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# Autopoiesis in the Business Organisation: A Case Study

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## Abstract

This paper discusses the literature on the concept of autopoiesis and its application to business organisations from a brand management perspective, which is claimed to be able to develop customer confidence. Autopoiesis is a pseudo-Ancient Greek word that was constructed from the two words 'auto' and 'poiesis', which denote 'self' and 'production' respectively. An autopoietic business organization is an independent and self-maintaining unity that includes component-producing processes, where the interaction between components recursively produces the same system of processes that produced them, and as a consequence, adapts spontaneously to competition. Analysis of the literature reveals that brand management requires an autopoietic system in order to increase consumer confidence in product quality, to establish brand identity and image and to increase loyalty. This paper also demonstrates that the KFCH brand has autopoietic system characteristic that warrant future research.

**Keywords:** Autopoiesis, Business Organisation, Brand, Production, Competition

## 1.0. Brief Outline

This paper examines autopoietic theory and its application to business enterprise. To further illustrate the theory, this paper will use the business operation of a well-known Malaysian fast food chain, KFC Holding (M) Bhd (KFCH), as a case for an 'autopoietic brand management'. It may be that brand management (or branding) is a crucial aspect to the survival of business enterprise and would be the most appropriate discipline to adopt autopoietic systems<sup>1</sup>. Indeed, Kapferer (1997) noted that branding could be identified as the 'corporate DNA' of most business entities.

Existing discussions on autopoietic theory strongly suggest that the application of an autopoietic system to a business enterprise could enhance its competitiveness and innovativeness, allowing it to sustain its position in the fast changing global market (Zeleny 2001). The issue of how this occurs and justification of the application of autopoietic systems to business enterprise is an ongoing debate, though the theory has received unprecedented attention by researchers in various disciplines; for example, in law (Teubner 1989), chemistry (Bachman et al. 1992), governance (Dunsire 1996), organization science (Hernes & Bakken 2003), psychiatry (Ciompi 1991), psychology (Kaplan & Kaplan 1991), public administration (Schmukler 2002; Brans & Rossbach 1997) and second-order cybernetics (Harnden 1990). However, the scope of this paper is the application of autopoietic theory to business enterprise activities and in particular to brand management. Thus, the discussion will be focused on 'autopoietic brand management'.

<sup>1</sup> Schuiling & Moss (2004) defined a brand' as a name or symbol that is given to a product that will differentiate it from other products and that will register it in the minds of consumer as a set of tangible (rational) and intangible (irrational) benefits (p.367).

This paper is divided into seven sections. Section 2.0 will provide the theoretical background, section 3.0 will discuss the method adopted in the literature review, section 4.0 will review the past research, section 5.0 will summarise past findings, section 6.0 will outline the directions for future research and section 7.0 concludes the paper.

## 2.0. Theoretical Background

The seminal work on autopoiesis was undertaken by two Chilean biologists, Maturana and Varela, in 1974. They originally introduced it as a biological theory, in which living beings are seen as systems that produce themselves in a perpetual way, and thus an autopoietic system can be construed as being the producer and the product at the same time (Keane 1999; Kickert 1993; O'Regan & O'Donnell 2000; Scheper & Scheper 1996; Zeleny 1990). In this respect, an autopoietic system was defined as a network of productions of components, which: (i) participate recursively in the same network which produced them and (ii) realize the network productions as a unity (Dunsire 1996; Goldspink & Kay 2004; Keane 1999). Also, in an attempt to define the term 'autopoiesis', Fitzgerald & van Eijnatten (2002, p.413) noted, "the term connotes the dynamic by which a complex system, via intrinsic processes of production, is able to maintain its own organizational pattern. Such a system is constitutively emergent from the interactivity of its members rather than an a priori abstract unit". They further offered that primary autopoietic capacities consist of self-organisation, self-reference and self-iteration.

Based on the work of Maturana & Varela (1980), Brans & Rossbach (1997, p.425) pointed out that, "autopoietic systems are systems which produce and reproduce the elements they consist of with the help of the elements they consist of. And everything these systems use as a unity – their elements, processes, structures, the system themselves – is produced precisely by all those unities within the system". Indeed, the concept of autopoietic systems offered by Maturana & Varela (1980; 1988) aims to address two questions, namely (i) "what is common to all living systems that we qualify them as living?" and (ii) "what is cognition?" (Scheper & Scheper 1996).

The autopoietic theory has been applied to enterprises/organisations by treating them as units of a system to which autopoiesis is attributed. Zeleny (2001) posited that an autopoietic organisation should have a balance of three processes, namely production, bonding and degradation. He pointed out that the production process involves rules and regulations governing the entry of new components, such as emergence, input, birth, membership and acceptance, while the bonding process includes rules governing associations, arrangements, manufactures, functions and positions of components during their tenure within the organisation, and finally, the degradation process comprises of rules and processes associated with the termination of membership, such as death, separation, consumption, output and expulsion.

## 3.0. Method of Review of Past Research

The search for literature has been conducted through searching the electronic journals available online. Using the Business Source Primer database, all refereed academic journals published were searched under the terms 'autopoietic' and 'business' or 'brand management' appearing as titles or in the abstract. However, only a small number of refereed journals were found. As a result, it was decided that the literature search should be expanded by looking at the terms 'autopoietic' and/or 'business'. In addition, in order to fully appreciate the term 'autopoietic brand management', the literature on brand management was also searched. A time limit was not set, as the results of search were very limited, generating less than 50 articles for autopoietic-related areas. Thus, studies published as early as the 1980s were considered.

On the other hand, a large number of articles on brand management were found, and indeed, the total number of peer-reviewed articles on this issue exceeds 500. Therefore the articles selected to be

considered for inclusion in this paper are those that directly contribute to the general topic of brand management and the most cited articles. The abstracts of the papers for the initial group found were read with the aim to identify the research area, and the articles that were finally chosen to be included in this study were those related to autopoietic theory and its application in business/management and brand management.

Because the application of autopoietic theory into brand management is still new (Keane et al. 1999), the number of peer-reviewed articles on the topic of autopoietic brand management is very limited. Thus, the study has to rely upon research work that applies autopoietic theory into business/management/marketing, because brand management is part of the broad area of these disciplines, which will be presented in section 4.0. However, general work on brand management is included to provide a clear picture on the issue of interest.

As a result, a total of 50 peer-reviewed articles on the topic of autopoiesis, brand management and autopoietic brand management were reviewed. The papers were read at least once to enable the process of classification of the research into the appropriate categories, as undertaken in the other study of the subject (see for example Forbes 1999, p.418).

#### **4.0. Review of Past Research**

The review of prior studies in this section will be divided into two sub-sections, with an analysis of the literature on brand management being provided in the first part, followed by an analysis of the literature on autopoiesis and its application to brand management in the second part.

#### **4.1. Brand Management**

People purchase a product to suit their specific needs, and this means that people are purchasing a particular benefits package offered by a brand to fulfil their requirements (de Chernatony & McDonald 2001). Indeed, customers look to brands to reassure themselves that the product will give them the expected quality, price and many other factors. In this context, brands of a product have to satisfy the self-expressed needs and intangible needs of the purchaser (Caldwell & Freire 2004).

Munson & Spivey (1981) posited that brands have two independent dimensions. First, a brand should have 'value expression' that indicates the consumer's self-concept in using the brand. Second, brand 'utilitarianism' attracts the consumer's attention to the product's performance. Similarly, Solomon (1983) argued that the use of a particular brand is a result of two factors, namely functional utility and social implication.

The discussion on this issue was further extended by subsequent researchers, such as de Chernatony & McWilliam (1989), de Chernatony & McWilliam (1990) and de Chernatony (1993). de Chernatony & McWilliam (1989) hypothesised that product strength is determined by its representationality and functionality. Representationality is related to the consumption of a product by consumers with the aim to convey something about themselves, and de Chernatony & McWilliam (1989) pointed out that 'representational brands' give their purchasers a consistent belief and meaning with regard to the product or service that exists, over and above its obvious physical functioning. 'Brand functionality' is related to the fact that consumers assign certain attributes to different brands, such that the use of a brand would require the consumer's assessment on issues relating to quality, reliability, speed, taste etc. Indeed, the whole process is related to the brands' functional capabilities and physical attributes and not the buyer's personality.

de Chernatony & McWilliam (1990) and de Chernatony (1993) developed a Brand Box Model that utilised representationality and functionality dimensions (as discussed above) and enables the user to make decisions on a four-cell matrix of high-low representationality and functionality. The model could be used by managers in various industries to decide on strategies for their brands and enhance the management of their products.

In a wider perspective, branding is associated with the view of a product (or service) as being composed of a core product surrounded by a set of added values (Helman & de Chernatony 1999, p.59). It was argued that the more the core product is surround with respect, the more strongly the product offering is differentiated from competitors (de Chernatony & McDonald 1993). Indeed, brand management is about achieving a single strategic purpose, namely 'creating difference' (Kapferer 1992), and also as with 'identity management' (de Chernatony 1999). In summary, de Chernatony (1997, p.62) pointed out that brand management is currently more related to team-based activity, with senior managers striving to lever assets across their value chains to sustain their brand's competitive advantage.

#### 4.2. Autopoiesis and its Application to Business Enterprise/Brand Management

The pioneering work on the application of autopoiesis theory to the social sciences was undertaken by Luhman (1986), who explored the issue of self-referentiality of social systems and concluded that the maintenance of social systems necessitates self-referential production. Kickert (1993) extended this concept to management and pointed that autopoiesis could overturn the current stance of the association between organisations and environments. Indeed, business organisations could be considered as complex, adaptive and nonlinear (Liang 2001; 2002). Nonaka & Takeuchi (1995) studied Japanese creative firms and noted that self-regulating principles are important to knowledge creation.

An effort to apply the autopoiesis theory to business enterprise was undertaken by Zeleny (2001), who applied the autopoiesis concept to small and medium enterprise networks (SME) and argued that an autopoietic system would exist in an organisation that was circular or 'closed upon itself'. A circularly 'closed' set of rules assures the self-perpetuation of a system and recursively recreates its own network or process and rules for the coordination that produced it. Zeleny noted that there are networks that are 'covering' the value chain and are flexible and adaptive enough to maintain and expand their 'coverage' through dynamic reshaping of their own linkages. Such dynamic networks survive and prosper and are capable of directly competing with superlarge companies in the arena of global competition. Zeleny argued that an autopoietic SME would be able to compete globally with innovative, flexible and knowledge production that is self-sustainable in an ever-changing global environment. Consistent with this argument, Liang (2004) believed that the ability to compete was originated from two important factors namely, self-organising and autopoietic dynamics.

The study of autopoietic brand management is a relatively new field, and the seminal work on this subject was undertaken by Keane et al. (1999). However, to date, no follow-up research work has been undertaken on the topic of autopoiesis in brand management. Keane et al. (1999) pioneered the study of autopoietic brand management using the Disney brand as the subject of their research, and found that the management of the Disney brand utilised an autopoietic system with its own operating code, self-defined boundaries, self-replicating ability and pace of operation. Keane et al. argued that the process has communicated a sense of reassurance to Disney's customers.

The theory of autopoiesis has been argued by its proponents to have powerful theoretical contents and epistemological implications that corroborate the constructivist position. However, Schepers & Schepers (1996) argued that the theory of autopoietic systems lacks scientific value for the following reasons. First, as a result of the tautological nature of its core concept and the absence of the specification of the organisation of the autopoietic system, the theory cannot be empirically examined, and thus lacks explanatory power. Second, there is no clear distinction between the functional and the material interpretation of the homeostatic/ultrastable system (i.e. system vs. environment); thus, this has led to the conclusion that an autopoietic system is unobservable. As a result, the theory of epistemology is undermined. Despite the criticisms levelled at the theory, it continues to receive attention from various parties and disciplines.

## **5.0. Summary of Past Findings**

The body of literature on autopoiesis and its application to business enterprise/ management/marketing is relatively small. Indeed, most of the research work has been undertaken in the form of theoretical approaches; therefore, it is difficult to compare and contrast the results. This phenomenon may have arisen due to the weaknesses of the autopoietic theory itself, as suggested by Scheper & Scheper (1996), who point out that the theory is unobservable and thus not accessible to empirical testing.

Nevertheless, it is possible to offer an initial summary based on the review undertaken in the previous section. First, as discussed in section 4.1 above, branding is an important process in business, which incorporates certain values and images to the product, thus encouraging consumers to attach to characteristics when they decide to purchase the brand. The complex nature of today's business involves multiple chains of products or processes, and this requires value added activities in order to differentiate a product from its competitors. It may be the case that the consumption of products is no longer concentrated on a single product, being geared more toward a range of inter-related products. For example, in the photography industry, the sale of film would be associated with the sales of same-brand cameras, processing film services, maintenance and repair services, framing and many others. Business enterprises need to differentiate these products as a single identity or image (de Chernatony 1997; 1999). Thus, based on these arguments, brand management requires an autopoietic system to integrate products/services in a business enterprise's value chain to increase customer confidence and loyalty, as discussed in the following paragraph.

Secondly, section 4.2 provides findings on autopoiesis in business enterprise/brand management. An autopoietic system in a business context could be a closed system, where agents within the network interact only with each other. As Zeleny (2001) discussed, this system would reshape its own linkages in its value chain to adapt to its environment and adjust itself in response to competition. Thus, the business enterprise would be ready to compete globally. With regard to autopoietic brand management, Keane et al. (1999) argued that Disney's product is an autopoietic brand, as the company is able to source its input within its own organisation's self-defined boundaries, and this has made its products self-differentiated and provided a reassuring consumption experience to the customer. Thus, the review of the literature has shown that companies that employ autopoietic system could be able enhance customer confidence with regard to product quality and enhance their loyalty.

Although more theoretical and empirical research is required to prove that autopoietic theory is worth to be adopted by business enterprises, it would not be too early for entrepreneurs to consider the possibility of adopting such systems. In the following section, an analysis of the application of an autopoietic system to KFC Holding (M) Bhd (KFCH) will be outlined.

## **6.0. Directions for Future Research**

In future research, it is worthwhile to examine the autopoietic brand management of KFCH, because of the existence of autopoietic brand management characteristics, in that KFCH is able to adjust within itself the required production of resources based on the amount of sales made (or unity of network productions exists within KFCH). This will be further analysed in the following paragraph. In fact, KFCH is able to translate external threats or opportunities in its industry within its own structure using the autopoietic self-referential system.

Keane et al. (1999, p.522) posited that "an autopoietic system acquires the radical autonomy of a living organism when it has the following qualities: it has its own operating code; it defines its own boundaries; it reproduces its own elements in a closed circuit and it obeys its own law of motion". It may be the case that the KFCH brand, management systems and business structure have all these principles.

Autopoietic systems are dynamic systems that are able to become accustomed to environmental transformation based on their operating code, which identifies external events as self-features (see, for

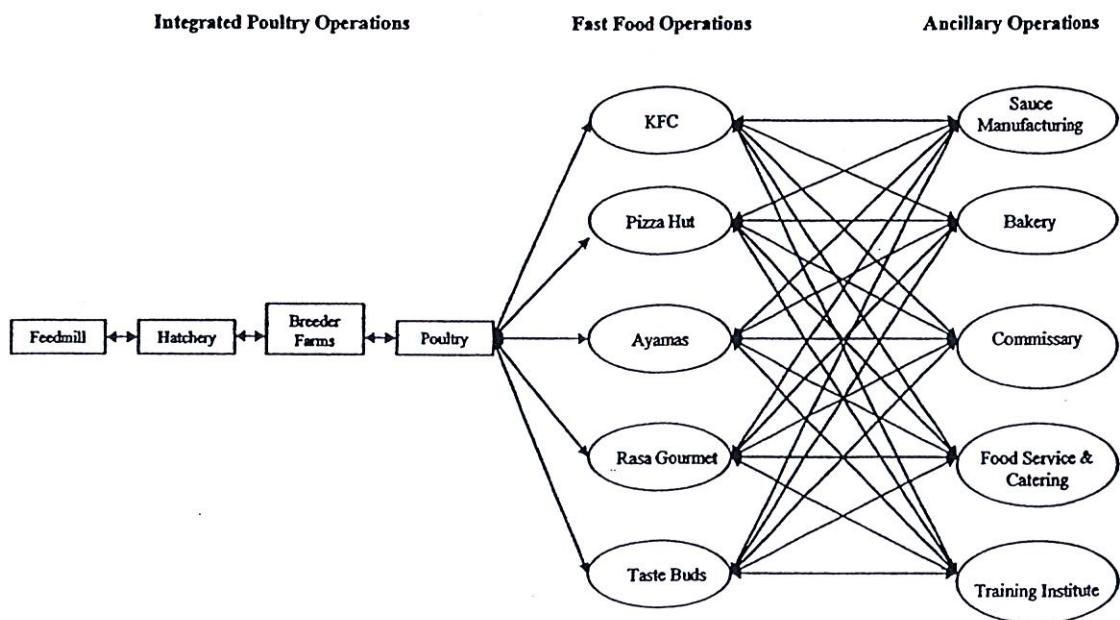
example, Goldspink & Kay 2004; Jalava 2003; Keane 1999; Keane et al. 1999). In KFCH, the Quality Control Group monitors the business operation in the production network in compliance with strict guidelines, where a consistent operating code administers every phase of the products. This applies to all of the production of business input in term of the use of sophisticated and high technology of process and/or equipment in hatchery, breeding, feedmills and poultry (Refer Figure 1). Proactive and constant feedback is maintained with the selling point to self-adjust the production network. The operating code that organises the KFCH brand is an 'accept' and 'reject' merit, where certain points are assigned to processes and/or procedures, and this will be accumulated to the end of a certain production line. When the accumulated point exceeds a certain threshold, the process or procedure is accepted and transferred to the next phase. On the other hand, when there is inadequate merit, the process or procedure is re-evaluated and an additional procedure is undertaken to ensure that it achieves the required expectation.

The differentiation of the KFCH product with from competitors is in its freshness and adaptation to the local cultural values. It is a local culture to consume chicken with chilli sauce, and the chicken itself is fried with local flavours, herbs and spices. The taste of chicken and other products are well accepted and the tremendous consumer acceptance may be seen in the minimum raw chicken requirement of 2 million birds a month. Indeed, the KFCH product brand refers to its chicken, sauce, pizza, bread, coleslaw and its services. Keane (1999) pointed out that the brand identity is circular and self-referring regardless of the variety of its manifestations. As shown in Figure 1, each aspect of the KFCH product refers to all other aspects of its own product to automatically define the product boundaries and protect itself from external competition and influence. Indeed, within this strict boundary, KFCH has delineated its own parameters from within and automatically rejected the influence of external threats and opportunities. After all, the KFCH name is synonymous with 'fried chicken and pizza' and the other ancillary products. These features indicate that KFCH products have an autopoietic identity.

Furthermore, the autopoietic characteristics of a closed circuit are shown by the self-defined boundaries of the KFCH products, as discussed in the above paragraph (see for example, Schmukler 2002; Zeleny 2001). The self-reproducing aspects of autopoiesis demonstrate living things (Zeleny 2001; Keane 1999; Jalava 2003). Indeed, KFCH's training institute, called the Food Institute of Malaysia, was established with the aim to offer food-related courses to its employees. The institute will extend the knowledge and skills of KFCH's employees and critically discuss the business structure and process, and this represents a closed circuit.

Finally, the KFCH brand possesses a unique swiftness that is behind the state of general cultural progress (see for example Keane et al. 1999, p.527). The brand reflects human food consumption behaviour, particularly the Asian culture that consumes chicken as part of its main menu, and this culture's method of chicken preparation has been adopted by KFCH in its product preparation. The new products introduced by KFCH also take account of the local trends and cultural values. This facet of the KFCH brand is perhaps its most autopoietic.

**Figure 1: Business Structure of KFC Holdings (M) Bhd**



## 7.0. Conclusion

This paper has examined prior work on brand management and autopoiesis theory, and its application to business enterprise/brand management. Prior studies reveal that branding plays an important role in the success of a business enterprise. Consumers purchase a brand with the expectation that it will satisfy their needs, and business enterprises need to install the image and identity of their brand in order to satisfy consumers' needs. Brand management, however, is a process to establish brand differentiation or identity, where assets across the business enterprise value chain would be used to create a brand's competitive edge. To achieve this objective, an autopoietic system could be used to reshape the network or agents within the value chain, hence creating a brand identity and image. As a result, the business enterprise would not depend on outside input, and would supply their requirements internally. This would prepare the brand to compete globally and sustain its position in the fast changing global environment.

It has been shown that the KFCH brand has autopoietic characteristics, which need serious attention in future research. Although the concept of autopoietic brand management is new, it is worthwhile examining the KFCH product from the perspectives of the fast food industry and the developing market. As mentioned by Keane et al. (1999, p.521), an autopoietic brand's demand to consumers stems from the circular, self-enclosed nature of the brand identity, and perhaps only an autopoietically-managed brand can systematically enclose consumers in a totally controlled consumption experience.

**Note:** The data for this study was sourced for the subject's annual report for the year ended 2005.

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