

## CASE REPORT

# Designing for Quality and Innovation in FMCG: The Case of Chicki-Chunk

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### Abstract

*This paper analyses a case study of a decentralised product design and manufacturing process for replicable principles for duplication of the process by other product designers. This study consists of a literature review woven into an in-depth case study, with analysis. The study finds that the product design and manufacturing process that led to the success of the case under study is rooted in NPD, manufacturing, and innovation theory, and proposes replicable processes for further testing. The paper provides a survey and analysis of manufacturing design, product design, and innovation evaluation, integrated into a case study which identifies core concepts for replication.*

**Key words:** Product Quality, Product Innovation, New Product Development, Regionalisation, Fast Moving Consumer Goods.

## INTRODUCTION

UniGlocal Intertrade FZCO (UGI) is a general trading company based in Dubai, UAE, and founded in January, 2012. The company's flagship product is a retail brand of canned chicken called Chicki-Chunk. What follows is a case study and descriptive analysis of the Chicki-Chunk product development and manufacturing strategy (Yin, 2014), and an evaluation of the product's design against current research definitions of product quality and product innovation. This research highlights the benefits of specific NPD advantages in the performance of an NPD case in FMCG, including the first mover advantage, imitation versus innovation, ongoing product design, and long-term economic trends. The intent of this research is to provide a helpful evaluation of the application of NPD theory for use by other practitioners in new product development and product innovation.

### Opportunity

#### *Global Chicken and Tuna Industries*

The global chicken industry has skyrocketed in the last half century, from 7.5 million metric tonnes (MMT) in 1961 to 86 million (MMT) in 2012. The value of that trade has increased from USD \$169m in 1961 to USD \$16bn in 2009. The market

share of poultry relative to other meats has grown from 10% in 1961 to 33% in 2009, and to 35% in 2013 (Belova et al., 2012; Koopman and Laney, 2014; USDA, 2014).

More than 50% of the global poultry trade is from Brazil, China, and the US, with 38% of all consumption in the US alone. Canned chicken is roughly a USD \$450m industry in the US, though it has been traditionally limited to chicken in brine, and luncheon meat, and has only recently developed additional variants. Australian brands Heinz, Hydale, and Chop-Chop, have led the flavoured canned chicken development.

Canned chicken's closest retail category is canned tuna. The price of chicken raw material (RM) increased by 58% between 2007 and 2013, but during the same time, the price of canned tuna has increased by more than 95% (UNFAO, 2013). The rate of inflation in tuna pricing has been higher than the rate of inflation for chicken, making chicken a good long-term alternative to tuna. There are several mitigating influences on the inflation rate of tuna RM pricing: oil prices, overfishing, and cartels influence the cost of harvesting. Three companies account for more than 70% of the RM trade (Hamilton et al., 2011). The catch itself is under-regulated and over-fished (ISSF, 2013), and so stocks are also decreasing relative to global demand.

Long term strategy has been associated with organizational innovativeness (Cantista and Tylecote, 2008). A long term view of the tuna industry informed UGI's strategy. Tuna is not like chicken in that sustainability is managed by limiting the harvest rather than increasing production. Tuna is not farmed, whereas chicken production is relatively simple and scalable. In October of 2012, the price of chicken breast block was around USD \$2500/MT while tuna was approaching USD \$2200/MT. This narrow of a gap in RM pricing caught the attention of UGI's management. The possibility existed for chicken to overtake tuna as an affordable canned meat protein in the medium to long term, and thus the opportunity for a chicken-based product in the tuna dominated canned meat retail category was identified.

### **Manufacturing for Market Introduction Strategy**

There are three primary strategies for product design in relation to introduction to market: differentiation, low-cost, and rapid response (Nag et al., 2014). Differentiation emphasizes are those product design elements that set the product apart from other available products in the market. Low-cost is a design element that improves on manufacturing or logistics efficiency, or component cost in order to achieve cost leadership. Rapid response strategies emphasise improvements on manufacture-to-market times in the provision of products to market (Rugman and Collinson, 2012). The Chicki-Chunk strategy has been primarily differentiation based.

Product differentiation is the primary strategy for Chicki-Chunk. Other forms of canned chicken, such as Vienna sausages or chicken luncheon meat, already existed. Therefore premium chunk or shredded white chicken breast was chosen as a raw material. The RM was then marinated and cooked in sauces, thus binding the flavour to the meat itself. Rather than fresh or frozen, canned product is fully cooked and retort treated, like tuna, and thus could attain a two year shelf life. Storage lifespan is dramatically improved compared to fresh or frozen chicken, and end-user preparation time is eliminated as the product is ready to eat from the can. The initial design was aimed to resemble canned tuna in form factor, but as the RM is higher priced, the consumer was still unlikely to make a purchasing choice in favour of the product unless the value proposition was clearly defended.

Low-cost was a secondary strategy for Chicki-Chunk. The product meat content was restricted to 50-70% meat, depending on the sauce flavour and cut of the meat, in order to limit the cost. The choice to manufacture in Thailand was made due to relatively stable chicken prices over the last several years. The Thai RM market is more resilient to problems in the meat protein industry, such as those in the US in early 2014 (Hagen and O'Neill, 2014; O'Neill and Fasick, 2014).

Although rapid response has not been an overt tactic of UGI, Chicki-Chunk has a time-based competition strategy that has nearly eliminated the need for a rapid response strategy. Alliances between UGI and two of the largest manufacturers of canned chicken worldwide were sought to provide Chicki-Chunk an eighteen month lead time in the MENA region,

ahead of any potential competitors. For ease of manufacturing, a mass production approach with limited variants and product sizes would be preferred (Radder and Louw, 1999), but such standardization distances the product from their market-specific tastes. Likewise, a range of customized products for each market is highly inefficient. Balance between customization and mass production is needed in order to provide market pull products in a market push category (Yang and Li, 2002). To achieve this, the product was arranged into two manufacturing cores (Kamrani et al., 2012), cooked shredded chicken and cooked chunk chicken, as core items. Stocking these cores is not feasible for food quality reasons, thus the cores must proceed directly to customization.

### **Product Design for Market Introduction Strategy**

Chicki-Chunk was initially a heavy technology push product. The manufacturing capability was developed before the market was aware of the potential for the product to exist. Though Chicki-Chunk may be considered a market push product due to the degree of its differentiation strategy, certain specifically designed Chicki-Chunk products created market pull balance through core based manufacturing.

Market pull products are nearly always more successful than market push. In emerging industries in Europe, however, products originating with market pull have had to balance their strategies with technology push advances in order to meet demand, while products that have originated with technology push advancements have shifted to market pull strategies due to new partnerships or market feedback (Lubik et al., 2013). Thus balance between the two opening gambits helps lead to success. Some Chicki-Chunk variants were specifically designed to replicate highly demanded local chicken based recipes in key markets. They represent convenient formats of products already in demand. For example, Shawarma, Kebab, Biryani, and Zigny are all specialised 'pull' products. Keys to success in these products' designs are highly localised flavours and highly localised product names. Included in the quality definition of the product is its degree of accurate replication of a widely known local food item, in a new convenient format that requires no refrigerated storage or preparation time. Zigny, for example, is very specific to Ethiopia, and based on an Ethiopian blend of spices called *berbere*.

The gap between the product's flavour as compared to a freshly made local dish may be considered as a replication gap. In this case, the added value of convenience in terms of format, shelf life, preparation time, price, and storage, must compensate to the consumer for any perceived sacrifice in flavour quality due to the product's format, in order to create value. Ideally, there would be no perceived sacrifice in flavour quality, and thus all of the value added traits of the product would be considered elevations of the local dish's potential as a convenience food item.

Thus Chicki-Chunk was designed as a balanced market push product with market pull oriented variants in line with a robust design approach to NPD (Silberzahn and Midler, 2008). The tuna tin form factor aimed to give the consumer a familiar



Figure 1: UGI's Geocentric Operations Design

format for interacting with a new differentiated kind of canned meat product. Chicken RM was used as a pre-emptive move in response to long term global trends in chicken and tuna RM pricing.

### Manufacturing Structure Design

Global manufacturing is driven by, "pursuits of markets, resources, strategic assets, and efficiencies" (Zhang et al., 2007). Manufacturing a new category of product requires an entire line set-up, warehousing, accreditations, and a considerable amount of front-end investment. UGI lacked these resources. The investment risk factors also include a lack of established market into which the Chicki-Chunk product was going to be introduced. Without an established market, huge investment in marketing was inevitable; therefore UGI's likelihood of profiting from the manufacturing side of the product development would have been dramatically muted. The set-up process would have also radically delayed introduction to market, compromising marketing efforts. Therefore it was not feasible for UGI to manufacture Chicki-Chunk alone.

Present research indicates that global engineering networks often reach out for localised expertise (Eppinger and Chitkara, 2006; Karandikar and Nidamarthi, 2006), however, UGI overcame its resource and expertise deficit by combining a strategic alliance view of MNE within a global engineering network (GEN) with partner companies (Rugman and Collinson, 2012; Zhang et al., 2007). In this way, UGI shares profit potential with manufacturers and distributors in exchange for reduced risk on owned infrastructure and increased competencies in core operations. UGI benefits from local knowledge and expertise in manufacturing and distribution, while giving the company global access to the best centers of that knowledge by utilising de-centralised operations and effective communication (Leenders et al., 2003).

UGI holds a geocentric predisposition toward multinational business and a regiocentric view of initial market building (Rugman and Collinson, 2012). This allows UGI to look at

global opportunities for raw materials trade and manufacturing, discussed above, while taking a regional and local view of product development. Thai Union Manufacturing (TUM) was chosen as UGI's primary manufacturing partner. TUM had the capital needed to invest in a value added plant for chicken products, and UGI approached them at the right time to partner with them to build demand for its capacity. Expertise-driven alliances have positioned UGI as an effectiveness over efficiency focussed GEN (Zhang et al., 2007).

Supplier relations are a critical component of competitive advantage (Cantista and Tylecote, 2008; Chen et al., 2004; Spekman and Carraway, 2006). During a product development session at TUM in April 2013, the Sales and Marketing Director for UGI's Saudi Arabian distribution partner was in attendance at the factory. The KSA representative has unique expert knowledge of the Saudi market's tastes and preferences, while the TUM representative has similar expertise in TUM's manufacturing capabilities and the regional availability of raw materials. This helps UGI to manufacture products in Thailand for KSA as a local market, and to integrate the supply chain under UGI's management, without bearing the associated set-up cost for the infrastructure, or even holding those local expertise in-house. This is exemplary of an integrated GEN (Zhang et al., 2007).

With a view to the North and South American markets, and the associated costs of raw materials and logistics, UGI has begun to develop a manufacturing partner for Chicki-Chunk in the US as well. UGI has visited the plant twice already. Three flavours have been developed and are ready for market, though the first order has not yet been placed, as distribution partners in the Americas have not yet been identified.

Thus UGI has offset the initial investment costs and ongoing risks associated with manufacturing and distribution set-up by linking together expertise in already established companies. This has enabled Chicki-Chunk to grow much faster than would be expected if manufacturing set-up and distribution were maintained under UGI's operations. UGI functions as a supply chain manager and product developer in its operations.

This manufacturing design follows the framework for GENs as discussed above. (Zhang, et al., 2007) framework predicts that the product outcome of a semi integrated-effective GEN (GEN III), is a luxury product. Indeed as anticipated in GEN theory, Chicki-Chunk is a premium product, as shown below (Zhang, et al., 2007). However, it should also be noted that social governance of this kind of GEN is demand dependant. As long as demand remains strong, social capital is generally enough to manage a network of this kind. When demand is uncertain, then these kinds of socially governed GENs can devolve, and should be protected by more formal contracts (Carey and Lawson, 2011).

### Product Design for Quality

New manufacturing processes or possibilities in product design do not necessarily indicate that the product will be of sufficient quality to survive in the marketplace. "Production strategies do not begin with manufacturing ... production strategy begins with new product development" (Rugman and Collinson, 2012). The definition of quality in NPD must be intentional, specific, and market contextual. In general, product quality can be defined according to the following four parameters and nine sub-dimensions (Nag, 2011):

1. Design Characteristics
  - a. Performance – whether the product behaves as expected.
  - b. Aesthetics – appearance and other subjective qualities.
  - c. Safety – risk of injury avoidance.
  - d. Perceived Quality – the value proposition as interpreted by the consumer.
2. Conformance of the Product to Design
  - a. Conformance – relationship between product design and consumer expectation.
  - b. Reliability – consistency of performance
3. Ease of Use
  - a. Convenience – the product's ease of use.
  - b. Response Characteristics – how well the product responds to the consumer's felt needs.
4. After Sales Service
  - a. Customer Service – support, delivery, and repair responses.

The product quality definition according to Nag's sub-sets can be mistaken as almost entirely consumer driven. However, Chicki-Chunk's root concept for market introduction is a high differentiation strategy, as outlined above, which necessitates managing the evaluation of Nag's sets of input prior to the product's introduction to market, and ideally, prior to the first run of production. The more innovative a product design is, the more effort is required to evaluate its quality prior to initial consumer response. This reduces costs of re-engineering.

The four design characteristics: performance, aesthetics, safety, and perceived quality were all measured prior to the first production run of Chicki-Chunk. As a canned chicken product, its performance was measured in the test-run of product according to its conformity to ISO and HACCP

standards. The standards verifications, including halal certification, were upheld by independent testing during initial product registration in one of the key first markets, the UAE.

Safety is built into the manufacturing process, for example, in the form of washing of tins and metal detection to eliminate any foreign materials from the product. This helps to eliminate potential hazards from reaching the end consumer. Additionally, though it was not required in many of the initial launch markets, the decision was made to shift to non-BPA lacquer for the inside of the tins, to avoid any possible health concerns by the consumer later on. Aesthetics were evaluated subjectively by the product design department, and some limited internal tasting among staff in the company. This was conducted in the UAE, Yemen, and Thailand, to ensure a good blend of observations. Design elements like UV-varnish labels and lithographic printed cans were chosen to reflect the product's intended premium standing in the market.

Perceived quality was an inherent struggle from the beginning. Canned food has traditionally suffered from a predisposition toward being viewed as unhealthy. Market perceptions of canned goods have been that in order for them to last until their expiry date, an unhealthy amount of preservatives is needed (PR News, 1999). In spite of a major campaign in 1998 to boost consumer perceptions of canned goods, a 2011 US study found that 60% of consumers believed canned food to be less nutritious than fresh food (Prepared Foods, 2011). This perception is technically unfounded according to researchers (Kapica and Weiss, 2012), however, this perception was managed in the Chicki-Chunk design by restricting it to a no preservatives process, and a non-GMO raw material. This was done to compensate for consumer misperception of quality in canned goods.

Conformance is measured by weight, the observable quality of the tin, and by sampling after production. After filling, the tins are weighed just prior to seaming. The product is also inspected ten days after the retort process for any abnormal pressurization of the tin. Ultimately, conformance is established by independent testing. Conformance to consumer expectation is a difficult quality to gauge in the design process prior to consumer feedback, and this is especially true of a new category of product. In the marketing research conducted prior to market launch, 90% of consumers expected that the tin contained tuna meat (Zareef, 2014). Therefore a conformance challenge was inherent in the product design. Once the consumer interacted with the product, they found that it was of higher quality than their expectations of tuna, and thus the conformance gap became a positive indication of product innovativeness. UGI began to pay attention to this conformance gap with a new set of eyes toward measuring initial consumer reaction to product innovativeness.

The response characteristics of Chicki-Chunk were paramount in the product design phase. When designing for ease of use, the form factor of tin cans was a quick choice. The product is pre-cooked, and so requires no preparation time by the consumer. In addition, there is no associated cost for cooking or cold storage by the end user. The product is shelf



Figure 2: 85g Tin Label

stable at ambient temperatures for two years. Adding the easy-open tin lids allowed Chicki-Chunk to reach an open-and-eat quality of ready meals.

Response characteristics, the ability of the product to satisfy the felt needs of the consumer, were harder to design for. Initial concerns in the pre-market study revealed that this kind of product might be perceived as poor quality simply because it is canned (46%), that it might contain preservatives (17%), that the idea was too strange (15%), that the canning of chicken might negatively alter the taste of the chicken itself (13%), or that the product might be unhealthy (10%) (Zareef, 2014). The product was designed with these concerns in mind.

Inverting these concerns into felt needs, this initial research indicated consumer desires for a no preservatives, familiar, tasty, and healthy product. Therefore premium non-GMO ingredients, with no preservatives, in local flavours, became key quality aspects in the product design. The challenge of the perception of canned food in general, as addressed above, is a more global category issue.

Of greater significance than response to customer complaints is the build-in of customer service to the product itself. In this area, the design of the product has been influenced by an agent-as-client view of the consumer, rather than an end user view of the product. The distribution agent's contact information is on the label, and it is assumed that end user support will be provided by the agent in each market.

See for example the label design for the Hot Chili product (160g) (Figure 2), with the contact information for the Saudi Arabian distribution agent. With the exception of the website located below the UGI logo, there is no invitation for the consumer to contact the brand owner directly to seek customer service. The lack of an invitation on the label for direct customer feedback to the brand owner is perhaps an oversight. In light of the marketing strategy, which includes social media such as Facebook, Twitter, and YouTube, the label oversight cannot be considered a compromise on the consumer driven design for quality in the Chicki-Chunk product. Customer direct information can be gathered from these knowledge harvesting tools in order to improve the cognitive capacity and consumer-centricity of the ongoing product development process (Nobre, 2010).

Overall, the design of Chicki-Chunk has taken into consideration all of Nag's four parameters and nine sub-dimensions of quality definition in product design. All of these elements are subjective and consumer driven. This is noted with the exception of customer service elements, which were developed with an agent-as-client view rather than a consumer driven view. Ultimately the quality definition must be validated by the regulatory agencies in the markets to which the product is introduced, and by the consumer through validation of the product's innovativeness, which we will review in the next two sections. Afterward, we will look at the feedback loop in ongoing product design to see how feedback from the market and the manufacturer is improving the quality of the product itself.

## EVALUATING THE DESIGN FOR INNOVATIVENESS

### Innovativeness

The Chicki-Chunk value proposition needed to be presented to consumers in markets where canned tuna is the closest relatable category. For initial launch, UGI looked to the MENA region, which is divided economically, and so in order to make the product feasible, it had to be an affordable price for the lower classes as a canned meat protein, and to the wealthy it had to meet expectations for quality in both flavour and convenience. This required regional market knowledge. An objective evaluation of the Chicki-Chunk strategy in terms of innovation can be made following the classifications for innovation research: Consumer Response, Organizations, Market Entry, Product, and Outcomes (Hauser et al., 2006). To this we will add ongoing product design as a measure of continuing innovation.

### Consumer Response

It has already been noted that cognitive capacity and customer-centricity will continue to grow in new MNEs in order for them to be effective (Nobre, 2010). Gathering consumer-direct feedback is therefore of increasing importance to NPDP processes. The consumer innovativeness indications on marketing research in the primary market of Saudi Arabia returned confidently, with convenience and practicality listed

as the top two positive feedback qualities. With  $n=175$  (78% Saudi, 22% Expat Arab) and 81% from the top two income tiers, the target market in the study was well achieved and the study can be considered representative of the KSA market in general (Zikmund et al., 2010). Although 95% of the respondents in the study had never seen the product concept before, 83% indicated that they would purchase the product (Zareef, 2014).

Reliability of the positive conformance gap initially identified in the product design phase above, was measured in terms of the initial reaction to the product in opposition to consumer expectations. 95% of those in the pre-launch market test had never seen a product like Chicki-Chunk before. 90% of respondents expected tuna upon their initial reaction, 80% liked the idea of chicken once they discovered it, and 83% said that they would purchase the product once they had tried it. Thus the conformance gap was positive as the product exceeded expectations. The reliability of that element of surprise is 95%, while the reliability of consumer purchase intent is 83%. 12% of those in the survey did not value the conformance gap. This is surprisingly low considering 46% of the respondents negatively associated canned food with product quality (Zareef, 2014).

That this feedback is from Saudi Arabia is especially informative as consumer innovativeness has been shown to be negatively associated with cultural ethnocentrism, favorable attitudes toward the past, and age (Steenkamp et al. 1999). The same study found that consumer innovativeness was lower in more “feminine” cultures, with lower individualism, and higher uncertainty avoidance (Hofstede, 2001). In two separate studies spanning two decades, Saudi Arabia has been shown to exemplify all of these traits: low individualism, low masculinity, and high uncertainty avoidance (Bjerke and Al-Meer, 1993; Cassell and Blake, 2012), evincing Saudi Arabians to be culturally averse to consumer innovativeness. This makes the purchase intention findings above much more compelling in terms of assessing Chicki-Chunk’s innovative effectiveness.

Nag’s product quality definition (above) includes customer service, which is both a company response and product quality aspect. Chicki-Chunk has had two significant customer service issues during the launch. In one case, a particular flavour was not moving in a particular market. The distributor was not pleased. In response, UGI bought back the remaining quantity and moved it to a market where the flavour was better accepted. In a second issue, the labels were falling off of some of the cans in a particular shipment. In this case, an investigation found that 11% of the cans had an issue, and UGI compensated the importer for the cost of repair in the warehouse. UGI also investigated the glue that was used in the manufacturing process and adjustments were made to ensure that the issue would not be repeated. These are both examples of company response, but again highlight UGI’s bias toward a view of the distribution agent as the customer, rather than the end user.

## Organizations

The second innovation category for evaluation is that of organizations. UniGlocal is a small-medium enterprise (SME). There is debate over whether the size of the organization has any influence on its innovativeness (Hauser et al., 2006), but what is upheld by research is the influences of environment, structure, and demography (Vincent et al., 2004). From an environmental standpoint, (Vincent et al., 2004) found that competition, turbulence, and urbanization were positively associated with innovativeness. Though Chicki-Chunk represents a new category, and so competition is not a motivator, turbulence and urbanization are both high in the MENA region, and may have contributed to the innovativeness of UniGlocal.

The structure of UGI is high in clan culture, complexity, inter-functional co-ordination, and specialization, all of which are contributors to innovativeness in organizations. Specifically the clan culture and inter-functional co-ordination between employees and departments is very high. There is organizational commitment to employee inclusion and inter-departmental communication. Managerial experience with and openness to innovation is one of the strongest indicators of successful innovation, and both are high in the leadership of UniGlocal (Vincent et al., 2004).

From the demographic aspect, older organizations are typically less innovative, and UniGlocal was less than one year old at the inception of Chicki-Chunk. Though the research shows that management tenure does not correlate with innovativeness, management professionalism and education certainly do (Vincent et al., 2004). The two managers at UniGlocal at the inception of Chicki-Chunk held university degrees in business, leadership, and history, to a post-doctorate level.

SMEs like UniGlocal have strategic challenges that larger competitors do not necessarily face:

1. SMEs need to be part of the supply chain revolution to remain competitive;
2. SMEs need guidance in the formal process of strategic planning and those that are incapable of preparing strategic plans are unlikely to be successful in the supply chain;
3. SMEs need to focus on a small number of activities and excel in one carefully defined capability and retain merely adequate capabilities in other requirements;
4. SMEs have fewer resources and can afford fewer mistakes – Decision-making capabilities are therefore more critical in SMEs than in large companies; and
5. SMEs must reassess their competitive positions and those of their supply chains on a regular basis and position themselves to respond rapidly to changing conditions (Lim et al., 2006)

These challenges are especially true of SMEs that are multi-national in scope. With UniGlocal based in Dubai, the first orders of Chicki-Chunk were produced in Thailand and shipped to Saudi Arabia and Yemen, Chicki-Chunk has been a born-global brand. Initial research for manufacturing was done in



**Figure 3: The Chicki-Chunk Activity Map**

Thailand. Within the TUM group, the relatively new chicken production line is a highly, “active network player,” characterised by high flows of innovation, extensive communication, and a high flow of visitors to and from the plant (Vereecke et al., 2006). This energy and enthusiasm attracted UniGlocal as a partner organization. TUM also led on price and turnaround time for research and development samples. TUM won Chicki-Chunk on their response and cost-leadership strategies (Nag et al., 2014).

TUM was not the only manufacturer being developed by UniGlocal. Due to a long standing ban on Thai chicken in Saudi Arabia, UniGlocal pursued an American manufacturer as well. A second supply was needed to mitigate against potential supply chain weaknesses due to having only one supplier, against whom there was a known ban in MENA’s key market. After several months of negotiations mediated by UniGlocal between the Saudi Food and Drug Administration and the Thailand Department of Livestock Development, the ban was finally amended, and Chicki-Chunk was re-registered with the SFDA on 29 April, 2014.

UniGlocal’s operations are internally multi-national as well. The Managing Director, finance department, logistics, and design are all housed in a back-office in Yemen to keep costs low. The General Manager, Business Development Director, documentation office, and administration, are located in the Dubai office in order to benefit from a global HR pool.

### **Market Entry**

In the food industry, there are few technological advances that follow the traditional stylised S-curve model of innovation (Rogers, 1983). Typically, a new technology will be introduced as the merits of a previous technology begin to wane (Utterback, 1994). In FMCG, innovations can take hold and

remain for decades without change or improvement, such as easy-open can lids.

The technologies used in Chicki-Chunk were state of the art for the canning industry. Retort heat treatment was adapted from tuna canning to chicken canning. Chicken shredding and chopping machines were used to produce consistency in the product. The packaging started with only UV varnish (high-gloss) labels, but was soon upgraded to lithographic printed cans and BPA-free can lacquering, with labels differentiating between flavours. These were adaptations from the tuna industry.

The quality differentiation strategy of Chicki-Chunk is regionally strong and globally competitive. In terms of its differentiation from other available products in the MENA region, Chicki-Chunk is highly unique. Premium canned chicken is a new category in the market. The activity map of the Chicki-Chunk strategy is depicted in (Figure 3) (Nag, 2011), consisting of the following elements:

1. Regional Flavours
  - a. Biryani
  - b. Shawarma
  - c. Shatta
2. Premium Packaging
  - a. Differentiation from Tuna (24/ctn vs. 48/ctn)
  - b. Lithographic Printed cans
  - c. UV varnish labels
  - d. Easy-open tin
3. Practical Consumer Benefits
  - a. No freezer / chiller required (ambient storage)
  - b. No cooking required

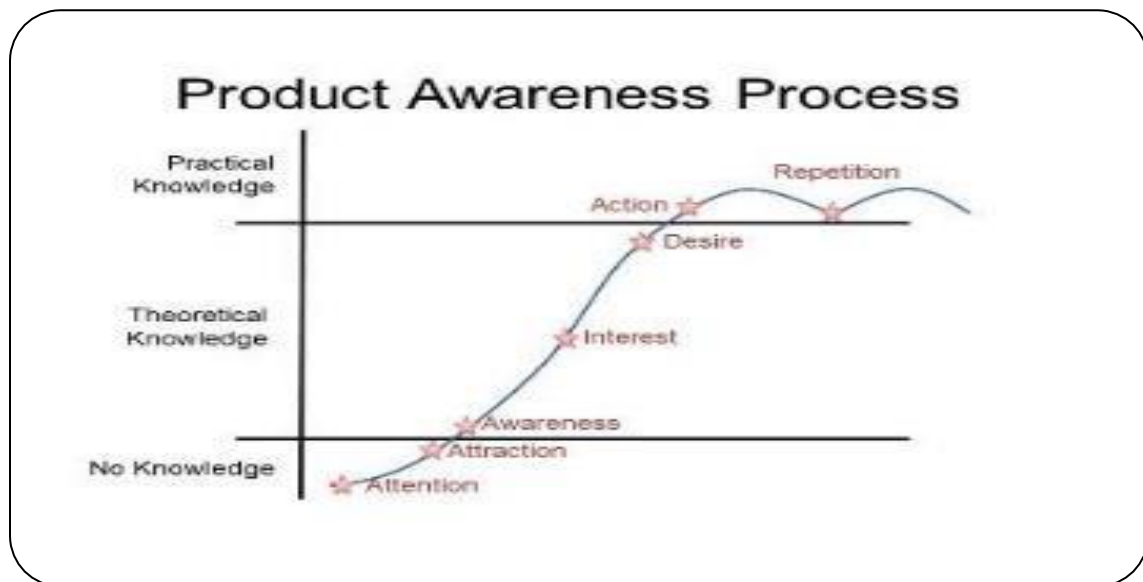


Figure 4: Product Awareness Process

#### 4. Distribution Partners

- a. One per country – no competition between distributors
- b. Focus on 1) KSA / UAE, 2) GCC, 3) MENA, 4) EU / Russia

#### 5. Cost Competitive

- a. Not tuna
- b. Standardised recipes
- c. Developing new potential manufacturers

A cost-leadership strategy involves a product of equal quality to comparative products leading on price. Since the Chicki-Chunk differentiation strategy was so strong, a cost-leadership strategy was not necessary. As there were no competitors, price comparison to similar products in the same category was not even possible. However, the closest category to canned chicken in the MENA market was canned tuna, and some comparison to tuna pricing was inevitable, as addressed above and indicated in the Saudi market study. The strategy had to address both the differentiation of chicken from tuna, and the fact that chicken was more expensive.

The product was positioned within the upper range of the tuna pricing spectrum. With the cheapest similar packaging of tuna in the market at around 5.5AED and the most expensive at around 13 AED, a shelf price of 12 AED became the initial target in the UAE. Chicki-Chunk was kept within the tuna range of prices despite the higher cost of raw materials for chicken over tuna (by more than 120% as of May, 2014). This was the extent of any cost-leadership strategy.

Chicki-Chunk represents a new category in the market, premium canned chicken, and thus benefits from a number of strategic advantages, such as the first mover advantage, and monopoly. However, since it is not developed based on

consumer demand, it relies on a push strategy for marketing, which requires a high degree of consumer education. The entry of Chicki-Chunk into the market was supply driven rather than demand driven (Hauser et al., 2006). The most successful of UniGlocal's 'push' strategies has been product sampling below the line (BTL). This leads consumers through the initiation and education process very quickly, offering the option of a purchase decision at the end of the interaction. An adaptation of the AIDA purchase funnel (Attention, Interest, Desire, Action; cf. Russell, 1921) is shown in (Figure 4) for reference.

The sampling concept is designed to bring the consumer through the entire product awareness process as quickly as possible with a purchase option at the end. This may be considered as the process of creating the, "Chicki-Chunk Neuron." As canned chicken is a new concept in MENA markets, and all marketing is push-based rather than pull-based, Attention and Awareness are important modifications to the AIDA model. Attention is the initial capture of a sense or set of senses. In the case of Chicki-Chunk, this is achieved through the colour palette of the advertising, the wings on the can in the artwork, and the costume of the sampling agent. Attraction is defined as the movement (change of direction) of the consumer toward the product interface. It reflects the consumer's initial commitment to satisfy curiosity. Awareness is the initial interaction with theoretical knowledge of the product. In this case, it is the moment a consumer moves from zero knowledge of canned ready-meal chicken, to acceptance that canned chicken exists. The initial curiosity is satisfied. Awareness must be attached to the brand at this stage, in order to leverage the first-mover advantage, and program the neuron to permanently associate all canned chicken with Chicki-Chunk.

After the neuron is created, then Interest is built through theoretical knowledge, leading to Desire for experiential



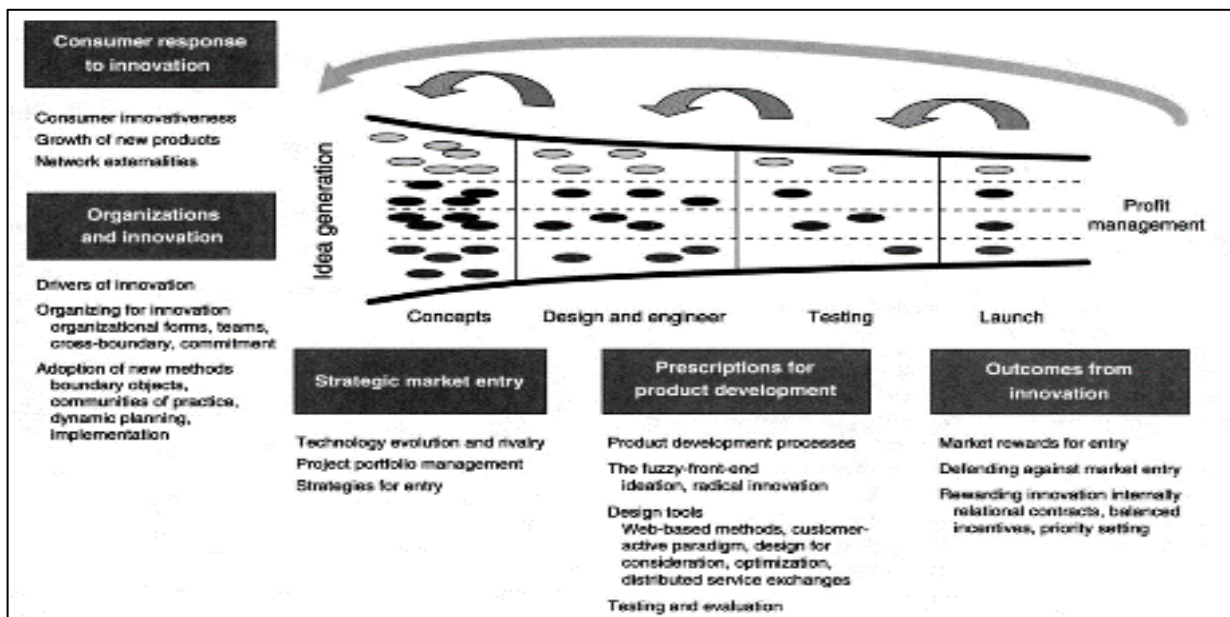


Figure 5: Product Development Process

knowledge. It is important that once the consumer desires experiential knowledge, the opportunity is provided for instant gratification as Action, in this case, in the form of a taste-test. From that point, the neuron has been defined theoretically, and with the weight of all five human senses, inextricably attached to the first-mover brand. Chicki-Chunk becomes the category in the mind of the consumer, rather than just a brand option. This is a strong long-term benefit of a well stewarded first-mover advantage, which will be addressed more below.

The market entry strategy for Chicki-Chunk has not been consumer driven. Rather, it was driven by the supply of an innovative product, and the conviction of UGI leadership that consumer education to desire that product could be achieved. It is achieved through careful execution of a product awareness process that defines a canned chicken category neuron under the brand name of the first mover.

### Product

Following Nag's outline for the drivers of globalization, Chicki-Chunk was designed from inception to take advantage of the globalization of supply chain, marketing, and operations management (Nag, 2011). To keep supply chain costs low, Thailand was chosen for manufacturing due to its low cost of labour, lower cost of chicken relative to the global market, and ease of logistics. The MENA regional market provides many options for frozen, chilled, and fresh chicken retail product. However, all of these products have very limited shelf-life, especially fresh product. Chilled and frozen chicken requires the output of energy costs to maintain low temperatures in transit to retail, and also in the home during storage. Likewise, for all of these products, extended output of time, effort, and energy are required by the end user in order to make the chicken edible. Chicki-Chunk solves these issues by creating a

fully cooked product that has a two year shelf life at ambient temperature. The product development end to end process is well described and depicted in (Figure 5) (Hauser et al., 2006).

The individual ovals represent product ideas, the funnel guiding and paring them down until a set of launch-ready products is developed. More than fifty different flavours were given initial testing in the Chicki-Chunk development process. From those, approximately twenty were developed to second or third generation samples. The three flavours that made it to market first were Biryani, Italian Salad, and Mayonnaise.

Within the following year Shawarma, Hot Sauce, Sunflower Oil, Tomato and Onion, and Kebab were added. Due to market response Sunflower Oil was discontinued, and Kebab and Hot Sauce were given new generations of development (Zareef, 2014). The Chicki-Chunk line presently consists of Mayonnaise, Biryani, Italian Salad, Tomato and Onion, Shawarma, Shatta (hot pepper), Thai Chilli, Barbeque, Tikka, Kebab, and Brine. Additionally, pouches were considered along with cans. And can sizes of 100g, 142g, and 200g were considered and eventually rejected, in addition to the 85g and 160g that are the standard today. Since the product was relatively more expensive than its tuna counter-part, UniGlocal also decided to ship Chicki-Chunk in cartons of 24 cans rather than the tuna standard of 48 cans, in order to encourage the wholesale product to remain at a fast moving price point.

Chicki-Chunk's product development is characterised by a more spiralled than sequential process, having a number of feedback loops during development and even after launch. The product is never 'finished' as consumer and manufacturing feedback is being used to continuously improve product quality. Spiral development processes are keys to success in fast moving industries and in new "white space" categories (Hauser et al., 2006). Chicki-Chunk represents both.

The success of product development is said to rest on the management of the “fuzzy front end” of the process (Hauser et al., 2006). The initial decision to move on product development is based on a set of educated guesses regarding consumer needs and behaviour, biases, technological advances, and manufacturing capabilities. Clarifying the fuzziness ahead of the decision to move requires tremendous investment in R&D, though fast moving, low modularity, and low complexity products like Chicki-Chunk have the advantage of being relatively steerable even after launch.

### Outcomes

Outcomes are the rewards of innovation. They are monetary in terms of initial profit benefits, and positional in terms of reputation and patent or trademark rights offering varying degrees of defensible monopoly. Patents are not often practical in the FMCG industry, so monopoly for Chicki-Chunk was achieved by two other means: the first-mover advantage, and exclusivity with manufacturers.

The first-mover advantage has been a staple entry strategy for half a century (Bain, 1956), and became popular as the first law of marketing in the early 1990’s (Ries and Trout, 1993). Although the empirical value of this ‘law’ has been in debate since then (Boulding and Christen, 2003; Frawley and Fahy, 2005; Tellis and Golder, 2001), recent research has revealed measurable success factors for first-movers (Poletti, 2006). Poletti presents the keys to success in the first-mover strategy as follows:

1. Lead Time: the time the first mover has before the second and third movers enter the market.
2. Capacity: the ability to provide enough products to meet the demand.
3. Innovation: the ability to adapt the product to changing consumer demands.
4. Quality: the reputation of the first mover must be quality driven.

Poletti also found that increasingly in recent years, “R&D expenditures proved to be a strong indicator of first mover performance” (Poletti, 2006). Chicki-Chunk is a prime example of all of these success factors. Beginning with R&D investment, management in UniGlocal invested heavily in competence building and knowledge harvesting. During the research process, management visited factories in Thailand, USA, France, and studied others in Holland and Brazil.

The quality and capacity of Chicki-Chunk has been protected by the manufacturers chosen: primarily TUM. Thai Union is the largest tuna manufacturer in the world, and has massive capacity in chicken as well. The American manufacturer is the largest chicken canning factory in the world, and holds more than 60% of the US canned chicken market.

Continual innovation has also been key in Chicki-Chunk, as the packaging has evolved to include printed cans and an 85g, and 1kg format (in addition to the initial 160g size). The marketing has also evolved to include wings on the can to

differentiate it from tuna, and the product itself has evolved from three initial flavours to now eleven on offer with even more in R&D.

Perhaps the most critical success factor has been lead time, which in the MENA region has been protected by agreements with both Thai Union and Crider USA. The result of achieving exclusivity with large manufacturers of this type of product in the world has been a first mover lead-time of more than a year. From product introduction in February 2013, the second mover in the region was LULU Hypermarket’s in-house brand, which launched in late May, 2014 more than 14 months behind. Further, the LULU brand was manufactured by Thai Union through the UniGlocal exclusivity agreement, for which UniGlocal was paid a royalty. The third regional mover is National Food Industry Company (NFIC) in Saudi Arabia, whose order for their LUNA brand was placed also through UniGlocal in late 2014.

Defensive strategies to protect the first-mover advantage have been well developed in innovation research. Early theories have held up well over time, prescribing that incumbent market leaders under attack should decrease their prices, decrease investment in distribution, and decrease spending on awareness campaigns (Hauser and Shugan, 1983). Though profits overall will decrease due to a second challenger in the market, these reductions in spending as a response to a challenger’s entry are shown to mitigate the losses. Others suggest that the best defence is a good offence, i.e. increased innovation by product replacement and upgrading as the best defensive strategy for a market leader (Purohit, 1994).

Since segmentary profits can be high in the FMCG sector, new market entrants will benefit from imitation of Chicki-Chunk so long as UniGlocal is not investing in R&D. If UniGlocal’s investment in R&D is relaxed, then a competitor can take strategic advantage of this and leapfrog the product through new manufacturing which may produce a higher quality or cheaper product. In this scenario, UniGlocal would need to determine whether to innovate or imitate and change its strategy according to the R&D investment of its competitor (Ofek and Turut, 2008). For now, UniGlocal has a strong offensive (R&D) position, and its competitors are building their imitations through UniGlocal, who is capturing a share of its competitors’ profits. Such was UniGlocal’s management of lead time and innovation, that UniGlocal became the first, second, and third mover in the MENA region. This kind of defensive strategy helps UniGlocal to mitigate potential losses in profit due to competitors entering the market.

Careful investment was made into the success factors of the first mover advantage. However, Poletti’s (2006), success factors above are incomplete as they focus on demand driven products. Chicki-Chunk is an innovation driven product, and so consumer education as discussed above may be added to Poletti’s list of critical success factors in the market entry strategy. Additionally, continuing innovation in the form of ongoing product design may be added to Poletti’s success factors for evaluation.

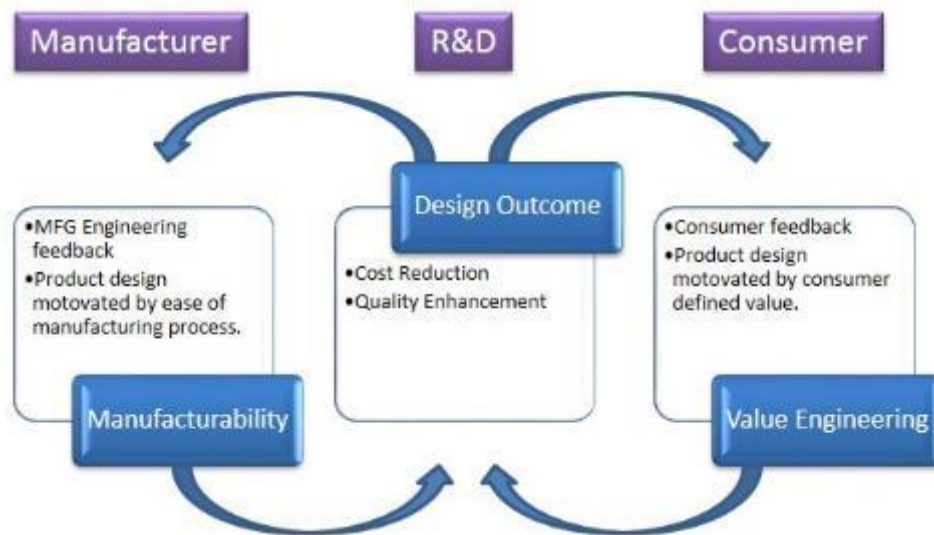


Figure 6: Knowledge Stewardship in Ongoing Product Design



Figure 7: Syrian product (L), UAE product (R)

### Ongoing Product Design

The R&D department is the hub of the firm's ongoing quality management. In this endeavour, the department maintains continuous improvement through the processes of collecting information from manufacturing and consumer inputs, making design shifts in response, and seeking feedback on the efficacy of design shifts again from manufacturing and consumer inputs. This continuous improvement process is known in Japanese manufacturing as *kaizen* (Rugman and Collinson, 2012), and its primary functions are knowledge stewardship and communication. A key to the success of any new product is the R&D department's, "realized absorptive capacity to transform acquired knowledge into NPD capabilities so as to enhance new product performance" (Kotabe and Jiang, 2010; Murray and Chao, 2005).

Nag highlights two feedback processes in product design: value engineering and manufacturability (Nag, 2011). These are variously described as product/service development, and process development (Rugman and Collinson, 2012), or, "developing the right product," and, "developing the product right" (Wang et al., 2012). The design outcomes of quality enhancement and cost reduction remain static for both

processes. Value engineering is a design adjustment based on external input from end-users. For example, the design may be simplified by removing qualities of the product that the consumer does not value, thus improving the consumer experience while reducing production cost. Manufacturability adjustments are based on internal feedback (Figure 6), from the manufacturing process, aimed at improving production efficiency without noticeable changes in quality from a consumer perspective.

Measurement of the effectiveness of a design change made by either of these processes may be achieved by assessing feedback from the opposite process. Only the consumer will be able to define a manufacturability adjustment in terms of its effect on consumer perceptions of quality. Likewise, a design adjustment motivated by consumer value can only be determined to have been true value engineering if the manufacturing process and/or the production cost of the product is determined to have been improved as assessed by manufacturing engineers.

Chicki-Chunk provides examples of both of these ongoing design processes. For example, (Figure 7) consumer feedback from the Syrian market determined that the lithographic printed

can was an unnecessary embellishment on the Chicki-Chunk product. The product perception was that of unaffordability, although the real difference in price between Chicki-Chunk and some tuna brands in the market was marginal. Nevertheless, for the Syrian market, the printed cans were sidelined in favour of standard cans, and the labels flipped in order to render the easy-open tab on the 'top' of the can with the label facing upward. This was a quality improvement in terms of consumer perception, by removing a product attribute that the consumer did not value. Yet the manufacturing process was improved as non-printed cans are slightly cheaper and have a shorter lead-time for supply. Neither the label nor the can change made any material difference in the manufacturing process. This is an example of value engineering.

The Biryani product was improved through design adjustments as well. The biryani spice mix for the first 18 months of the product had been sourced in Dubai, and sent as a mix to the factory in Thailand by airfreight, in order to produce the recipe. However, by breaking down the mix and finding local sources of the ingredients in Thailand, the supply chain was localised and the cost of manufacturing reduced. After four R&D adjustments, a recipe was determined that presented no noticeable difference in taste to the consumer. This is an example of a manufacturability based design change.

Both value engineering and manufacturability design improvements are ongoing processes at UGI. The key to implementing the design change effectively is to assess feedback from the opposite process in the knowledge stewardship processes of R&D. This ongoing feedback process may be considered an addendum for effective implementation of the Lean Product Development (LPD) model (Wang et al., 2012). Quality is improved when manufacturability and value engineering are balanced in the cost for design adjustment analysis.

### **Market and Industry Response**

This case study has revealed the NPD processes of UGI in the development of Chicki-Chunk, measuring it against key theory on product quality and product innovation, including comments on organizational and manufacturing strategy. NPD theory so far has upheld the quality and innovativeness of Chicki-Chunk as a product, and the effectiveness of UGI as an SME with a regiocentric view of NPD and globalised view of brand building. The results of the application of these NPD theories through the early launch of Chicki-Chunk have been validated by market expansion and industry recognition.

#### **Market Expansion**

UGI's robust design approach to NPD has created a market driven by the firm's own innovativeness (Silberzahn and Midler, 2008). The initial production of Chicki-Chunk took place only four months after concept. Subsequently, Chicki-Chunk was launched in KSA, Yemen, and Ghana in 2013 and in UAE, Syria, Iraq, Kuwait, Qatar, and Bahrain in 2014, in addition to adding two new private labels. The goals for 2015

include expansion outside of the MENA region into Russia, the EU, and the Americas. For this reason, Chicki-Chunk acquired EU import approvals in 2014, and is in the process of acquiring import registration in Russia as well.

#### **Industry Recognition**

Industry promotions for Chicki-Chunk were limited to exhibitions in the first two years. Gulfood Dubai in February 2013 was a soft launch for Chicki-Chunk as it was only one of the product lines belonging to UniGlocal, and its market effectiveness was not yet tested. By Gulfood Dubai the following year, Chicki-Chunk had a major presence at the expo, with its own two-storey stand, and a strong marketing presence.

Gulfood 2014 shortlisted Chicki-Chunk as a finalist for the Best New Halal food Award. Although the award was given to another product, the recognition of Chicki-Chunk's halal quality helped to drive the product's acceptance among FMCG distributors in the MENA region. During the SIAL Paris FMCG exhibition in October, 2014, Chicki-Chunk was named a SIAL Innovation Selection, due to the packaging, flavours, and ease of use. This recognition has helped to drive the product's rapid expansion.

### **CONCLUSION**

Organizational innovativeness has been shown to be higher in companies that take a longer than 5-year view of strategy, and which maintain close relationships with clients and suppliers (Cantista and Tylecote, 2008). Overall, the Chicki-Chunk strategy is characterised by leadership that has been willing to take short-term risks for long-term gains. The risks are mitigated by long-term industry trend knowledge, focused innovation, and by close relationships with manufacturing and distribution partners. A commitment to continuous improvement and fast feedback spiralling development has allowed UniGlocal to establish Chicki-Chunk as the premiere brand of canned chicken in the MENA region. From the Chicki-Chunk strategy we may distil a set of key success factors for product development and marketing strategy that have contributed to the successful launch of Chicki-Chunk.

#### **Global Imitation with Regional Innovation**

(Ofek and Turut, 2008), asked whether it is best to imitate or to innovate. UniGlocal's response has been to reframe the answer as a both/and rather than an either/or proposition. Having borrowed global technological advances in canned chicken from Thailand and the USA, and category advancements by brands in Australia, UniGlocal created a product that could compete on both quality and price with global leaders.

However, the imitation was innovative in its pricing strategy against tuna, its region-specific flavours and packaging, and its comprehensive product awareness marketing strategy. UniGlocal avoided some of the front-end costs of innovation by drawing on others' experiences, but innovated the product to meet regional demands for pricing and product quality. This

has been achieved in total alignment with UniGlocal's vision: "to provide local consumers in our target markets access to the highest possible value for what they want, from the best of what global producers offer."

### **Offensive and Defensive First-Mover Strategy**

Opting again for a both/and approach, UniGlocal has pursued a strong offensive and defensive market position from the beginning, which has given them a monopoly on the canned chicken market as it is developing in the MENA region. Offensively, UniGlocal has minimised margins to achieve volume and enter the market at a price that potential competitors would find very challenging to match. Defensively, UniGlocal also achieved agreements with their manufacturer, effectively establishing a monopoly position which has forced the second and third movers in the market to share profits with UniGlocal. Having both a strong offensive and defensive strategy has helped UniGlocal to achieve its mission, "to provide local consumers in our target markets access to the highest possible value for what they want, from the best of what global producers offer," even though a part of that solution has been to provide those products using competitor brands.

### **Continuous Investment in R&D**

Maintenance of a strong offensive position has been achieved through continuous improvement of the product and marketing. Consistent investment in R&D has kept a spiral pattern in product development working with consistent feedback loops being fed back into product design. The result is a perpetually unfinished product, improving with minor adjustments from shipment to shipment, and focusing in scope with the deletion and addition of flavours. Furthermore, UniGlocal's investment in the ongoing development of manufacturers of MENA targeted products from Thailand and USA, reflects success in UniGlocal's expressed mission to, "move products from all over the world into our target markets."

### **Invest in long-term trends**

UniGlocal has made its capital investment decision not based on six month or one year trends, but ten year trends in chicken pricing and fifty year trends in poultry industry development. Future-focused forecasting at UniGlocal has a ten year view of the growth of chicken as an alternative meat protein against tuna, due to mitigating factors in both industries that indicate chicken as a more sustainable and more easily developed industry, in line with the fifty year rear view. It is the strategic position of UniGlocal that the present price gap between tuna and chicken is unsustainable, and chicken will eventually overtake tuna in terms of RM pricing (Booth, 2014).

### **Conflict of interest**

Authors have none to declare

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