European Entrepreneurship Case Study Resource Centre

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Anders Müller Dental (Austria)

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This case has been prepared as a basis for class discussion rather than to illustrate either the effective or ineffective handing of a business / administrative situation.

ANDERS MÜLLER DENTAL AG

Introduction

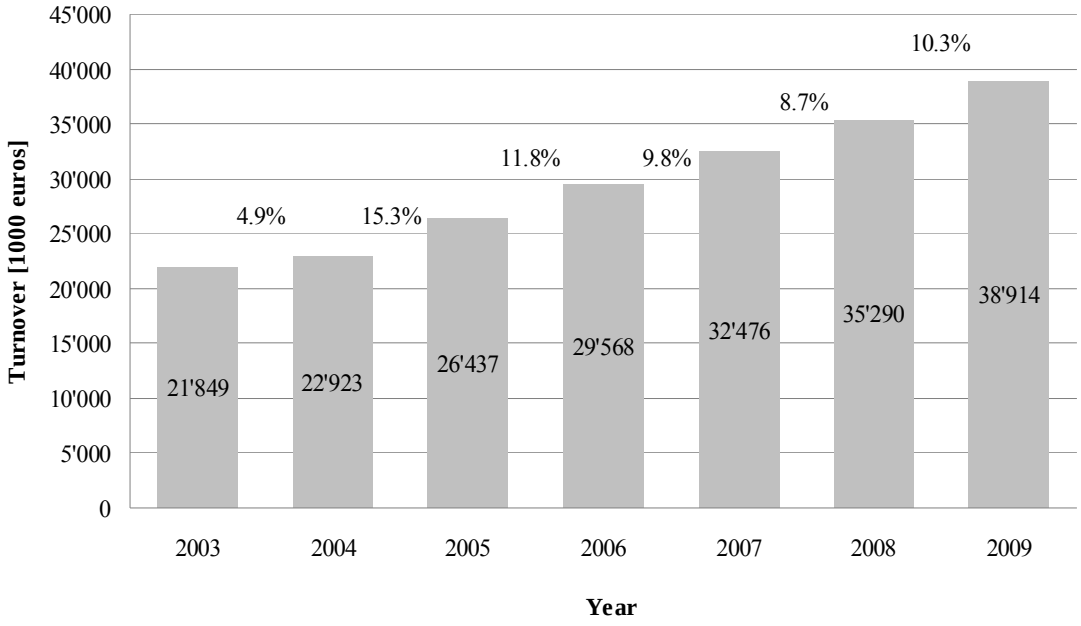
It was March 2011 and Dr. Markus Oberhuber was sitting in his office in Bregenz examining the Millennium Research Group report on the Dental Technology Market that lay open in front of him. He had been hired by Anders Müller Dental AG to lead the company through an Initial Public Offering (IPO) on the Stock Exchange and so far he was pleased that the company was heading in the right direction. Having gone through some difficulties when the company was originally established from a merger between two companies from different countries, Anders Müller Dental AG had quickly built a successful business model that was generating excellent sales and profit figures. In 2009, the company had opened a Dental Production Centre in St Gallen where dental technicians could electronically send in the data of their prosthetic constructions, and the finished dental prosthetic would be sent back to them within 48 hours. However, what Markus now needed to decide was what steps should the company take next as it sought make the company attractive to investors looking for profitable opportunities on the stock market? He had a meeting with the Board next week and he had been requested to present a series of proposals to them regarding what actions the company should take in the year ahead.

The Company

Anders Müller Dental AG, an Austrian leader in dental technology, originated in 2002 when the company was formed through the merger of two family enterprises, Anders Dental GmbH in Bregenz (Austria) and Müller Zahntechnik OG in Stuttgart (Germany). Until that time, Müller Zahntechnik OG had been a solely commercial enterprise in Germany, while Anders Dental GmbH was a product manufacturer and developmental partner with commercial organisations operating worldwide in 25 different countries. After 30 years of working closely together and developing relations that extended beyond a regular customer-supplier interaction, both sides decided to take advantage of the synergies that had developed between them and a merger followed shortly thereafter. With nearly 190 employees, the business had three shareholders that owned equal shares in the company: the two family holdings, Anders GmbH and Müller Holding GmbH, together with a financial investor. In line with this collection of principal shareholders, three board members were entrusted with managing the company.

As a result of the merger, all redundant departments were centralised into one location. Following the step-by-step transition of the departments, all parts of the company involved in product manufacture were now located in Bregenz, the headquarters and main location of Anders Müller Dental AG. The R&D and product management departments were located there, along with all internal supply chain departments and the unfinished goods warehouse. Their finished goods, as well as merchandise from other manufacturers, were warehoused in Stuttgart, assembled and customised as needed and delivered from Stuttgart directly to the customer. The sales and marketing department, as well as in-house training, were distributed among the company's various locations according to their areas of operation. As was the case in the past, the Stuttgart location continued to take care of direct sales in the German-speaking areas, while the location in Bregenz took care of dealers in more than 50 countries worldwide.

Figure One: Turnover Development Anders Müller AG (2003 - 2009)



In the years directly following the merger, along with the structural changes described above, the main focus was for the company to present to the financial investor the increases in effectiveness and efficiency that had been previously determined, and the corresponding value enhancements that were to result. These were to be achieved by taking full advantage of the synergy effects coming from both companies, as well as through completing the internationalisation that had been planned during the preparation for the merger. Figure One illustrates the turnover figures and growth rates of the company from 2003-2009. The growth percentage rate from one year to the next is seen between the bars showing the growth for

each year. Because Anders Müller Dental AG had a positive development in turnover for the seven years highlighted, the three shareholders examined different exit scenarios, and ultimately decided upon an initial public offering (IPO) as the best option for the company.

In deciding to take the company on to the Stock Exchange, the shareholders determined that the company did not possess personnel with either the capacity or the professional competency to successfully prepare the firm to go public and to achieve the desired level of success that they had targeted for the company. Following an extensive search for an external expert who could be brought on board for this kind of project, the task of preparing the company to go public was eventually given to Dr. Markus Oberhuber, an employee from one of the companies belong to the private equity investor. Anders Müller Dental AG was also transformed from a 'Gesellschaft mit beschränkter Haftung' (the equivalent of an LLC) to an 'Aktiengesellschaft' or Inc. This was done to fulfil a legal requirement as only incorporated companies were allowed to be publicly traded. However, the uncertain state of the economy and its ramifications for this kind of project had made the prospect of successfully having an IPO in foreseeable future increasingly less likely.

Initial Product Line

The Anders Müller Dental AG product line serviced the process chain for dental prosthetics. The process is primarily conducted in dental laboratories but it involves a number of requirements between the dentist's office and the finished prosthesis being placed into the patient's mouth which include:

- Mould (plaster cast of teeth);
- Building a frame (for retainers, braces, etc.);
- Ceramic facing (of the frame).

Electromechanical and mechanical equipment are required for the creation of models and frames. The core competencies of Anders Müller Dental AG were the development, manufacture, and marketing and sale of this equipment, which was made mostly of finished aluminium components and produced with the company's own CNC systems. As soon as all components and supplied articles were received, the machines were assembled for delivery in a second large machine assembly production area. Since 2005, Anders Müller Dental AG has also been a producer of moulding blanks made of a high-performance ceramic (zirconium dioxide, better known as zirconia), out of which dental prosthetics could be milled. From the raw materials to the devices needed for prosthetics, Anders Müller Dental AG was able to deliver everything for the entire dental laboratory process chain.

Dental technology methods had not changed greatly over the past decades. The mould is created by the dentist who pours plaster into a casting the patient bites down on, from which a frame is constructed and prepared. After this, the frame is finished in a multi-step ceramic coating process that gives the final prosthetic a natural looking appearance. Cast metal has been the long-established method for making dental framework. Here, the prosthetic tooth replacement is mounted onto a stone model using wax. The crown or bridge is then removed from the model and embedded onto wax sprues inside a muffle, while the wax crown is covered with a compound. Once it is dried, the wax is heated up and melted out creating a hollow space which is then filled with liquid metal. Afterwards, the casted object is removed from the compound to allow for the metal sprues to be grounded. During the 1990's the field of medicine had seen an increasing application of the high-performance ceramic zirconia (for example, in artificial hips). Since the year 2000, and due to its outstanding mechanical properties, there had also been a demand in dental technology for zirconia in the manufacture of dental prosthetics. The problem, however, is that zirconia cannot be poured or infused. It is instead milled to create the desired form. This means that for the creation of a milled crown or bridge, a model is required that could be replicated. This was the dawn of 'copy milling'. A copy miller is an electromagnetic device that applies the action of a pantograph (a technology established since the 17th century). A pantograph is a mechanical instrument that allows copies of drawings to be made to the same or a different scale. So in the same way, with a copy miller, one arm feels its way along a coping that is made in the same way that a casting is done, while the second arm mills the cap from a ceramic block on a larger scale. The need for this size increase comes from the fact that, to reach its final grade of density, zirconia must be baked in an oven after it has been milled, which causes the material to lose between 20-30 percent of its mass. As opposed to cast metal, the coping is made of UV light curing acrylic to prevent the form of the prosthetic from being altered when it is touched.

This kind of copy miller was developed at Anders Müller Dental AG in 2005. Its sales launch was at the end of 2005, to which a large part of the company's 11.8 percent turnover growth in the following year (seen in Figure One) can be attributed. It also benefited the company that there were only a few manufacturers who had developed a copy miller at that time. But this heyday for copy milling did not last long. The start of 2007 saw a slow but sure decrease in the sales figures for this manual device. At the same time, the dental market saw the emergence of the first fully functional digital version, which did not require a wax or plastic coping to be constructed onto the stone model. Instead it was scanned, creating a 3D image of

the model in a computer, which could then be reworked further. With the help of CAD software developed specially for this application, the dental technician then constructs the prosthetic on the computer monitor. One or more files are created that contain data on how to custom-build a particular prosthetic, which can also be accessed at a later date. The creation of the prosthetic itself is mainly done via CNC milling using an 'erosive procedure' which can process not only zirconia, but also a variety of plastics and metals. A much more inexpensive variation is a constructive procedure, with no loss of material that sets very thin (20-30µm) horizontal sections into place which are then melted together from metal powder layer-for-layer by a laser. This is known in the industry as selective laser melting (SLM). However, only metal frames have, until now, been able to be produced from dental technical materials, and also this procedure is only possible using large equipment which is often too big for typically small dental laboratories.

The Dental Centre Project

It had been clear to Markus Oberhuber for quite some time that investment in this forward-looking technology was essential to staying competitive. Along with the turnover decrease in copy milling and the future-oriented nature of the digital concept, a further important reason for interest in this technology was the International Dental Show (IDS) in March of 2009. The IDS is the world's largest convention in the dental industry. Taking place every two years in Cologne, it generally provides clear indications of the success or lack of success awaiting the convention participants in the near future. At the start of 2008, Anders Müller Dental AG began a project with the objective of the developing a scanner, a CAD software tool, and a milling machine. By completing their product line, the company had gone from being a product manufacturer to a provider of entire manufacturing methods. It was time for the next step which involved the marketing of this concept. Markus Oberhuber's objective was to offer the customer superior applications products while delivering outstanding cost effectiveness. As a result, the decision was reached to present at the IDS a solution for all variations of the frames that they made, and in doing so, recommend to each potential customer the most cost-effective, customised, efficient solution to meet his/her individual requirements. This resulted in the product concept being expanded by a further step as a tabletop milling machine is not affordable, or at least not cost effective, for every dental laboratory. With this in mind, a service centre was planned where the dental technicians could electronically send in the data of their prosthetic constructions, which would then send their finished dental prosthetic back to them 48 hours later. This marketing strategy was based on achieving a unique selling proposition (USP), because at that time there was no other company able to work with all

manufactured variations of dental prosthetics. And as it was, the copy milling market was distributed among only a few companies. Table One identifies the manufacturing methods of the three options offered.

Table One: Manufacturing Methods of the Dental Centre the Three Options Available

Option	Model Fabrication	Construction	Finishing
Manually in the laboratory	Stone model	Fabrication in wax	Casting
		Fabrication in acrylic	Copy milling
Digitally in the laboratory	Stone model	Scan/CAD construction	CNC milling
Digitally in the manufacturing centre	Stone model	Scan/CAD construction	CNC milling or laser melting

The Dental Centre Project was presented and met with resounding approval at the IDS. A 'centre' was introduced where every customer could have all of their needs and requests serviced. The Dental Production Centre offered the manual methods of a dental laboratory, doing both conventional prosthetics (i.e. using a mould) and copy milling. Both dental prosthetic digital variations were also available, allowing the option of taking the dental prosthetic designed on a computer and completing it using one's own milling machine, or sending it to the external service partner (the 'manufacturing centre').

Over the initial stages of the Dental Production Centre project, a decision was made to take it from being a part of the external manufacturing centre and instead to create a spin-off company. After a series of preparatory measures, Dental Production Centre was founded as an AG (Inc.) in January of 2010. A 1,000 square meter office space was leased in a newly-built industrial centre in St. Gallen (Switzerland) for the business (about 40 km away from the parent company), which at the time was still under construction. As a result, the first six months of Dental Production Centre's existence was occupied principally with architectural planning, negotiating the building process and renovation. At the same time, all processes for the industrial finishing of dental prosthetics were defined, which helped in organising all the

necessary components for them. The company start-up and the first sales were achieved in November of 2010.

Once the renovation work was completed, the office space was then divided into four main sections:

1. CNC Finishing: Dental prosthetics are milled with the help of a five-axis technology and high speed cutting (HSC). The five axes are required mainly for underedge cutting. Most table millers in dental laboratories have only three axes, and do not offer this capability. HSC is a technology that works with high spindle speeds (≥ 40,000 rpms), achieving shorter processing times.
2. SLM Finishing: Cobalt chomium powder is melted together with a laser in a generative layer-for-layer process to create the metal components of crowns and bridges.
3. Outgoing Goods: The manually ground prosthetic is checked by a quality control for defects, reworked if needed and packaged for final delivery.
4. Administration: Along with the administrative tasks, all the IT support required for finishing is found here.

The Dental Production Centre began by employing ten people, of which three formerly worked at the parent company Anders Müller Dental AG. The company guaranteed that a finished dental prosthetic would be sent out via their shipping provider within a maximum of 48 hours after receiving the digital construction data. This required optimised processes and a low tolerance for defects. Along with the materials of zirconia (milled) and cobalt chromium (SLM finishing), the customers were also offered additional materials such as milled plastics or varying purities of titanium. According to Markus Oberhuber:

"This success has been fantastic! In the first two months, we grew 57 percent compared to last year. This pretty much speaks for itself. And we haven't even begun to reach all the potential markets out there. This was simply amazing! It's tough for the competition, as they have also seen what's happened here, and it's only a matter of time before we start to feel some pressure from them. But the success we had simply can't be argued with."

While many things went better than they thought could possibly happen, other things were running worse than anticipated. They had underestimated the time involved for planning for the building and although there was the idea for a milling machine for a lab, there was no place on plans where it existed. This did not occur to anyone during the planning stage as nobody paid enough attention to this. They thought that the scanners would sell pretty much the way they planned and they determined from this how many units to deliver to the manufacturing centre. The milling machine is a system that strikes the heart of the market 100

percent, and that is what caused them to turn things in a completely different direction. They now sell a lot more lab systems, which on the one hand is great, but on the other hand, it is these places that mill the units in their own labs, and so do not have to send them to the manufacturing centre. The second thing they did that was not according to plan was that they did not deliver the scanners as fast as they thought they would, and scanners that have not been delivered do not dispense the completed prosthetics that they are used to make.

Future Goals

As Markus Oberhuber read the Millennium Research Group report published in 2010 on the Dental Technology Market, he was particularly taken by the section that read:

"The global market for dental computer-aided design/computer-aided manufacturing (CAD/CAM) systems includes sales of complete systems and scanners in the laboratory and chairside segments in the US, Europe (France, Germany, Italy, and the UK), and Japan. In 2009, market growth was hindered by the global economic recession, which caused patients to postpone or cancel costly dental restoration treatments. Consequently, dental facilities in most parts of the world experienced a reduced workflow and were thus less willing to invest in capital equipment, such as CAD/CAM systems. This problem was compounded by the fact that obtaining the necessary financing to purchase such a system was extremely difficult in 2009. Nevertheless, the global CAD/CAM system market grew moderately that year, driven primarily by the rising popularity of chairside systems and scanners. With the introduction of new products, such as 3M ESPE's Chairside Oral Scanner (COS) and Sirona's CEREC AC, many dentists took advantage of trade-in programs and flexible financing options offered by manufacturers and distributors. Additionally, many dental laboratories in the underpenetrated markets of Europe bought CAD/CAM systems while prices were favorable. Over the forecast period, dental workflows will increase as economic recovery becomes more apparent, and the global dental CAD/CAM system market will grow strongly through 2014. However the key points should be noted:

1. *Dental laboratories in the US, France, Italy, UK, and Japan are predominantly made up of small-sized laboratories, whereas a larger number of medium-sized laboratories exist in Germany. How will laboratory size in these countries affect trends in the adoption of scanners and complete systems over the forecast period? How will these adoption rates affect revenue growth?*

2. *The recent changes to the French public reimbursement system in 2010 will allow for the coverage of all-ceramic restorations, including zirconia-based restorations. To what extent will the changes to the French public reimbursement system in 2010 affect the growth of the chairside and laboratory markets in the country over the forecast period? How will dentist and laboratory technician adoption patterns alter these trends?*

3. *There are a large number of dental clinics and dentist offices in Japan and there is considerable competition for patients. What is the potential for growth in the Japanese chairside market with the large number of dentists present? How will the competitive dynamics among dental practitioners impact unit sales in chairside complete system and intraoral scanner markets?*

4. *Despite the economic recession, the US and European dental CAD/CAM system markets experienced growth in 2009 while the Japanese market only experienced a slight contraction. What factors enabled the US and European markets to grow despite the financial downturn? How did the economic recession affect the growth of the chairside and laboratory CAD/CAM system markets differently in 2009? How was each of the specific countries in the global market affected?*

Markus knew that the Board wanted answers rather than questions but he would not have enough time to gather all of the information required before the meeting next week. What he needed to do was to offer some recommendations regarding the overall strategic that the company should take (including its three locations in three countries) and then highlight what actions needed to be taken in the coming months that would allow the Board to make a more informed decision towards achieving their overall goal of exiting their ownership of the company through an Initial Public Offering.