

Disruptive Innovations applied: A review of the imaging industry

By Stefan Kohn

Over 30 years ago Steve Jasson a Kodak engineer invented in 1975 the first digital camera and by that started the disruptive transformation of his industry.¹

During this transformation Kodak who once had over 140.000 thousand employees end of the 60ies reduced it workforce to around 20.000 today² with shedding around 100.000 jobs since 1988 alone³. Other well-known imaging firms like AgfaPhoto went bankrupt or like Konica und Minolta ceased their imaging activities and concentrated on other fields⁴.

While the established imaging companies struggled with the disruptive invention of the digital camera other companies like Nokia – who today is the biggest maker of digital cameras since most mobile phones include a digital camera module – profited from this development.⁵

Another company that was and still is in the midst of this transformation is Fuji Photo Film, today Fujifilm. Fujifilm was founded in 1934 and soon became the number two imaging company behind Kodak with a strong market leadership in its home market in Japan. While Fujifilm and Kodak had a decade long rivalry in its imaging market their answers to the digitalization have been quite different. On the one hand Kodak focused on the digital imaging market by building one of the leading online photo services (Kodak Gallery), installing digital print kiosks on a global scale (Kodak Picture Kiosk), becoming one of the leading digital camera makers (Kodak easysshare), moving to the ink jet printer market (Kodacolor) and selling other businesses like the health business to finance the transition. On the other hand Fujifilm who offers also digital cameras and print services, but focused its spending otherwise. It started to venture in adjacent markets. This strategy also found its representation in the new name “Fujifilm” which leaves out the word “photo” and has been introduced with Fujifilm’s so-called “second foundation” in 2006.

One of the reasons for the divergent strategies might be the different self-conception of the two companies. While Kodak has always been a consumer brand with a strong technology base, Fujifilm was more a technology company with an above industry-average R&D spending which sold also into consumer markets. Because of this difference it seems logical that Kodak tried to fulfil the user needs of their customers based on the additional possibilities of the new digital imaging technology and Fujifilm in opposite tried to find new applications for their existing technologies. This change process has been named “second foundation”.

To execute the second foundation the top-management of Fujifilm in 2004 set up a mid-term management plan called Vision 75 targeting the next 5 years until Fujifilm’s 75th anniversary. In this plan several core growth fields haven been defined that should spearhead Fujifilm’s future development. The proclaimed fields have in common that they build on the technological competencies of Fujifilm. For making photo sensitive films and paper – Fuji Photo Film’s core products – Fujifilm had to build-up world-class material technologies, namely “functional

¹ www.kodak.com

² <http://www.coloradoan.com/article/20090325/NEWS01/100415015/Kodak-Colorado-Division-reducing-operations-in-Windsor>

³ <http://www.engadget.com/2005/09/11/after-inventing-first-digicam-kodak-still-recovering-from/>

⁴ http://de.wikipedia.org/wiki/Konica_Minolta

⁵ <http://en.wikipedia.org/wiki/Nokia>

compound molecular design, chemical reaction control and organic synthesis technologies”⁶. In order to realize the potentials existing in the broad technology base of Fujifilm a traditional innovation process has been utilized. Based on an in-depth analysis of the existing technological capabilities ideas for future growth fields and corresponding products & services have been identified and evaluated. Most promising candidates have been developed and launched. Two examples of the future growing fields will be given in the following.

One example is the area of wide-view films which are used to increase the viewing angle of flat-panel-displays. This product has been introduced in 1996 and helped to resolve the problem of LCD-displays that they could be seen only at a narrow-angle. Over the years Fujifilm managed to become a major supplier in the LCD market.

Similar to this innovation Fujifilm decided to look into other future growth markets and decided to research its possibilities in the area of “Life sciences”.

In this area Fujifilm could leverage its “Formulation, Targeting and Delivery” (FTD) technology together with its library of over 200.000 chemical compounds as well as synthesis and analysis technologies⁷ to identify products in the area of skin care as well as nutritional supplements.

Especially for the skin care products Fujifilm could benefit of its know-how in photo-film materials. Interestingly to note is the fact that the basic composition of human skin is quite similar to the one of a traditional photo-film. Both consist mainly of collagen and have similar thickness of about 20µm. Therefore Fuji could use its over 70 year know-how in dispersing molecules into collagen. Also Fujifilm has a long research history in controlling oxidation and free radicals as they are typically responsible for the aging and fading of photo prints, much the same way they cause accelerated skin aging. By looking at the combination of the existing know-how it seems logical to create anti-aging cosmetics.

Consequently Fujifilm developed the Astalift and Nanofilt series. While Astalift is the anti-aging cosmetics series with nine products from cleansing, liquid soap and lotion over whitening essence, cream and day protector to a beauty drink and a dietary supplement, Nanofilt has been positioned as basic skin care series with five different products. For the Astalift series Fujifilm highlights the benefits of Astaxanthin a natural substance extracted from algae.

Additionally Fujifilm launched two further dietary supplements, namely Oxybarrier and Metabarrier. While the first one is meant to increase the energy level of his user, Metabarrier is meant to help to loose weight by intensifying energy consumption.

The skincare series started as direct sales activity only available in Japan in 2006. Besides the new business perspective the skincare product range is also a tool for Fujifilm to stay in the minds of consumers in the Japanese core market. In the analogue imaging days Fujifilm has been a top of the mind brand. Over the digitalization and Fujifilm’s shift to other industries in a more business-to-business context this brand awareness declined. Interestingly Fujifilm is proactively showing consumers the correlation of the two different industries – its print and TV ads explain consumers the transfer of nanotechnology from the imaging field to the cosmetics sector. By that Fujifilm uses a completely different approach to established cosmetics companies who typically focus more on emotions than on technology. This approach shows the intended results.

According to the latest 2009 annual report the sales figures are growing significantly and distribution channels are being expanded.

Of course the venture in the health sector was not without any problems. Three main challenges existed: To acquire the necessary market know-how, to balance investments and to master the associated human resource challenges.

⁶ Fujifilm Annual Report 2009

⁷ Fujifilm Annual Report 2009

Although Fujifilm has a considerable knowledge in the health sector based on his long-term involvement in the medical imaging business it is quite a different business to develop and sell cosmetics and nutritional products. In order to acquire the necessary market know-how Fujifilm utilized two different strategies.

On the one hand side the shift towards the health care business was complemented by a major acquisition in 2008. In that year Fujifilm acquired the pharmaceutical company Toyama Chemical for approximately \$1,4 bn with the target to generate revenues of over 1 trillion Yen in around 10 years. This acquisition helped Fujifilm to acquire competencies in drug development, accreditation and sales.

On the other hand Fujifilm teamed up with another big player in the health sector and formed a strategic alliance with General Electric. According to this alliance “Fujifilm will develop, manufacture and supply advanced biomolecular imaging systems to GE Healthcare. The products will be sold worldwide under the GE brand in the life science research and drug discovery markets”⁸. In this business segment Fujifilm can concentrate on its core competencies namely to research & develop as well as to manufacture while GE is responsible for the sales part of the business.

Both strategies helped Fujifilm to acquire resp. gain access to the needed market know-how for its life science business and accelerate the monetarization of existing technological assets in new markets.

The balance between investments in the traditional imaging sector to skim revenue and profit potentials in this sunset market and investments in new and growing markets has been and still is one of the key challenges for Fujifilm.

Besides its moves into new business fields Fujifilm continued to drive innovation in its traditional imaging business. Here Fujifilm is focusing on expanding the life-span of its colour paper by creating additional new products like writeable paper for calendars on silver-halide photo paper, especially thin paper for photo books on real photo paper as well as a whole system for 3D imaging ranging from a 3D camera for capturing digital images in 3D, over a 3D photo frame as special 3D prints to display those images. These investments and innovations show that Fujifilm wants to continue the imaging business and uses innovations to differentiate in the market place.

Besides this investment decision the transformation from an imaging company towards a company with the rather broad vision to use technology in order “to help enhance the quality of life of people worldwide”⁹ has been a major challenge. In 2010 the once dominating imaging business contributed less than 16% to the overall revenue of Fujifilm¹⁰ and is this trend is continuing. Such a transition holds many challenges for a corporate organisation. As an example human resource should be highlighted. While Fujifilm managed to keep its number of employees nearly constant at around 75.000 for the last decade the internal shifts have been impressive. New skillsets for the new business had to build up, existing staff had to be shifted from declining to growing fields. In this context the Japanese management style of Fujifilm with regular job rotation after several years helped to ease the transition. Many of Fujifilm’s employees are used

⁸ Fujifilm Press Release 2009.

⁹ www.fujifilm.com

¹⁰ www.fujifilm.com

to change their assignment after a certain period of time and dive into sometimes completely new fields. Because of this flexibility the transition could be managed.

Overall this case shows how the disruptive innovation of the digital camera changed a major player in the imaging business. It shows how companies can leverage their technological assets in new markets in case they really concentrate on their key capabilities and use smart strategies to acquire the necessary market know-how otherwise.