digital Historical Museum,” FT vividly demonstrated its old brand equities such social reputation, hand-made inkstone process and the design philosophy, etc., which helped consumers regain trust in the “historical authenticity” of the heritage brand [7]. In addition, FT produced the classic brand stories in the development process of the enterprise to micro films and publicized on online platforms to waken consumers’ good memories for heritage brands.
On the other hand, in order to improve heritage brand association, FT restored purely hand-made inkstone craftsmanship. This is because the decline in product quality and the loss of cultural heritage caused by the machine-made craftsmanship, resulting in the original middle and high-end consumers having a negative brand association with FT. Hence, FT had to restore purely hand-made inkstone craftsmanship and cancel machine-made craftsmanship.

**The Innovation Mechanism of ORR**

The solidification of brand equity is one of the important reasons for the decline of the heritage enterprise. Innovation as an important means for companies to maintain brand youth, can provide new and unique “endowment resources” for the heritage brand [8]. Through our case analysis, we find that FT reconstructed its organizational routine through the *innovation of new heritage brand equities*, which expanded new sources of brand equity, and eventually broke from the solidified heritage brand entities (See Table 2).

Table 2. The Innovation Mechanism of ORR.

<table>
<thead>
<tr>
<th>Innovation Mechanism</th>
<th>Cognitive Aspect</th>
<th>Action Aspect</th>
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<tbody>
<tr>
<td>(1) nurture an atmosphere of innovation</td>
<td>(1) renew product structure</td>
<td></td>
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<tr>
<td>(2) make employees aware of the importance of innovation</td>
<td>(2) develop new market</td>
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To achieve revival, FT believed that it should rapidly innovative the new heritage brand equities to match with the external demands. Under the guidance of such organizational cognition, FT adopted the corresponding actions.

On the one hand, in order to renew product structure which can satisfy the consumers’ aesthetic needs [7], FT combined the Chinese traditional culture such as Buddhism, Taoism and Confucianism with modern elements, and attempted to change the traditional inkstone structure. On this basis, FT used 3D printing technology to verify whether the new product structure is feasible. Once verified, FT would immediately put into production, and then developed new inkstone products, such as *Breathing Inkstone*, etc.

On the other hand, in order to develop new market, FT tried to design new products which is based on the online survey of consumers' needs, such as *Backflow Incense Holder*. At the same time, FT integrated stationeries with different functions, and developed new products, such as the integration of fish tank and tea tray. These behaviors enriched the product system of FT and increased consumers’ use scenarios frequency of FT products.

**The Balance Mechanism between Reactivation and Innovation**

The reactivation mechanism focuses on the old heritage brand equities in the organizational cognition aspect and stresses exploitation learning in the organizational action aspect. Although this mechanism can recover the lost heritage brand equities, over-reliance on old brand equities will cause the company to ignore the new demands of consumers in the digital age [7]. The innovation mechanism focuses on the new heritage brand equities in the organizational cognition aspect and stresses exploration learning in the organizational action aspect. Although this mechanism can meet new demands of consumers, over-reliance on new brand equities will lead to the loss of the unique advantages of the heritage brand, such as history and culture [6]. It can be seen that the two mechanisms have conflicts in the organizational recognition and action aspects (See Table 3).

Table 3. The Difference between the Two Mechanisms of ORR.

<table>
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<th>Reactivation Mechanism</th>
<th>Innovation Mechanism</th>
</tr>
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<tbody>
<tr>
<td>Cognition Aspect</td>
<td>Focus on the old heritage brand entities</td>
<td>Focus on the new heritage brand equities</td>
</tr>
<tr>
<td>Action Aspect</td>
<td>Exploitation learning</td>
<td>Exploration learning</td>
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In order to balance the reactivation mechanism and innovation mechanism, FT firstly solved the conflict in the cognition aspect. Through the unified coordination of the senior management team, it can accept two contradictory businesses and behaviors at the cognitive level, and is committed to playing the role of both [9]. Therefore, FT's senior management team realized that the two mechanisms are indispensable, and balancing the two mechanisms can better achieve the sustainable development goals of FT “inheriting the heritage advantages and meeting the new demands of the market.”

Secondly, FT applied a separation approach to separate the two contradictive action into two different departments. Since 2014, FT has divided the design department into the development design department and the innovation design department, responsible for the design of the existing inkstone products and new types of products respectively. This separated action can reduce their conflicts in action aspect of two mechanisms to keep their respective high efficiency.

Above all, FT uniformed cognition and separated action in the organizational cognition and action aspects to balance the conflicts between the reactivation mechanism and the innovation mechanism, and finally promoted its revitalization for sustainability.

Conclusions

Theoretical and Practical Contributions

We built the process model of ORR for heritage enterprise revitalization in FT (See Fig. 1). The model includes reactivation mechanism, innovation mechanism and balance mechanism in both cognition and action aspects. In the cognition aspect, the reactivation mechanism and the innovation mechanism respectively focus on the old and the new heritage brand entities. The heritage enterprise unifies the cognitive conflicts between the two mechanisms of reactivation and innovation through the balance mechanism. In the action aspect, the reactivation mechanism and the innovation mechanism respectively adopt exploitation learning and exploration learning. The heritage enterprise separates the action conflicts between the two mechanisms of reactivation and innovation through the balance mechanism.

Figure 1. Process Model of ORR.

The theoretical contributions of this study are mainly presented in two aspects.

Firstly, this study extends the literature on the revitalization of heritage enterprises to the context of digital technology. The prior literature ignores the importance of technology in the heritage brand management [7]. At the same time, with the changes of the times, digital technology is no longer a secondary factor in creating value, but an important source of value creation [10]. Hence, to address this theoretical gap, this study points out the importance of digital technology in the revitalization process of heritage enterprises. This is particularly valuable given the growing importance of emerging digital technologies as the core driver of industrial development, as well as the economic and cultural significance of heritage enterprises [10].
Secondly, this study proposes the process model to enrich the literature of ORR. Few studies have discussed on how to realize the heritage enterprise revitalization through ORR. Through the case study, we identify three mechanism of ORR, which includes reactivation mechanism, innovation mechanism and balance mechanism in both cognition and action aspects. The findings contribute to an understanding of how ORR can revitalize heritage enterprises.

This study also has practical implications. Firstly, his study proposes an actionable process model of ORR for revitalizing heritage enterprises. Secondly, heritage enterprises must realize the importance of digital technology.

Limitations and Future Research

This study also has some shortcomings. Even though there are abundant data from multiple sources to certify mutually, some study conclusions in this paper cannot be effectively generalized to other enterprise organization practices. The accuracy of the conclusions should be verified further through large sample data. At the same time, future research can consider using quantitative analysis for statistics and confirmation so that the model of ORR can be improved.

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