GEA Farm Technologies:
Building Core Competencies through Internal and External Growth

Case study on Bachelor level

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Abstract

GEA Farm Technologies is a mid-sized world market leader of mechanical equipment and service solutions for milk production and livestock farming. The so-called hidden champion developed a set of capabilities and core competencies to innovate the industry's established business model through a two-fold strategy balancing internal and external growth. The case study invites students to explore the benefits and limits of this business model innovation and requires them to investigate further strategic options for growth.

Keywords

Growth strategy, core competence, core business, competitive advantage, business model, innovation, internationalization, mergers & acquisitions

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Integrated Case Method

The case researchers / writers have conducted primary research by collecting qualitative (interview managing director and marketing manager) and quantitative data from GEA Farm Technologies and developed a student-centred, problem-based teaching case study (see **Fig. I**).

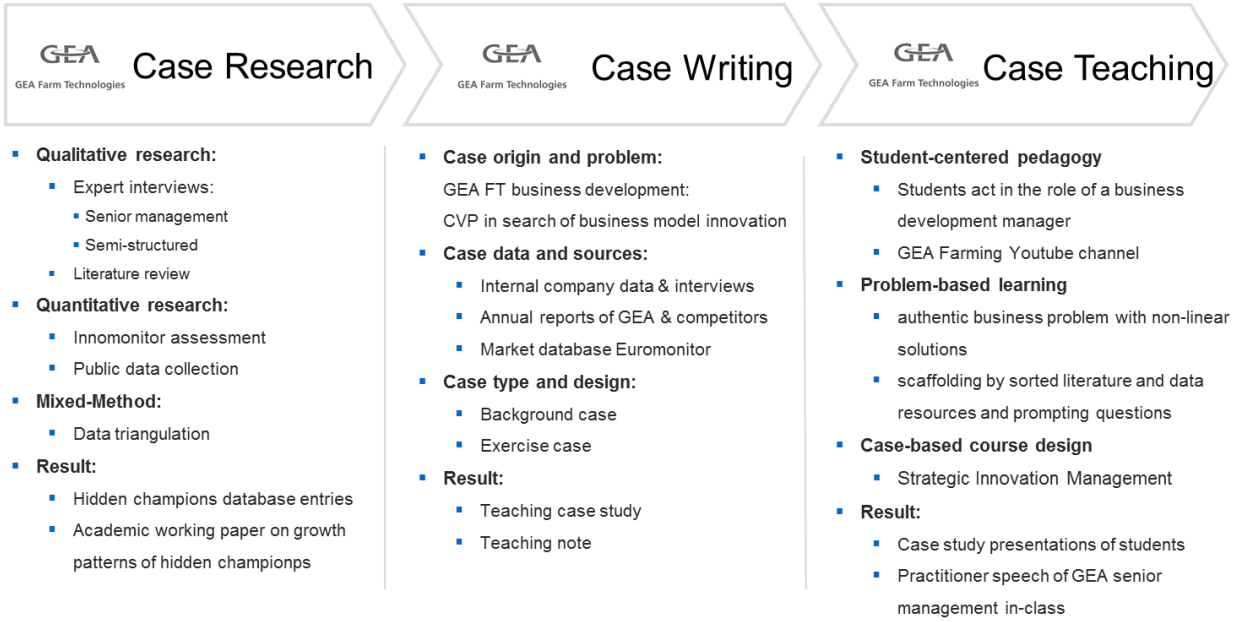

Fig. I Integrated Case Method GEA.

Disclaimer

Prof. Dr. Jan-Philipp Büchler, Prof. Dr. Axel Faix, Prof. Dr. Gregor Brüggelambert and Anna Weiland are the authors of this case study, which is intended solely for teaching purposes in management education at institutions of higher education. The case is designed to be used as the basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation.

The contents of the case study are carefully researched based on interviews with company representatives as well as publicly available primary and secondary sources. Nevertheless, mistakes cannot be fully eliminated. The publisher, editor and authors can assume neither legal responsibility nor any liability for incorrect information and its consequences.

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The case study at hand has been developed in cooperation with the company GEA Farm Technologies. All illustrations and trademark rights are – unless explicitly indicated otherwise – corporate property.

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GEA Farm Technologies: Hidden Champion from Westphalia

GEA Farm Technologies (FT) is a leading provider of mechanical equipment and service solutions for milk production and livestock farming, which enables farmers around the world to shape the future of their business in terms of sustainability and efficiency. The company, which is located in the rural area of Bönen (Westphalia, Germany), is a business segment of the GEA Group with business activities in over 60 countries. It employs more than 2,300 people worldwide at 22 manufacturing sites and 9 research centres. In addition, more than 2,200 sales consultants and 3,000 service technicians support all business operations of dairy farmers on-site and from a single source of supply and service - regardless of herd size or form of operation. GEA FT has divided its business activities into three business units (BU), which in turn have several areas of competence (see **Fig. 1**).

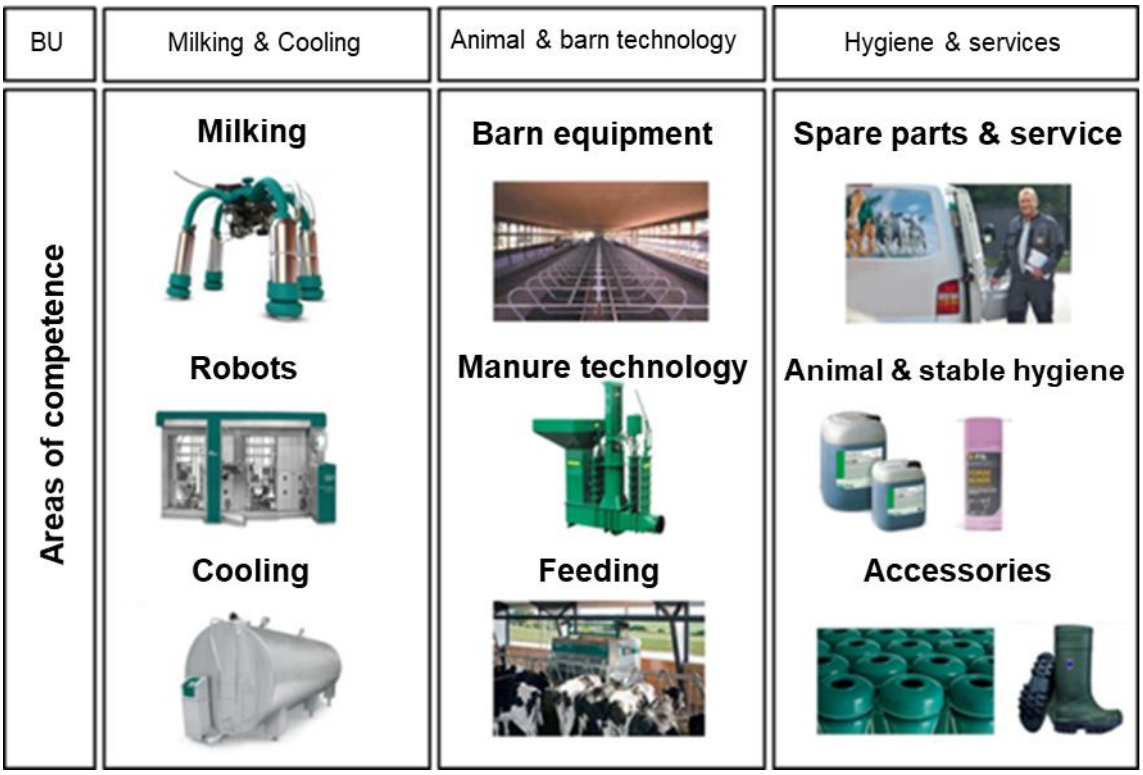

Fig. 1 Business units of GEA Farm Technologies (source: GEA).

The company differentiates three areas of competence, which are distinct by process technologies and cover all areas of application on a dairy farm. GEA FT has defined these fields of competence as part of its core strategy "*Total Solutions*". Based on extensive market research, the company has developed the "*Farm of the future*" concept. This concept covers twelve functional areas that address the key challenges of today´s dairy farming. In this process, such interdependent problem areas have been identified, which could be solved by

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an integrated process and technology management. Fig. 2 illustrates the problem areas for a future model farm.

The problem areas comprise resource management (energy, water, feed), waste management (manure), feeding management, milk production and quality management (including hygiene and care) and especially the optimisation of all interfaces through knowledge management, intelligent barn systems and efficient farm management. GEA FT was the first company in the industry to develop an integrated approach for the dairy industry, optimising interfaces through suitable process technologies, manufacturing equipment and service solutions.

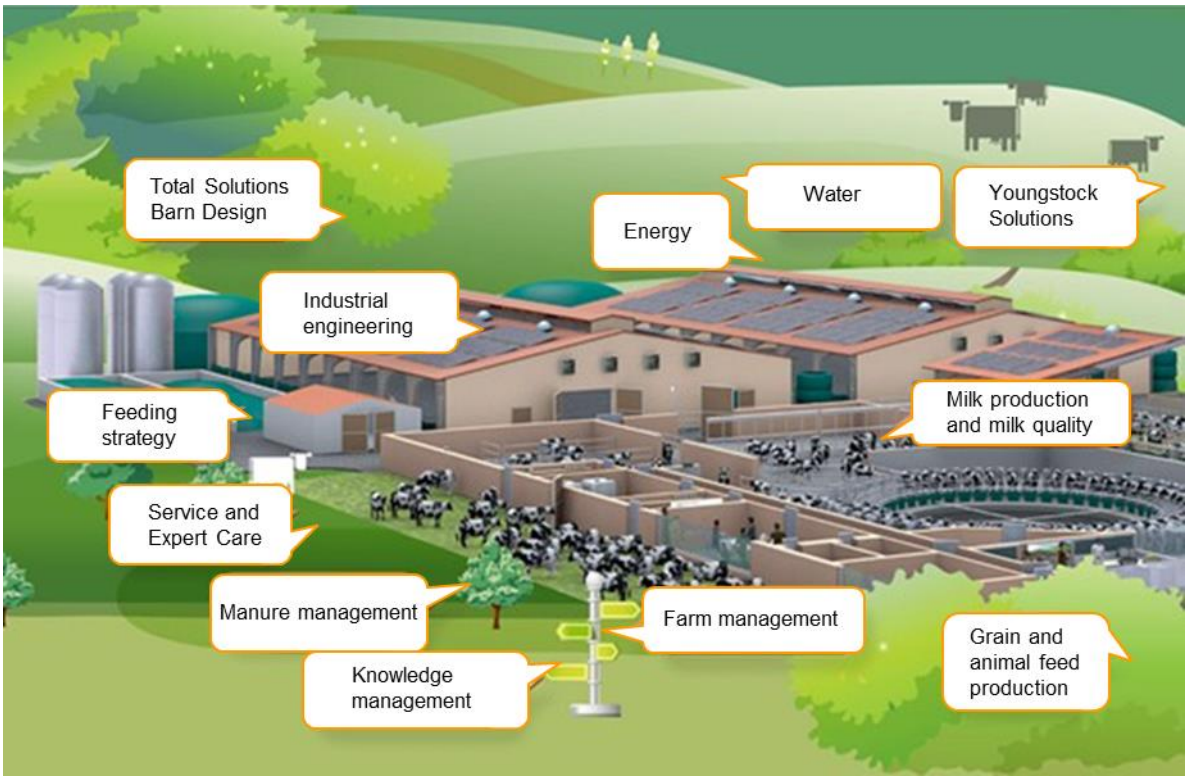

Fig. 2 Farm of the future (source: GEA).

GEA FT initially did not possess all the necessary technologies and competencies. They managed to build these areas of competence through experience and through acquisitions over more than a decade. Therefore, the strategy took a very long time for implementation.

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Group structure and company history

GEA Group AG is a publicly listed group (M-DAX) specialised in special machinery and plant engineering as well as in process engineering with customers in various end markets. The complex corporate structure, comprising more than 250 affiliated companies and corporations, has emerged in the course of the Group's history through numerous restructurings and has its roots in metal trading. Therefore, the company was renamed before the year 2000 as a metal company and in the period from 2000 to 2005 as mg technologies.

GEA Group AG, operating since 2006, employs more than 18,000 people and generated an order intake of 4,519.6 (4,627.9) million euros and sales of 4,515.7 (4,320.0) million euros in 2014 (2013). Furthermore, it made a net profit of 320.6 (336.4) million dollars.

GEA Farm Technologies has its origins in the medium-sized company "Westfalia Seperator" in Oelde in Westphalia, which was only integrated into the former "Metallgesellschaft" through acquisition in 1994. Westfalia Seperator has developed expertise in the procedure and process technology of separators for the mechanical clarification and separation of liquids for different customer industries, in particular the food industry, chemistry, pharmacy and biotechnology. The agricultural machinery division was spun-off in 1996 and became an independent company in the GEA Group of companies. Today, it is one of five business segments of GEA Farm Technologies (see **Fig. 3**).

Segments	Business units (BU)
GEA Farm Technologies	**Milk** Milking technology, animal hygiene, cooling technology, milking plant cleaning and accessories, barn equipment, manure technology and Farm Services
GEA Heat Exchangers	**Heat exchangers** Finned tube heat exchanger, manifold heat exchangers, plate heat exchangers, wet and dry cooling systems, systems of air conditioning and air treatment in buildings
GEA Mechanical Equipment	**Special components** Separators, decanters, membrane filters, homogenizers, pumps and valves
GEA Process Engineering	**Process technology** Construction and installation of food and beverage process lines, chemistry, pharma and cosmetics as well as gas purification equipment
GEA Refrigeration Technologies	**Freezing and refrigeration technology** Piston and screw compressors, freeze systems, chillers etc. as well as development, construction and maintenance of industrial refrigeration technology equipment

Fig. 3 Business segments of GEA Group (source: GEA).

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1.2 Business model development as a long-term process

The new strategy "*Total Solutions*" should offer an integrated range of services for all processes and production stages in a dairy farm. This full service and solution offer would require a range of services requiring several development steps over a long period. At first, GEA FT structured the agricultural value and process chain in dairy industry and the respectively required technologies and areas of competence accordingly (see **Fig. 4**).

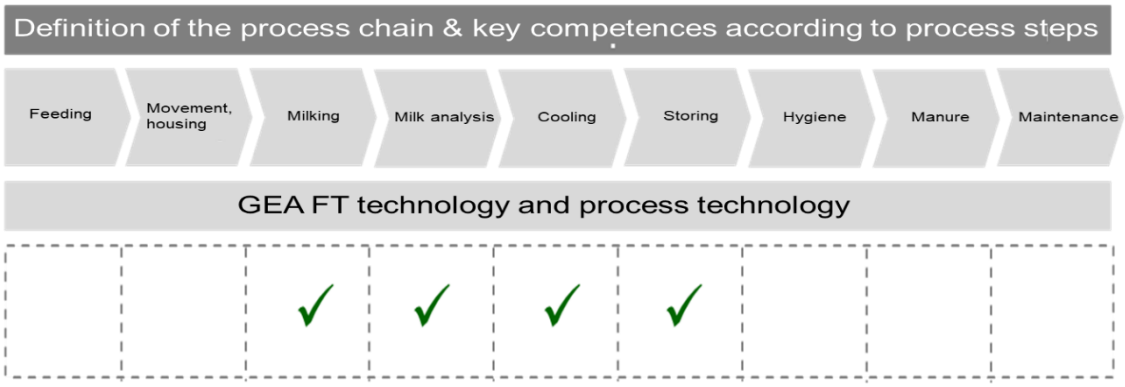

Fig. 4 Process chain and technologies according to production stages (source: GEA).

In the initial situation for the long-term portfolio strategy, GEA FT was in control of the process technologies regarding the previously defined core business of milking and cooling. In a first step, GEA FT systematically expanded existing technological competence in its core business from 1998 to 2000 and strengthened them through selective acquisitions in the international market environment (see **Fig. 5**). Thereby, no fundamentally new technologies or applications were acquired, but the geographic coverage was globally expanded. The focus was on the development of relevant foreign dairy markets such as USA and France through the acquisition of local or regional companies with strong market positions and an existing distribution network. During this time, GEA FT has already begun to push the automation of milking equipment.

2000	AGROB	Acquisiton AgroB, Kanada (plant and animal hygiene)
1999	ORION	Joint venture with Orion Ltd, Japan (No. 1 in the japanese market)
1999	SURGE	Acquisition Babson Brothers Inc., USA (Milking technology)
1998	JAPY	Acquisition Hugonnet S.A., France (Milk cooling technology)

Fig. 5 Acquisitions within core business "milking & cooling" (source: GEA).

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1.3 The automation of milking

GEA FT started early with the technological development for the automation of the milking process. The core arguments in favour of this were labour cost reductions for the dairy farms through reduced personnel management while still increasing quality through consistent treatment of the animals and improved hygiene standards. While conventional milking technology limits automation primarily to stimulation, milking, milk transport, removal and teat maintenance, GEA FT is perfecting the milking process with automatic milking systems (AMS) and fully automated milking parlours with an aim to replace the human factor completely. The milking routines are automated in its entirety as the cows are recognised individually at the fully automated milking parlour and the milking process can be adapted to the cow.

In doing so, continuous quality monitoring and analysis of the milk through an IT interface is achieved through a connected systems of the receiving dairy cooperatives, the food industry and the retail sector. Other techniques can be added in the milking parlour, for example, the feed mixture can be adapted to the composition of the milk. In addition, hygienic standards and medical examinations can be carried out easily and on a regular basis or diseases can be prevented, resulting in fewer milk losses and higher milk quality. In order for these advantages of milking systems to come into effect, the barn concept and herd management must be adjusted, which means that an integrated solution for the different process steps is heavily determined by the barn equipment. The more automation the agricultural business includes, the stronger the need for linking the various process steps (see **Fig. 6**).

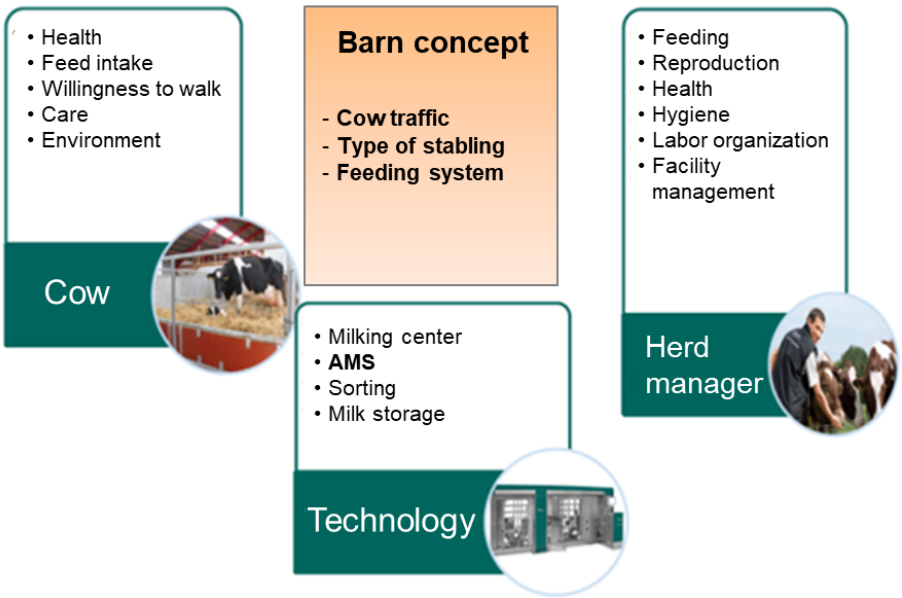

Fig. 6 Barn concept (source: GEA).

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Such a concept requires individual consultation from GEA FT technicians and consultants at the farmer's site. At least equally important, however, is the continuous service, as the more work is automated, the more important is the regular maintenance and care of the mechanical equipment. This requires a qualified dealer network with 24/7 availability. This service is designed to be proactive. For example, the fully automated milking systems are continuously monitored on the basis of key performance indicators so that even small fluctuations or a subtle drop in pressure or temperature are detected so early that no milk loss or even milking breakdown occurs.

In a second development step, the company has gradually developed a complete range of machines and technologies along the entire management process under the guiding principle of "*Farm of the Future*". Originating from the existing competence in mechanical and plant engineering, especially with regard to the construction and production of milking systems and separators, as from the year 2004 GEA FT acquires a number of profitable, owner-managed companies with specific knowledge in the field of the mechanical and plant engineering for the construction of comprehensive process services in business areas that complement the core business (see **Fig. 7**).

2010	FIL	Acquisiton Farmers Industries Limited; NZ (hygiene/Consumables)
2010	MULLERUP	Acquisiton SKIOLD MULLERUP A/S; DK (automatic feeding)
2009	ROYAL DE BOER STALLENRICHTING	Acquisiton DB Wilaard Holding BV; NL (barn equipment)
2008	NORBCO	Acquisiton Norbco Inc.; USA (barn equipment)
2007	HOULE	Acquisition J. Joule & Fils, Inc.; Canada (manure technology)
2004	agroserve	Acquisiton of Agroserve Ltd.; UK (hygiene products and downstream market articles)

Fig. 7 Acquisitions within the business unit "milking & cooling" (source: GEA).

1.4 Acquisition strategy

As part of the acquisition strategy, GEA FT management has defined several criteria that must be met by possible acquisition targets (see **Fig. 8**).

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Criteria for acquisitions

- Activities in complementary markets, products or process technologies
- Focus on process technologies for food applications
- Operating income above the expected average of GEA
- Integration capability in existing business segments
- Significant synergy potential
- Purchase price within the market level

Fig. 8 Acquisition criteria (source: GEA).

Above all, by applying these criteria, GEA FT strives to secure the potential for success for the entire company. It is therefore intended to acquire specialised companies that are firmly established in their local or regional markets and with their services and capabilities purposefully broaden the business model and the competence base of GEA FT.

In order to deal quickly with targeted acquisitions, owner-managed companies are the preferred target addressed in this context, which help to avoid lengthy negotiation processes and, possibly, less lucrative negotiation results with investors.

This kind of companies include above all the technological competence in the area of food applications and the common or complementary customers and sales channels regarding GEA FT. A focus on both areas of competence favour the realisation of synergy effects regarding the common cost and competence base as well as with regard to sales market-related marketing. In that sense, GEA FT has pursued a consistent expansion of its core business with its acquisition strategy. All acquired companies will be integrated into the business units of GEA FT. At the same time, the local brands of the acquired companies remain, as they not only have a high level of recognition among farmers, but create preference due to long-term, trusting sales contacts. The acquired companies always have a high degree of compatibility with their existing competence in mechanical and plant engineering. GEA FT is gradually completing the technologies and application competence along the entire process chain with the acquisitions and can offer farmers all plants and technologies for professional management from a single source including maintenance and care.

The acquisitions not only expanded the technology and competence portfolio, but also significantly expanded the regional business portfolio. In 2013 GEA FT has business operations with its own offices in all relevant dairy areas and generates a revenue of more than half a billion euros worldwide (see **Fig. 9**).

With global business activities, particularly in the USA, Brazil and Argentina, as well as in Australia, New Zealand, China and Russia, GEA FT strives to benefit from the megatrends of

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population growth and urbanisation as well as environmental and resource protection in the best possible way.

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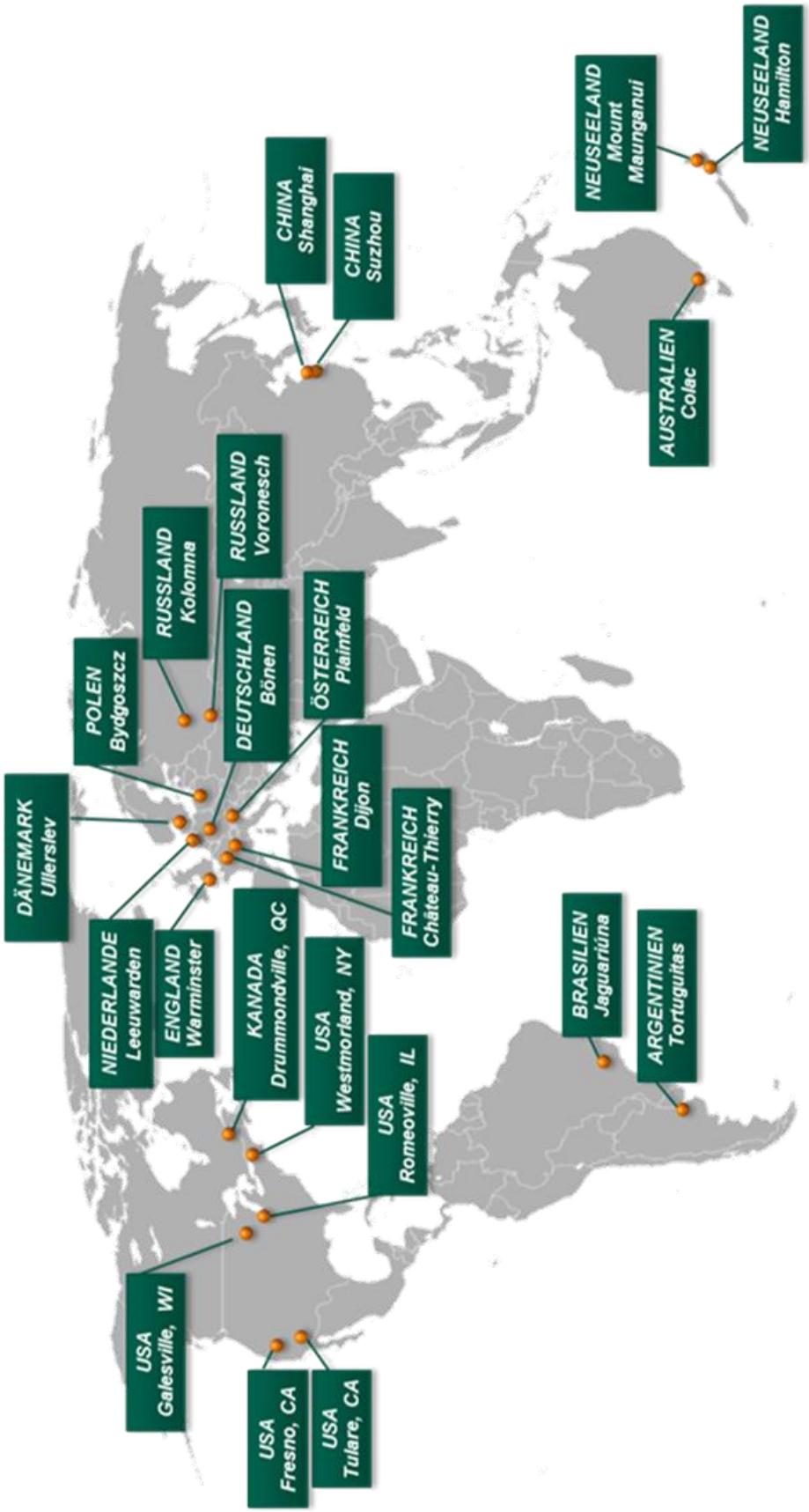

Fig. 9 Global business activities of GEA FT (source: GEA).

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Megatrends

The world population accelerates growth and more and more people desire a city life. The United Nations estimates that by 2050, more than two-thirds of the world´s population will live in cities. The urbanisation development leads to different living and eating habits as well as to a changed handling of resources. These developments are already exceptionally serious in South and East Asia as well as in Latin America and will intensify in Africa in the future as well.

This significantly increases the demand for resources, especially energy, water and food. Urbanisation, the formation of large agglomerations and especially in the Asian region of so-called mega-cities, which comprise more than five million inhabitants, is increasing more and more.

Rising wages and salaries in many emerging economies (new industrialised countries) are fuelling the emergence or expansion of a middle class, whose rising quality demands for food and medicines are associated with a higher spending propensity. Higher hygiene and quality standards play a central role here. This development offers an attractive market potential for the food industry in the form of processed foods and ready-made meals. At the same time, there is a growing awareness of the need to protect vital resources and raw materials, as growing and mining areas are becoming scarce in many emerging economies. Thus, the demand for energy-efficient production equipment and gentle production processes, e.g. with energy-saving and heat-recovering machines.

These so-called megatrends are of manifold importance for direct and indirect demand in markets relevant to GEA (see **Fig. 10**).

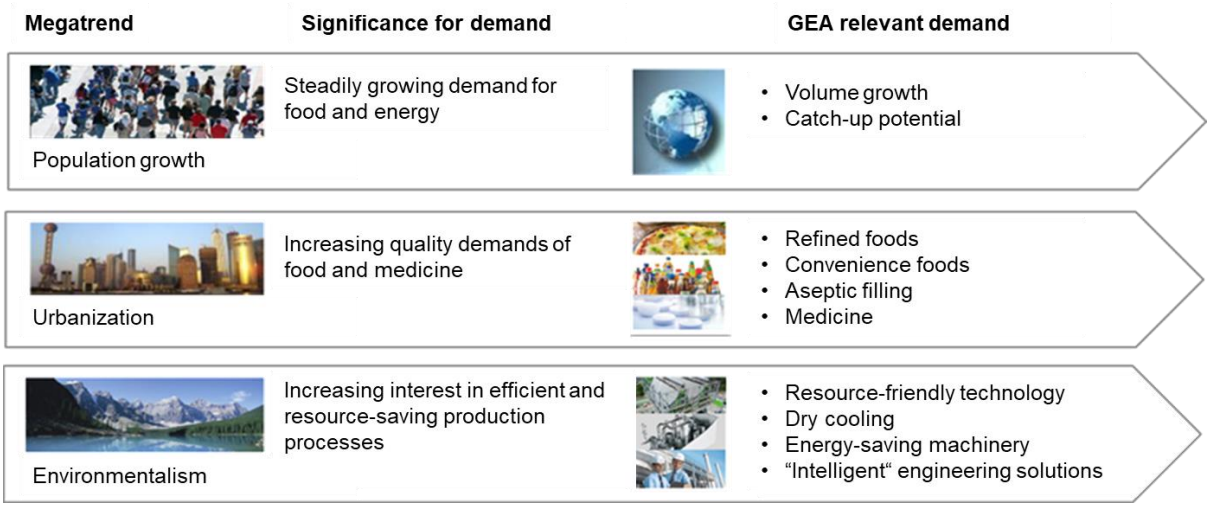

Fig. 10 Megatrends and their consequences on GEA (source: GEA).

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Integrated service offer creates customer benefit

The unique customer value at GEA FT consists of a compatible range of machinery and equipment, which are tailored individually by the experienced consultants and service technicians to suit the farming practices of the farmer, including design and planning of the barn and farm concept, right up to daily herd and farm management. The machines and systems are designed for an easy usage and maintenance by the farmer as well as to the needs of the cows. GEA FT has conducted a comprehensive study to examine the relationship between milk quality, quantity and cow health: higher "*cow comfort*" increases milk quality and quantity.

A differentiated value proposition: Cow comfort

GEA Farm Technologies not only considers the farmer, but above all the cow as a "*customer*" of milking technology products. To that end, the company has analysed the needs of cows and developed special products that increase the comfort of cows. Cows literally enjoy rubbing up things – it is part of their nature. Clean cows make a significant contribution to general barn hygiene. A clean pelt, especially on the back of the cow, promotes heat dissipation through the skin and blood circulation. GEA Farm Technologies has therefore developed different types of cow brushes with different brush mechanics that are so strong and resilient that cows can push against them without moving the brush beyond their reach. An installation position adapted to the average cows' height of a herd guarantees optimal functioning, well-being and comfort of the cows (see **Fig. 11**).

A higher cow comfort also leads to an improved milk yield, as healthy and relaxed cows give more and qualitatively better milk.

The offered product range is designed to meet the natural needs of the dairy cattle and covers individual movement therapies, specialised automated and balanced feed configurations, optimal and individual milking times as well as natural care activities and rest periods. In this process, the farmer increasingly assumes the role of the "*manager*", who optimally configures the processes, automates milking times, feeding and feed composition and, at the same time, adapts to the needs of the individual cow. "Happier" cows give better and above all, more milk.

According to the German Farmers Association, the productivity of German agriculture increased by 123 percent between 1991 and 2011. In other words, while the number of farms is steadily declining, their yields are increasing. In 2007, there were still around 321,600

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agricultural enterprises in Germany, in 2012 about 10.6 percent less. For this, the agricultural areas and numbers of kept animals per farm and their performance are growing. In 1995, in average a dairy cow gave about 5,400 kilograms of milk per year. Around 20 years later, the milk yield is just over 7,200 kilograms.

Fig. 11 Cow comfort (source: GEA FT).

However, these improvements in yield and quality are tied to significant financial investment. Currently, the substantial investments for such systems are a frequent controversial subject at the sales conferences of GEA FT. The service staff and technicians are increasingly being contacted by farmers with inquiries for support in financing the more and more expensive machines. Unfortunately, investment in milk plants cannot usually be shared and used like large harvesters in a group of agricultural producer communities. Flexible and shared forms of financing are not available.

In contrast, digitization is not a problem for the farmers, because Industry 4.0 already has its impact on agriculture; optimal harvest times are already determined by GPS and sensors, the speed of the harvesters is adjusted to the soil condition precisely at square meter level, and the communication of the harvesters with the farm, the manufacturer, and each other optimises the machine usage.

Agricultural products are recorded digitally from the time they are harvested and made retraceable to the origin for producers, traders and consumers according to the "*traceability*" idea. The value creation chain of food production, processing and distribution is therefore increasingly integrated through the digital exchange of information across value creation stages.

In preparation for the forthcoming strategy conference, the heads of GEA FT's business units want to put the business model to the test and discuss future viability in the light of market developments. For this, they have designed defined several working packages for the business

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development team. You just started as junior business development manager after the successful completion of your studies and you receive now your first assignments.

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2. Assignments

1. *Please identify the problems of GEA´s strategic positioning in the initial situation in 2004. What reasoned strategic positioning recommendations can you make to GEA Farm Technologies at that point in time? Please argue based on BARNEY's core competence and BAIN's core business frameworks.*

   Recommended literature:

   Barney, J. (1997) Gaining and Sustaining Competitive Advantage. 3rd ed., Reading, MA: Addison-Wesley Publishing Company, Inc. Bates.

   Zook, C. / J. Allen (2010): Profit from the Core: A Return to Growth in Turbulent Times. Harvard Business Review Press, Boston MA.

2. *How can GEA Farm Technologies' strategies be allocated to norm strategies? Assign the strategic measures of GEA during 2004 – 2014 to the different norm strategies of the industry attractiveness – business strength – portfolio (nine-box matrix).*

   External links:

   McKinsey Quarterly 9/2008, URL: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/enduring-ideas-the-ge-and-mckinsey-nine-box-matrix

   McKinsey Quarterly 6/2000, URL: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/thinking-strategically

3. *Please describe the development of GEA Farm Technologies' area of competence and how it has been transformed throughout the selective acquisition strategy. What kind of core competence does GEA Farm Technologies have? Please base your explanation on the resource-based view of the firm.*

   Recommended literature:

   Barney, J. (1991) Firm Resources and Sustained Competitive Advantage. In: Journal of Management, Vol. 17, No. 1, pp. 99-120.

   Wernerfelt, B. (1984) A Resource-based View of the Firm. In: Strategic Management Journal, Vol. 5, No. 2, pp. 171-180.

4. *Describe the main structure of the business model, which is summarised under the term "Total Solutions". Please differentiate the central dimensions and elements.*

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Recommended literature:

McGrath, R.G. (2010): Business Models: A Discovery Driven Approach; in: *Long Range Planning*, Vol. 43, No. 2-3, pp. 247-261.

Osterwalder, A. / Pigneur Y. (2010) Business Model Generation, Wiley, Hoboken: NJ.

Wirtz, B. (2011): Business Model Management. Design Instruments Success Factors, Wiesbaden: Gabler Verlag.

5. *Which market developments influence the current business model? How can GEA Farm Technologies secure and develop their acquired areas of competence on a sustainable basis? What kind of strategic options does GEA Farm Technologies have for adapting their business model? Please refer to the current market development while answering these questions.*

Recommended literature:

BCG (2009): Business Model Innovation: When the Game Gets Tough, Change the Game, New York, NY: BCG.

Kim, W. C. / Mauborgne, R. (2005): Blue Ocean Strategy. Boston, MA: Harvard Business Review Press.

Osterwalder, A. / Pigneur Y. / Bernarda, G. / Smith, A. (2014) Value Proposition Design, Wiley, Hoboken: NJ.

Zott, C. / Amit, R. (2010): Business Model Innovation: Creating Value in Times of Change, WP-870, Barcelona: IESE.

Zott, C. / Amit, R. (2012): Creating Value Through Business Model Innovation; in: *MIT Sloan Management Review*, Vol. 53, No. 3, pp. 41-49.

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3. Bibliography & Recommended Literature

Barney, J. (1991) Firm Resources and Sustained Competitive Advantage. In: Journal of Management, Vol. 17, No. 1, pp. 99-120.

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Mintzberg et. al. (2003): The Strategy Process: Concepts, Contexts, Cases, 5th Edition, Harlow: Prentice Hall.

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Teaching Note

Target group: Bachelor Students > 3rd semester with basic courses in:

- Strategic Management
- General Management
- Innovation Management

Teaching objective: The case study invites students to:

1. Understanding the importance of the resource base and competencies of a company for growth in terms of opportunities for growth (enough or even idle resources given) or limitations and barriers for growth (if competencies are insufficient)
2. Realising the impact of shifts in market demand and trends on the requirements for companies to develop or enhance their resource and capability base
3. Realising the impact of resources and capabilities on business models and business model innovation

Learning outcome: Students should be able to:

1. apply appropriate management frameworks to analyse company resources and competencies as a source of competitive advantage
2. use instruments for analysing the external environment and evaluate the impact on the strategy of the case company
3. describe the business model of the company in an appropriate framework and pinpoint the opportunities for business model innovation

Case Type

This case is a background case comprising several assignments for guiding students.

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Case Format

The case is a written case that can be supported by infographic, video interviews and photographs.

Evaluation criteria

Evaluation shall take place based on the following criteria

Evaluation criteria	Weight
research and analysis	high (40%)
problem solving	high (40%)
communication	moderate (20%)

Grading

Grading shall take place according to the following assessment structure:

German Grade	in words	ECTS grade	% of points
1.0	sehr gut / excellent	A	100%
1.0	sehr gut / excellent	A	99%
1.0	sehr gut / excellent	A	≥ 95%
1.3	sehr gut / excellent (-)	A	≥ 90%
1.7	gut / good (+)	A	≥ 85%
2.0	gut / good	B	≥ 80%
2.3	gut / good (-)	B	≥ 75%
2.7	befriedigend / satisfactory (+)	C	≥ 70%
3.0	befriedigend / satisfactory	C	≥ 65%
3.3	befriedigend / satisfactory (-)	D	≥ 60%
3.7	ausreichend / sufficient (+)	D	≥ 55%
4.0	ausreichend / sufficient	E	≥ 50%
4.7	mangelhaft / fail	FX	< 50%
5.0	mangelhaft / fail	F	< 50%

Preparation

We recommend that students are already familiar with the basics of strategic management. The case study is particularly suitable for discussing the strategic options for the design and development of strategic business portfolios and business models. As this mainly involves the use of external growth strategies, students should have a basic knowledge of mergers & acquisitions.

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Instruments

The case study is designed to teach and apply the following strategic management tools:

- Value chain analysis
- Core business analysis
- Market Attractiveness Market Growth Portfolio
- VRIO approach
- Perspectives and criteria for assessing business models

Solution Outline

Nota bene: For each task there are references given, which refer both to textbooks for basic knowledge and additionally to primary sources for further and advanced reading.

1. *Please identify the problems of GEA´s strategic positioning in the initial situation in 2004. What reasoned strategic positioning recommendations can you make to GEA Farm Technologies at that point in time? Please argue based on BARNEY's core competence and BAIN's core business frameworks.*

Students should identify the problems of GEA in the current setup:

- Core business "Milking & Cooling" only covers a small part of the value chain in the dairy industry
- Increasing automation and hygienic requirements represent as a long-term market opportunity, but currently rather a market barrier, since automation concepts require above all holistic animal farming concepts; GEA FT lacked the competences for this in its initial position in the year 2000
- Identification of white spots in the portfolio regarding:
  - geographic market coverage (especially classical dairy markets)
  - technological process coverage (especially feeding, stable, liquid manure etc.)

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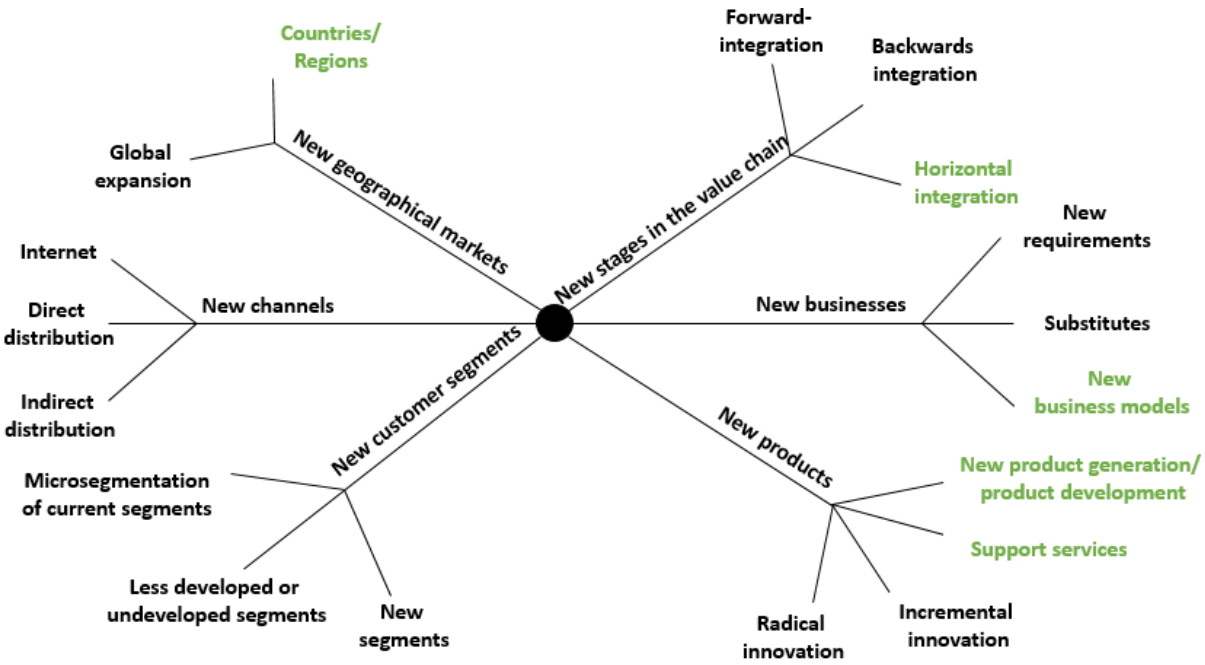
Positioning recommendations

In accordance with the core business approach, the "adjacency map" can be used for a strategic proposition of opening up adjacent market segments. Based on the case study information, the strategic options highlighted in green can be identified and discussed (cp. M1.1).



M 1.1 Adjacency map

As a central prerequisite, BAIN's core business approach defines the (re)-focusing on the core business. The core business is defined by the 4Cs: customers, channels, costs, competencies and as an acid test: common competitors.

In the case study, GEA FT identified this core business and strengthened it during the first wave of acquisition. The acquisitions were successively implemented in the so-called adjacencies for a gradual business expansion based on previously determined needs and market potential analyses as well as identified white spots along the process chain (see M 1.2).

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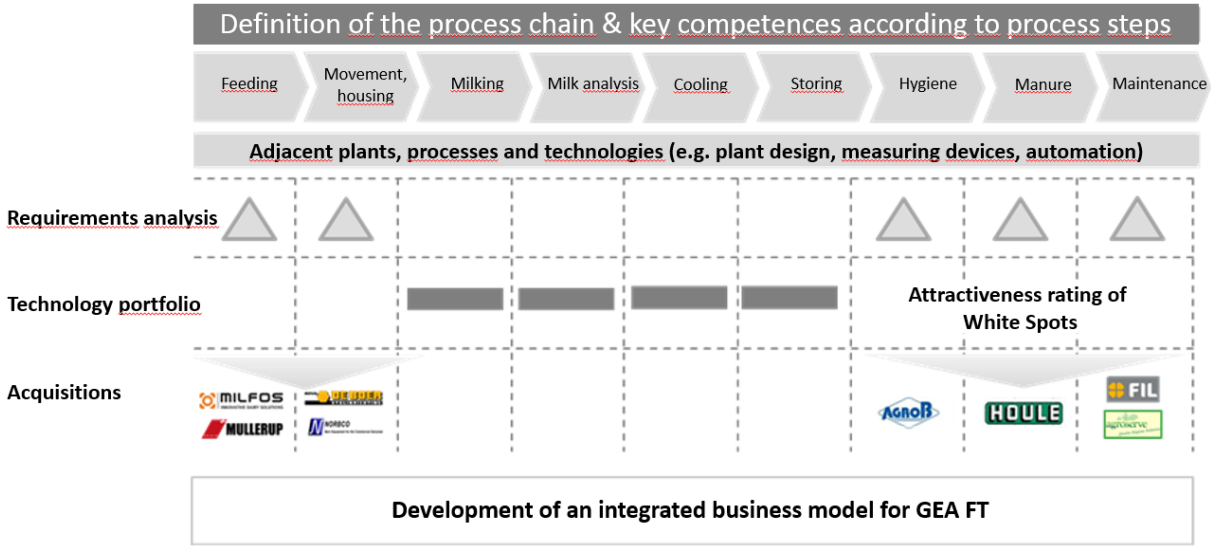
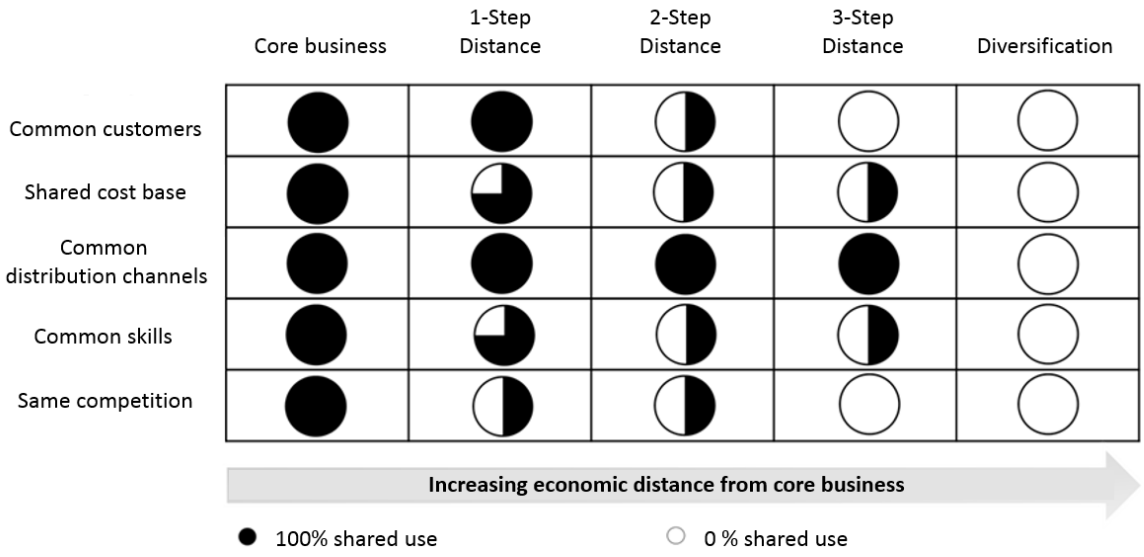


M 1.2 Acquisitions to build up technology in the process and value chain

An investigation of the annual figures and technologies of the acquired companies reveals the core business logic for growth with the smallest possible distance to the core business according to M 1.3.



M 1.3 Evaluation the distance of adjacencies to the core business

To sum up (or eventually to boost a stagnating case discussion / analysis in-class), case teachers might refer to the external youtube link for stimulating students with the ***GEA Farming Youtube Channel:***

https://www.youtube.com/channel/UC96_EdVEIJapOszgs-J5ZzA

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2. *How can GEA Farm Technologies' strategies be allocated to norm strategies? Assign the strategic measures of GEA during 2004 – 2014 to the different norm strategies of the industry attractiveness – business strength – portfolio (nine-box matrix).*

Students should recognise the parallels between the bundle of selective growth and investment strategies (standard strategies) from McKinsey's market attractiveness competitive advantage portfolio (1-3) and BAIN's core business approach.

The allocation of GEA FT's strategic initiative over time is shown in Figure M 2.1.

MARKET ATTRACTIVENESS			
	1 SELECTIVE APPROACH	2 SELECTIVE GROWTH	3 INVESTMENT AND GROWTH
High	- Specialization - Occupy niches - Consider acquisition	- Potential for market leadership through segmentation - Identify weaknesses - Building strengths	- Focus on growth - Striving for market leadership - Maximising investment
	HARVEST	SELECTIVE APPROACH	SELECTIVE GROWTH
Medium	- Specialization - Occupy niches - Consider withdrawal	- Identify growth markets - Specialization - Selective investment	- Identify growth markets - Boosting investment - Maintain market position
	HARVEST	HARVEST	SELECTIVE APPROACH
Low	- Planning to withdraw - Disinvest	- Harvesting business - Minimise investments - Planning disinvestment	- Maintain market position - Maximising cash flow - Reduce investments (only for maintenance)
	Low	Medium	High

RELATIVE COMPETITIVE POSITION

M 2.1 Portfolio of market attractiveness and competitive advantage (Source: McKinsey 1971)

1. selective approach: Acquisition phase until 2000

   corresponds to I. Core business focus and II. Core business expansion in the BAIN concept

2. selective growth: acquisition phase from 2000 to 2010

   corresponds to III. develop adjacent market segments in the BAIN concept

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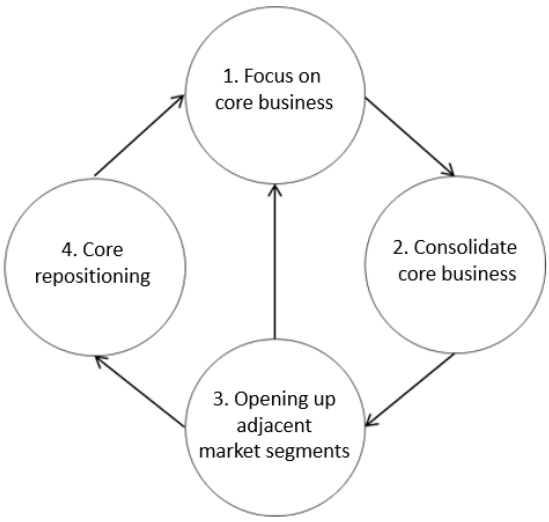
3. investment and growth:

   Corresponds to IV. repositioned core business: market leadership as a system provider for dairy farming

Student shall compare the generic sequence of strategies in the BAIN concept according to Fig. M 2.2. The BAIN concept can explain a logical sequence of standard strategies over time within the framework of the McKinsey strategy matrix and, in this sense, enable a dynamic view.



M 2.2 Growth cycle from core business

3. *Please describe the development of GEA Farm Technologies' area of competence and how it has been transformed throughout the selective acquisition strategy. What kind of core competence does GEA Farm Technologies have? Please base your explanation on the resource-based view of the firm.*

The competence development can be traced according to the information provided in the text section.

As possible core competences from the perspective of the dairy industry and the respective customer requirements *"Milking and Cooling"* as well as the ability to provide a holistic,

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comprehensive approach to solutions for the players in the dairy industry (*"Total Solutions"*) are further discussed.

An open question should on how to assess core competences and with the help of which kind of assessment scheme, should lead the students to the academic article of Barney (homework / prerparation). The assessment of competences with regard to their possible core competence characteristics is based on the VRIO (Value-Rareness Imperfect-Imitability Organizational-Spe¬cifity) approach, which has gained central importance within the resource-oriented approach. In this sense, a core competence exists if all the characteristics listed above are present with regard to a competence; the absence of a positive evaluation already means that the competence in question cannot be classified as a core competence.

Is the competence "milking and cooling" a core competence?

- **Valuable?** The competence is to be seen as valuable, as it undoubtedly leads to benefits for the farmer and his task fulfilment.
- **Rare?** "*Milking and Cooling*" - as a rather generic skill - does not represent a "rare" competence, as is emphatically underlined by the existence of numerous competitors in the same market. (Thus, the result on this competence is already available).
- **Inimitable?** The "*milking and cooling*" competence cannot be effectively protected against imitation, since the know-how and relevant information in question are not patentable or can be secured by other "appropriation mechanisms".
- **Organizational Specific?** "*Milking and Cooling*" cannot be classified as organization specific due to its generic character - GEA FT has been able to gain the competences required in these fields through acquisitions in recent years and always had several candidates to choose from.

Is the competence "Total Solutions" a core competence?

- **Valuable?** Yes, analogous to the above argumentation, the competence "*Total Solutions*" provides a considerable benefit to the farmer.
- **Rare?** Yes, the competence "*Total Solutions*" is rare, because the requirements for its realisation are varied and high (see below).
- **Inimitable?** The competence is based on a variety of individual skills (related to the specific services offered), information, material resources, implicit knowledge and complex coordination and learning skills, which are held by different "*carriers*" and can hardly be copied. It should be noted that building up the competence to provide

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"*Total Solutions*" required a lengthy process lasting several years, which competitors would have to go through to a more or less similar extent.

- **Organizational Specific?** The provision - and also market-driven development - of the competence "*Total Solutions*" is to a large extent to be regarded as organisation-specific. For example, in the context of coordination, a variety of internal and external interfaces within the company are coordinated, which must take into account the specifics of the coordination situation. The learning processes implemented over time are also tied to the individual characteristics of the actors, specifics of the working groups involved, etc. and mark the special path of GEA FT with the path dependencies triggered.

Result: *The competence "Total Solutions" represents a core competence.*

4. *Describe the main structure of the business model, which is summarised under the term "Total Solutions". Please differentiate the central dimensions and elements.*

To begin with, students should contrast the business model description of GEA FT in 2013:

- 2013: GEA Farm Technologies is a leading solutions and systems provider for milk production and livestock farming, empowering farmers around the world to shape the future of their business in terms of sustainability and profitability. Our success is based on innovation. With our Total Solutions, we offer farmers fully integrated dairy farm systems and lifelong service for a valuable partnership.

with the business model description of GEA FT from 2004:

- 2004: GEA Farm Technologies is a global technology leader for dairy farming. Our mission is to supply and support dairy farmers around the world with first-class milking and cooling technology, state-of-the-art herd management software and efficient hygiene and dipping agents.

The changes in this business model defined by GEA FT at different points in time can be developed from different perspectives:

Students might be asked on suitable perspectives for defining a business model:

- „market-based view“
- „resource-based view“
- „value-based view“

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Students might be divided into three groups covering the three perspective (ending up with complementary results) or a moderated full class analysis focusing on one perspective. We recommend to go for the “value” view.

Key questions to ask and answer

- Value proposition: *What benefits does the company create for its customers?*

Nota bene: In the literature, the dimensions mentioned in this context include, inter alia, customer groups, customer problems, customer needs, solution technologies, products and sales channels.

Discussion in the course: suitability of different segmentation criteria

- Value architecture: *How is customer benefit delivered at competitive costs?*
- Revenue model: *How and by whom is the company paid for its services?*

Based on this, the definition "business model" can be repeated:

"[The business model]... describes a (modelled) representation of the business activities of a company - taking into account its relationships with suppliers, customers and competition and considering the respective form of revenue generation and financing of the company."

The innovative the design (change/configuration) of business models can be described as follows. Business model innovations require:

- a change of the configuration of value activities
- in particular the content, structures and relationships of value-adding activities
- imply novel customer benefits based on new combinations of technology and needs
- combine product and service innovations with process innovations
- can be realised based on organic or external strategies (in particular through necessary (long-term) competence building)
- are becoming increasingly important as part of the innovation strategy and require the development of dynamic capabilities
- instruments: Business Model Canvas, Strategy Canvas, Four-Action-Framework

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Transfer on GEA: GEA realized the business model development in two phases

PHASE 1: Strengthening & fortifying Milking and Cooling

Systematic and successive development of competence in the areas of milking, cooling technology, hygiene and separators through selective acquisitions in the international market environment between 1998 - 2000: 1998 JAPY, 1999 SURGE / ORION, 2000 AGROB.

PHASE 2: Innovation Total Solutions

Central idea: What does the farmer need for an optimal dairy farm management process?

Concept: "*Farm of the Future*"

Solution: Complete range of machines and technologies along the entire agricultural management process

Starting from its competence in mechanical and plant engineering, in particular milking installations and separators (Westfalia Separator), the GEA Group acquires a number of profitable, owner-managed companies with specific know-how in mechanical and plant engineering from 2004 onwards in order to build up a comprehensive range of process services:

- 2007: Houle: Waste and manure management
- 2008: Norbco: Stable technology
- 2010: Müllerup: Automatic feeding technology

The acquired companies will be integrated into the business area of GEA Farm Technologies. The acquired companies always represent a high degree of compatibility with existing competence in mechanical and plant engineering. The integration of the acquired companies therefore tends to be easy. GEA Farm Technologies completes the entire process chain and can offer farmers all the equipment and technologies for professional farming from a single source (cp. fig. M 4).

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M 4: Total Solutions

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5. *Which market developments influence the current business model? How can GEA Farm Technologies secure and develop their acquired areas of competence on a sustainable basis? What kind of strategic options does GEA Farm Technologies have for adapting their business model? Please refer to the current market development while answering these questions.*

The case teacher should moderate a qualitative discussion on the trends and market developments with reference to the business model innovation:

What changes in the market influence the existing business model?

- Professionalisation of agriculture: "From farmer to farm manager":
  - Training and study of farmers and agricultural economists
  - complexity and size of farms (economies of scale)
  - Business cost accounting
- Service (maintenance and repair) as an important customer requirement
- Modularisation of facilities: Flexible farm structures
- Alternative forms of financing: "From purchase to leasing"
- Digitisation along the value chain of the food industry across value creation stages

What strategic options does GEA Farm Technologie have to adapt its business model?

Systematic expansion of the business model:

- Service (maintenance and repair)
- forms of financing (leasing, credit purchase, etc.)
- new alternatives to generate cash flows (cp. figure M5)

GEA Farm Technologies offers new finance packages

GEA Farm Technologies is offering a range of finance packages which are designed to support the cash flow of farmers looking to invest in the company's innovative new technologies.

With the recent appointment of Dominic Jackson (pictured above) as finance director, the company have introduced GEA Farm Finance.

The company offers a complete range of products, from conventional dairy layouts to fully automatic and high-tech robotic systems. It can tailor its new financial packages to suit the business needs of dairy farmers of any size, anywhere in the UK.

Working as an independent finance business, which operates through 16 highly experienced local based partners, GEA Farm Finance will work in partnership with Agricultural & Groundscare Finance, AGF, to offer the best possible funding terms, at competitive rates, including lease agreements on certain ranges of equipment.

"As in any business, these days, cash is king," says Jackson. "Our new range of finance packages are designed primarily to assist farmers with their cash flow but there are also significant tax advantages to be had in some instances.

"Our unrivalled experience of the technicalities of dairy farming means we are even able to breakdown the cost to each litre of milk produced and project this forward to demonstrate how much the farmer is likely to profit from his investment."

GEA

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M5: New Finance Packages of GEA Farm Technologies

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