Adidas

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Introduction

Adidas today is the second biggest sportswear company worldwide, with more than 40,000 employees and revenues of more than 13 bn. EUR in 2011. Founded in 1949, Adidas managed to quickly become a leading manufacturer of sport footwear, equipping already many athletes for the Olympic Games in 1952 and the FIFA World Cup in 1954. In its early years, Adidas could very quickly expand its market position as a supplier for many soccer teams and Olympic Games athletes.

From its initial focus on athletic footwear, Adidas soon started to expand its product range, and since the mid-1960s also produced sportswear apparel and balls. Over the years the product range was further expanded to a wider set of sport categories (e.g. tennis, basketball, and skiing), and in the 1990s complemented with sports fashion products. The fashion business has proven to be very successful and thus important to Adidas, such that today Adidas is running two very successful business segments: Sports Performance and Sports Fashion.

The history of Adidas has not always been marked by continuous growth; there have also been turbulent times. In the mid-1980s, markets across industries were facing increasing competition and price pressures due to the globalization of the world economy. Back then, Adidas decided to take a major strategic and organizational decision, moving away from its focus on product manufacturing towards a strong focus on marketing. Manufacturing was to a large extent outsourced to third party suppliers in cheaper labor countries. In order to keep up with its main competitors, Adidas also started to look for take-over opportunities in the market and acquired the companies TaylorMade and Reebok (in 1997 and 2005).

In order to better understand the development of the miAdidas business outlined in the following section, we also need to look at the sales channels at Adidas. In the sportswear industry, historically,

[1] This case is extracted from a longer paper ('Exploiting Mass Customization Towards Open Innovation') presented at the 5th International Conference on Mass Customization and Personalization in Central Europe, Novi Sad, Serbia, September 19-21, 2012.

there has always been a strong market presence of large resellers and retail chains (e.g., InterSport, Foot Locker, and Decathlon) which operate large numbers of distributed stores and sell products of many different sports brands. Adidas still makes the majority of sales through this reseller/ wholesale channel. But over time Adidas has established other sales formats with a more direct control: Own retail stores operated by Adidas itself, mono-branded
Franchise stores, shop-in-shops, co-branded stores with sports organizations and other brands, and joint ventures with selected retail partners. With these formats, Adidas has a higher influence on the product offering and the product presentation at the point of sale, thereby being able to strengthen its brand and grow revenues.

As stated in the 2011 annual report, Adidas intends to further increase its controlled space initiatives from currently 36% of Group sales towards 45% in the next four years, especially by expanding own retail stores and mono-branded franchise stores Besides wholesale and retail, Adidas is also focusing on the online channel. E-commerce was for many years not seen as a relevant, and only in the US market Adidas offered its products in its own web-shop. In Europe, e-commerce was even stopped after a trial phase in 2001. Only in 2008, e-commerce was re-introduced to the European market and subsequently also to other markets. Today, e-commerce has been defined as the third major sales channel as part of the strategic business plan and will be systematically expanded in the next years.

The Origins of miAdidas

Historically, Adidas has been focusing on mass production – with attractive 'mass products', highly standardized processes, vertical integration of manufacturers in the supply chain, and a strong brand marketing focus. But the underlying presuppositions for successful mass production businesses have changed in the past decades: Companies across industries have been facing increasingly diversified demand patterns from their customers, supported by sociological changes and technological developments, especially the Internet. Global competition and increasing customer purchasing- power made many companies introduce more product variants in smaller quantities, in order to compete not only on price but also by a differentiated product offering.

This broader product range in smaller quantities not only reduced economies of scale, but also made planning and forecasting much more difficult, with an increased risk for out-of-stock and overstock situations. Christoph Berger, the former head of the miAdidas business unit, described the origins of miAdidas as follows[2]*: 'As a consequence of the changing competitive situation, Adidas management realized that implementing made-to-order manufacturing instead of made-to-stock variant production could become a promising option to manage the costs of variant explosion and broad product assortments'* [p.73].

The origins of miAdidas date back to the mid 1990's, when the management board decided to start

[2] C. Berger, K. Moeslein, F. Piller, R. Reichwald, „Co- Designing Modes of Co-operation at the Customer Interface: Learning from Exploratory Research" European Management Review, Vol. 2, No. 1, 2005, pp. 70-87

developing a mass customization program and introducing a first product range of customizable shoes.[3] This decision was also a response to the mass customization activities of the major competitor Nike, who was the first to introduce its 'NIKEiD' customization offering already in 1998 [4].

In 2000, after the concept and development phase, Adidas launched the first miAdidas customization offers in selected test markets. At that time, miAdidas was not yet a permanent offer, but only installed temporarily at major sports events. The early installations of miAdidas were mainly seen as a test phase, with the objective of reviewing and improving the production process, and for validating customer acceptance of this new offer. Based on the positive experiences, miAdidas was expanded to larger campaigns: In 2003 the equipment was built into a large truck which toured across the United States, offering customization at a mobile point-of-sale.

Very soon miAdidas also became a permanent offer in retail stores. The first installation was the Stockholm concept store already in 2002. Two years later miAdidas was launched in the New York performance store, one of the largest concept stores at that time. Subsequently the in-store concept was rolled out to more retail stores in major cities around the world. One highlight was the spacious installation at the Adidas store in Paris Champs- Élysées in 2006: Equipped with the latest technical features, the 'mi Innovation Centre' offered customers to run on a treadmill while their digital reprint was displayed on a large LED screen in front of them. Electronic sensors in the treadmill collected all individual running characteristics. Based on this data and according to the customer design, a perfectly matching individual shoe was produced.

Summarizing the above, miAdidas was implemented and introduced as a customization offer at the physical point of sale. Interestingly, the major competitor Nike followed a very different sales strategy: From the very beginning in the late 1990s the customization offer NIKEiD was implemented only as a digital service on Nike's website. Only after several years, NIKEiD also started to open physical studios within their stores in major cities in Europe, USA and China.

miAdidas today

In this section we will discuss how miAdidas has been transformed from an offline offering in retail stores towards an e-commerce business; how the product portfolio initially focused on performance footwear was extended towards a more comprehensive customization product range, including special offerings for new market segments; how the product introduction process has become a professional procedure, integrated with the inline new product development processes; and how customization from the consumer perspective (order-to- deliver) has been streamlined in order to create a unique customer experience.

We started our data collection for this research with a thorough review of the literature. Within the

[3] C. Berger, F. Piller, „Customers as Co-Designers", Manufacturing Engineer, Aug/Sep 2003, pp. 42-45

[4] K. Moser, M. Mueller, F. Piller, "Transforming Mass Customisation from a Marketing Instrument to a Sustainable Business Model at Adidas", International Journal of Mass Customisation, Vol. 1, No. 4, 2006, pp. 463-479

body of literature dealing with various aspects of mass customization, we have found two very interesting articles with a special focus on the miAdidas program: Berger, Moeslein, Piller, and Reichwald provide a comprehensive summary and interpretation from over seven years of collaborative research on mass customisation together with Adidas[5]. Also, Moser, Piller describe the evolution of 2006 and provide insights about various the product portfolio, manufacturing and logistics, customer interaction, and also customer loyalty.[6]

The above mentioned articles describe the miAdidas case from the perspective of the years 2005 and 2006. In order to examine and understand the developments until today, we have run several in-depth case interviews with functional managers from the miAdidas business unit. Interviews were audio-recorded and systematically analyzed. From the interviews, we could extract fact- based information about the current setup of miAdidas, the changes and advances over the past years, and we also discussed potentials for future enhancements of mass customization, especially towards open innovation practices.

Synthesizing our interviews, we can report that the miAdidas customization business today has become an integral part of Adidas' overall business, operated by a professional organization with clearly defined roles and responsibilities, supported by streamlined processes aligned with the mass production inline business and manufacturing suppliers, and a technical infrastructure enabling efficient processes at the front-end as well as in the back-end. We will discuss these different aspects in the subsequent sections.

The relevance of this business can be underlined by the fact that in 2011, for the first time, miAdidas was mentioned in the Adidas Group"s annual report as an important lever to achieve the strategic business plan: Research and development activities now also focus on individualization, digital technologies, and sustainable product innovation. It states that one of the major objectives is to foster the personal interaction with the end-customers.

Product Portfolio

When the miAdidas business was initially launched in 2000, it started with offering the Predator Precision soccer boot model for customization. Over the years, the miAdidas product range was expanded by the number of models, but also by additional categories such as tennis, running and indoor shoes. By 2007, miAdidas comprised already 14 different shoe models from six different sport categories. In 2008 the portfolio was complemented by a new product line: Sneakers from the 'Adidas Originals' style segment since then complement the miAdidas product portfolio. Until mid-2012 the product range has been further expanded from season to season, but is still limited to footwear: Currently there are 32 different models available on the German miAdidas website, 22 of them from the sport performance categories and 10 from the miOriginals segment.

[5] C. Berger, K. Moeslein, F. Piller, R. Reichwald, „Co- Designing Modes of Co-operation at the Customer Interface: Learning from Exploratory Research" European Management Review, Vol. 2, No. 1, 2005, pp. 70-87

[6] K. Moser, M. Mueller, F. Piller, "Transforming Mass Customisation from a Marketing Instrument to a Sustainable Business Model at Adidas", International Journal of Mass Customisation, Vol. 1, No. 4, 2006, pp. 463-479

All miAdidas footwear models are based on the latest Adidas inline product range of non-customized footwear. In our interviews we could confirm the underlying rationale for this setup[7]: The custom shoe production is done by the same manufacturing suppliers which Adidas uses for its inline business, hence manufacturing processes are established and working efficiently. The suppliers use mainly the same materials, components and machinery for the production and can achieve economies of scope. Furthermore, the inline product serves as reference point for miAdidas customers, in terms of the performance features and also the retail price tag. One interviewee added another rationale for using inline products as a basis for customizable products: Order quantities and required raw material stock volumes can be more accurately planned by correlating forecasts to sales figures from respective inline product.

Because new miAdidas customization products need to be launched soon after the inline market introduction, development processes must be closely aligned. The critical path for miAdidas product introduction is determined by the inline development process. The miAdidas product introduction process includes the selection of the product range for a specific season, creation of all new designs offered for customization, development of samples, product testing, forecasting of sales and materials, marketing planning, and market introduction. The growing miAdidas product portfolio increases the coordination complexity with the inline business. Therefore the new product introduction process over the past years has become more systematic, but not shorter in duration.

[7] K. Moser, M. Mueller, F. Piller, "Transforming Mass Customisation from a Marketing Instrument to a Sustainable Business Model at Adidas", International Journal of Mass Customisation, Vol. 1, No. 4, 2006, pp. 463-479

Fig. 1. New configurator (miTeam)

In order to not only serve individual consumers, Adidas in 2008 introduced a second business line for miAdidas. This offer (named “miTeam”) is directed at semi-professional teams, university teams, schools and community teams. The miTeam product portfolio covers a wide range of sport categories including soccer, basketball, and also running. Until recently, miTeam products could only be ordered from selected distribution partners in retail stores. Since the launch of the new miTeam website in June 2012, miTeam products can be directly be customized and ordered online. The new product configurator in the miTeam website already offers the ability not only to customize footwear, but also apparel (e.g., shirts, pants, socks) and accessories. This configurator is soon to be implemented also for the miAdidas individual customization website, which in the near future shall also include apparel and accessories.

Sales Channels

miAdidas today is mainly a digital experience: The management team decided to take a major shift in their miAdidas sales channel strategy, moving away from the formerly purely physical on-site business in selected retail stores towards offering a mix of online and offline channels. In 2009, the first miAdidas online platform was launched in the US, and in 2010 also rolled out to European markets in the UK, Netherlands, France, and Germany. Today the miAdidas online platform is integrated in the different own web-shops in the countries (e.g. http://shop.adidas.de). The major advantage of the online channel is that miAdidas customers can design their product anytime and anywhere, and do not need to find a miAdidas retail store first.

Offering mass customization via the Internet is concerned with two major challenges: First, there is no sales support for consulting the customer and for reacting to individual questions which may be relevant for the customer's purchasing decision. When miAdidas was initially introduced to retail stores, the management team was concerned that it needed to send specialized and trained personnel as temporary sales clerks, because the existent sales staff was not able to handle the complex processes and could not sufficiently assist the customer in the co-design process[8]. This challenge is even stronger in the Internet: All required product and process knowledge must be explained in clear and simple ways, enabling customers to perform the customization process completely by themselves and providing them with sufficient confidence to complete the purchase order.

The second challenge is the 'no returns' policy which Adidas applies for customized products. In contrast to non-customized products sold via the Adidas online shop, which can be returned within 30 days after receipt, customized products cannot be returned (except for manufacturing defects). This implies a high degree of customer trust in Adidas as a brand and its product quality. It also requires that the online configurator displays the customized product on the screen very realistically and accurately, in order to ensure that the final product exactly meets the customer's expectations.

Despite those challenges, the shift towards offering miAdidas via the online channel was a logical move: E- commerce has become increasingly relevant in the entire fashion industry, and is therefore also highly relevant for Adidas and also its mass customization business. This trend has been supported by increasing commercial pressures on retail sales floors: Tight controlling of sales per square meter does not permit spacious installations anymore. With the new configurator, the miAdidas retail space can become even more efficient in the future:

Developed as a multi-platform solution, the configurator can be integrated not only in the Adidas web-shop but also on tablet computers in retail stores. The configurator can even be integrated in third-party web shops and in social networks. This flexibility may support further sales channel harmonization in the future and thereby enable a more congruent customer experience.

Order-to-Delivery

Adidas since decades uses third party manufacturers for mass production and uses the same manufacturers also for producing the miAdidas customized products. The order-to-delivery process works as follows: Once the customer has finished customizing the product, a customer order is produced and the product-specific technical document is created from the system. The technical document together with the purchase order is transmitted to the appropriate supplier. The supplier then starts producing the customized product. If the customer ordered the product in one of the miAdidas retail stores, it will be delivered to the store and the customer needs to pick it up there. If the customer ordered the product via the miAdidas website, the product will be shipped directly to her home address.

[8] C. Berger, K. Moeslein, F. Piller, R. Reichwald, „Co- Designing Modes of Co-operation at the Customer Interface: Learning from Exploratory Research" European Management Review, Vol. 2, No. 1, 2005, pp. 70-87

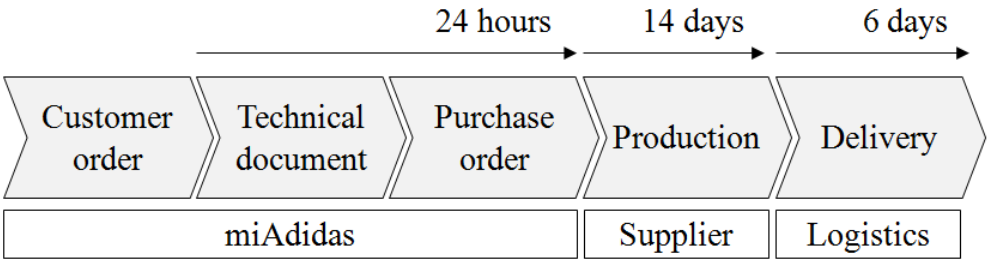

Fig. 2. Order to delivery process

The entire process from order to delivery is designed to complete within 21 days. This is on the one hand certainly longer than the order-from-stock delivery time for non-customized products, but on the other hand it is a robust build-to-order process integrated with its retailers and suppliers along the supply chain. Such a streamlined and robust process is a key requisite for achieving high compliance with the promised service level to the customer and thus one of the fundamental capabilities of successful mass customization.[9]

For miTeam customization orders, the process can take up to 45 days, due to an increased chance that raw material is not available on-site at the manufacturer because of larger order quantities. miTeam orders will always be sent to one of the retail partner stores. The following illustration shows the different product lines, customer order sales channels, and delivery types.

[9] F. Salvador, P.M. de Holan, F. Piller, „Cracking the Code of Mass Customization", MIT Sloan Management Review, Vol. 50, No. 3, 2009, pp. 71- 78

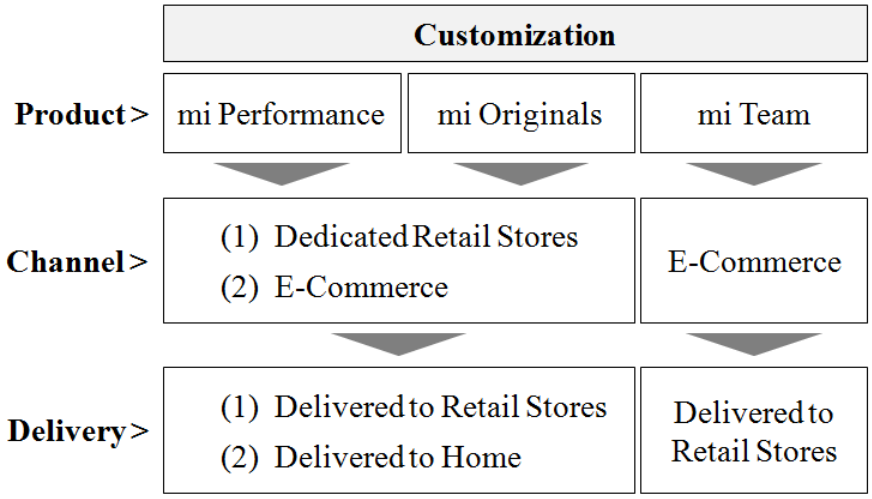

Fig. 3. Product Lines, Sales Channels, and Delivery

User Experience

Mass customization by definition is based on the interaction with the customers. This process is more than a one-off product purchase decision: Customers want to enjoy pleasure and fulfillment of their emotional needs [10] which they can only obtain if the company is able to create a memorable event and a personal user experience. [11]User experience only recently has become a focus topic for miAdidas. In the past years, the business unit was rather concerned about establishing professional structures and a robust and efficient back-end with integrated processes and tools. Having these structures in place, Adidas is starting to focus also on the front-end, i.e. the customers and their experience.

According to one interviewee, user experience needs to be considered for the entire interaction process and all customer interfaces, not limited to the purchasing process but rather accompanying the customers over their entire customer lifetime. User experience is seen as a key enabler for intensifying the customer relationship, and also for differentiating from competitors with similar mass customization offers. However, understanding user experience as a holistic concept requires a process of change for an organization that (from a corporate group perspective) in the past has focused on third party retail and wholesale partners as its primary 'customers'. In order to create and offer a unique user experience, a first step at miAdidas was to rebuild and optimize the product configurator, i.e. focus on the digital experience within the configuration process. The configurator is the primary customer interface and must be designed to enable a perfectly efficient and effective interaction.[12] Implementing a good user experience is concerned with ease of use of the 3D engine for configuring the product model, but also with accuracy of the displayed size, forms, colors, and product material.

[10] K. Herd, A. Bardill, M. Karamanoglu, „The Co- Design Experience: Conceptual Models and Design Tools for Mass Customization", in: Handbook of Research in Mass Customization and Personalization, 2010, pp. 181-207

[11] B.J. Pine II, J.H. Gilmore, „Welcome to the Experience Economy", Harvard Business Review, Vol. 76, No. 4, 1998, pp. 97-105

[12] M. Schreier, „The Value Increment of Mass- Customized Products: An Empirical Assessment", Journal of Consumer Behaviour, Vol. 5, No. 4, 2006, pp. 317-327

User experience is not limited to the customization process, i.e. the individual design of the product. User experience also needs to be considered for the 21 days order-to-delivery time. A continuous information feed is required to inform the customer about the status of production and delivery.

In addition, user experience should also be taken into account for the experience with the finished product. If customers have a great experience with their miAdidas products, they will more likely come back to buy the next product, and also recommend miAdidas to others. Only by creating a unique and superior experience over the entire product lifetime, Adidas will be able to turn excitement into customer loyalty and thereby creating an enduring customer relationship.

Summary of the miAdidas Development

The miAdidas business has continuously grown and evolved. This evolution has been accompanied by the implementation of professional structures – new product development processes aligned with the inline business, standardized supply chain processes from order to delivery, clear organizational roles and responsibilities, and also integrated IT solutions supporting all processes at the front-end and in the back-end.

The following table provides a summary of the major developments over the past years. We compare miAdidas in 2012 with the situation when mass customization was initially launched and tested (until 2003), and with 2005, when miAdidas had *'reached a moderate level of experience and left its pilot stage'* [p.83].[13]

Table 1. miAdidas Developments and Milestones

Until 2003	**2005**	**2012**
First miAdidas offers at events and via campaigns	Sales mainly via dedicated retail stores	Still offered in retail stores, but focus on online channel
Limited to small number of soccer boots	More sport categories, various performance models	Extended product range (performance & style), plus miTeam
Manual processes, not standardized and integrated	Standardized processes, designed to run a sustainable offline business	Processes and tools integrated, ready for further product range & sales channel expansion
Focus on trial testing and gaining experience	Focus on establishing processes and tools	Focus on next generation configurator, scalable tools & processes, and user experience

We have seen that miAdidas has constantly evolved into a sustainable and professionally managed business. In the near future, the miAdidas product portfolio for individual consumers is planned to be

[13] C. Berger, K. Moeslein, F. Piller, R. Reichwald, „Co- Designing Modes of Co-operation at the Customer Interface: Learning from Exploratory Research" European Management Review, Vol. 2, No. 1, 2005, pp. 70-87

extended to also include apparel and accessories. This will offer the customers new opportunities to unfold their creativity and demonstrate their talent for design. Sales channel optimization and harmonization can be supported by the new configurator, which is no longer hard-coded into the Adidas e-commerce web-shop, but designed as a stand- alone module ready to be integrated in the own web-shop, tablets in retail stores, and third party systems.

Exploiting The Active Customer

As discussed above, the current implementation and the future prospects for miAdidas should allow for a continuous growth story in the next years. The organization, the processes, and the tools are capable of scaling the business to higher levels. However there could be further potential to exploit the creative and innovative potential of the miAdidas customers, through engaging them as co-creators at the design stage.

Active Customers and Lead Users

The customer-active paradigm is usually applied in the context of idea generation for the development of new products[14]. This paradigm describes the concept that not only manufacturers can initiate the idea generation process in order to come up with new product ideas, but also customers can identify new demand, develop ideas for a desired product, and even develop the product themselves or find an appropriate supplier who develops it. The customer-active paradigm is contrasted to the manufacturer-active paradigm, which relates to the classical role of the manufacturer as the initiator and coordinator of the idea generation and the new product development processes.

Customers who proactively engage in new product development are also called 'lead users'[15]. Lead users are characterized by (1) experiencing needs earlier than many other users in the market, and (2) anticipating high benefits from a solution to their needs. For example, surgeons working in university clinics in Germany have been found to develop or improve certain medical equipment in order to satisfy specific needs in their work environment and also webmasters of company IT networks were observed to not only enhance the Apache web-server software for their specific needs, but they also communicate these enhancements back to the development community[16].
Many examples of lead users have also been found in the sporting equipment industry: The first mountain bikes were developed by lead users in the 1970s, when they found joy in using their bicycles off-road, but available commercial bikes could not be used for this activity. Building upon the lead user innovations, the production of mountain bikes was then professionalized and became new business

[14] E. von Hippel, „A Customer-Active Paradigm for Industrial Product Idea Generation", Research Policy, Vol. 7, No. 3, 1978, pp. 240-266

[15] E. von Hippel, „Lead Users: A Source of Novel Product Concepts", Management Science, Vol. 32, No. 7, 1986, pp. 791-805

[16] C. Lüthje, „Customers as Co-Inventors: An Empirical Analysis of the Antecedents of Customer-Driven Innovations in the Field of Medical Equipment", Proceedings of the 32th EMAC Conference, Glasgow , 2003
and
N. Franke, E. von Hippel, „Satisfying Heterogeneous User Needs via Innovation Toolkits: The Case of Apache Security Software", Research Policy,Vol.32,No. 7,2003,pp.1199-1215

for existing manufacturers and also for new players in the market[17]. Other lead users have improved their windsurfing equipment, when they developed the new practice of making high jumps in the waves, and therefore built footstraps onto their surfboards. The sport of jumping with windsurfing boards was then widely diffused in the windsurfing community, and equipment manufacturers adopted the footstrap innovation for developing a new category of surfboards.

Mountain biking and windsurfing are only two examples of many. There is a general broad opportunity for lead users in the sports industry, because the sports enthusiasts are usually the first to identify and develop new practices and therefore modify and enhance their equipment.

Open Innovation with Customers

Not only lead users can be a valuable external source for innovation. The open innovation paradigm provides manifold theoretical options for engaging with external partners in the development of new products and also new services[18]. Open innovation can encompass lead users, but also joint research projects with universities, innovation labs, and other companies (even competitors). And also beyond the specific group of lead users, companies have also started to involve 'ordinary' customers in their innovation processes. These customers have fewer innovative capabilities and less enthusiasm to solve a problem by themselves (like lead users do), but they still have valuable knowledge, skills, and they have also individual needs for products or services. This need information makes them also a valuable potential source for innovation.

Piller and Ihl provide a typology of different modes for open innovation with customers[19]. At the so called front-end of the innovation process, customers can be engaged in the generation of new ideas, and also in the selection of the most valuable or promising ideas. A common approach is the execution of idea contests, where customers are invited to provide ideas related to a specific problem. Idea contests are usually run via an online platform, in order to facilitate access for a broad number of customers. In practice, quite a large number of idea contests has been run in the past years, with very different task definitions: In some cases the tasks are rather broadly defined with a large solution space and little complexity; in other cases the tasks are very specific and complex, require a high degree of expertise, and only very knowledgeable and skilled participants are able to find a solution for the problem. Adidas used this approach once for miAdidas in order to obtain customer ideas for improving their (at that time still physical) miAdidas offering. However, this contest so far was only a one-off exercise and not implemented as a continuous approach[20].

A similar format for involving customers at the front- end of the innovation process is the 'suggestion box' approach. Compared to idea contests, there are two major differences: There is no distinct

[17] E. von Hippel, „Democratizing Innovation", MIT Press, Cambridge, MA, 2005

[18] H. Chesbrough, „Open Innovation - The New Imperative for Creating and Profiting from Technology", Harvard Business School Press, Cambridge, MA, 2003

[19] F. Piller, C. Ihl, „Open Innovation with Customers - Foundations, Competences and International Trends", Technology and Innovation Management Group. RWTH Aachen University, Germany, 2009

[20] F. Piller, D. Walcher, "Toolkits for Idea Competitions: A Novel Method to Integrate Users in New Product Development", R&D Management, Vol. 36, No. 3, 2006, pp. 307-318

formulation of the problem, and there is no deadline for participants. The solution space is very large compared to idea contests, and accordingly the required expertise from participants is rather low. An example of such a suggestion box is the platform 'Ideastorm' run by the computer company Dell. Customers can propose ideas and can discuss and vote on other's ideas. Depending on the voting but also on the feasibility and business value, Dell implements some of the ideas for improving their service and for offering better products.

Customers can also be engaged at a later stage of the innovation process, in the design and development phase. At this stage, tasks are more specific, they require specific knowledge and skills, and results need to be more elaborated in order to be valuable for the company. This calls for a very structured approach for the interaction with customers which should be supported by toolkits for innovation[21]. Such toolkits may be very similar to those toolkits which companies use internally for their designers and developers, for example computer aided design software (CAD). The toolkits by their functionality define the solution space and also provide access to the company's sticky solution information, i.e. how the problem can be solved; in a trial-and-error iteration, customers can then develop solutions within the given solution space in order to find the ideal solution which best matches their needs.

Figure 4 illustrates a schematic overview of the different forms of customer involvement in open innovation. It should be noted that from the different customer involvement modes suggested by Piller and Ihl we have focused on those approaches where contributing to innovation is the central objective, and which are organized by the company and not by the community. The latter limitation is used because of the underlying assumption that the innovation process in a company-context is always driven and controlled by the company, as opposed to community-driven innovation processes e.g., open source software development.

[21] E. von Hippel, R. Katz, „Shifting Innovation to Users via Toolkits", Management Science, Vol. 48, No. 7, 2002, pp. 821-833

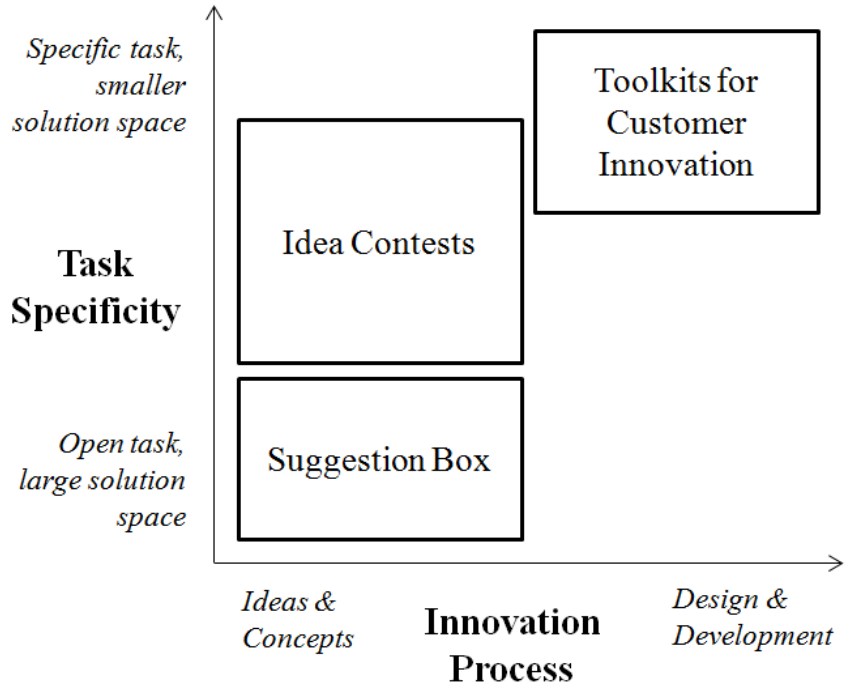

Fig. 4. Open Innovation with Customers

miAdidas and Open Innovation

From the above it is clear that there is a major difference between mass customization and open innovation: Mass customization enables customers to participate in the production process, whereas open innovation offers customers the opportunity to participate in the innovation process. The way mass customization is implemented today – not only in miAdidas but across industries – allows customers to be creative, but not innovative. A successful innovation is not only based on the creation or invention of something new, it is also required that it is widely accepted by the market and results in significant usage or sales figures. In mass customization, customers design their products only for themselves. The result is a single individual product. In contrast the result of an innovation process is not a single product, but a new offer to the market. This new offer can differentiate incrementally or also radically from the previous offers.

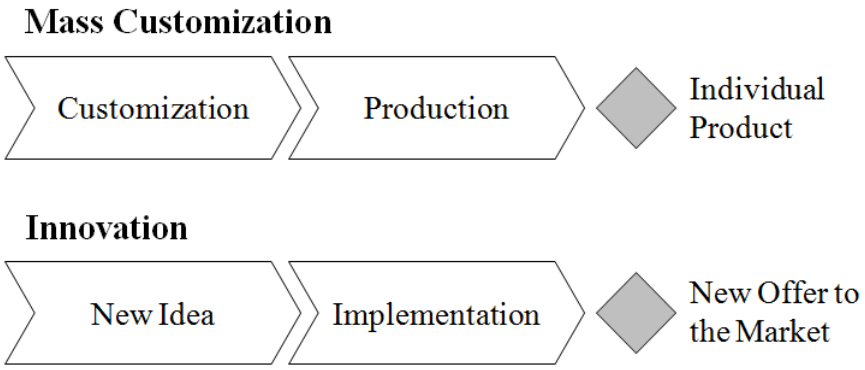

Fig. 5. Mass customization vs. Innovation process (high level)

Despite the differences of these concepts, we argue that there is also a clear potential for establishing a connection between them. Let us remind of the lead user characteristics, which we have discussed earlier. To a certain extent, also customers of miAdidas who design individual products demonstrate lead user characteristics: They experience a need to differentiate from others and express their individuality, and they modify mass-market products according to these needs. Compared to the customer who buys products off the shelf, mass customization customers are certainly more active and engaged.

In the following, we explore some ways to further exploit the activity and the ability of the mass customization customers. In particular we look at three opportunities which are related to the discussion of customer involvement in open innovation.

a) Using the configurator for design contests:

The new configurator has been developed as modular solution and could also be integrated into a design contest environment. Customers could use the configurator to design their product and then share their design with others. The other participants of the contest could then vote which designs they like most. Such an approach would be very similar to the offers from companies like Threadless.com and Spreadshirt.com, which have based their entire business model on crowdsourcing t-shirt design. The benefit is not only that the design task is outsourced to the community and thus the internal workload should reduce; there is also a great benefit of very reliable demand forecasts and thus minimizing the risk of overstock production[22]. Especially for t-shirt design customization, which is planned to be offered soon also for individual miAdidas customers, design contests could be a promising opportunity.

b) Implementing a suggestion box

[22] S. Ogawa, F. Piller, „Reducing the Risks of New Product Development", MIT Sloan Management Review, Vol. 47, No. 2, 2006, pp. 65-71

Adding a suggestion box to the mi-Adidas configurator could yield valuable insights. One the one hand, customers could suggest new configuration items and new configuration choices. With an integrated peer-review evaluation scheme, the most promising suggestions could be identified and used for future extension of the mi-Adidas offer. Such a suggestion box would not necessarily be limited to product configuration choices: It could also encompass topics like technical enhancements and usability improvements for the configurator, thus helping to improve the configuration experience for miAdidas customers.

c) Offering a toolkit for customer innovation:

The configurator as the existing customer interface is currently limited to the selection of colors, some material elements, a set of predefined logos, and a personal engraving. We could imagine that Adidas could offer a toolkit for customer innovation with a much wider solution space beyond customization of colors, logos, and letterings. An extended toolkit could provide an additional functionality to also modify the form factor of the products (CAD functionality), and maybe even the definition of the material. This would enable customers to express their innovative potential much more than today. The extended toolkit could be implemented as a stand- alone product, or as an extension of the configurator.

d) Feeding mass customization data back into the inline NPD process:

Mass customization can also be understood as a valuable source for collecting need information from the customers, which for non-customized products can only be obtained by using classical market research instruments. By designing their individual product, customers automatically provide information with regards to their preference for certain designs and design attributes. Systematic data analysis of all miAdidas configurations over a certain period would reveal the most preferred and also the most unpreferred design attributes. This information could then be used by the inline product development teams for designing the next generation product range.

Evaluation of Future Opportunities

The presented opportunities for further exploiting the mass customization business and the community of active customers have currently some limitations. Most obvious and presumably easy to realize would be the fourth opportunity. This has already been proposed in earlier studies, where the authors discuss that *'the mass customization segment can be seen as providing panel- like market research information'* (p.74)[23]. However, a systematical approach to forecasting based on miAdidas customer preference information has not yet been implemented for two reasons: First, because it would require a comprehensive business intelligence IT solution which is not in place at the moment; and second, because the trends and customer preferences in the fashion business are subject to frequent changes, i.e. what is hot this season may be outdated and 'old fashioned' already next season.

[23] **C. Berger, K. Moeslein, F. Piller, R. Reichwald, „Co- Designing Modes of Co-operation at the Customer Interface: Learning from Exploratory Research" European Management Review, Vol. 2, No. 1, 2005, pp. 70-87**

Theoretically, this approach may also bear the problem of some kind of cannibalization effects: The accuracy of trend forecasts based on customization preferences increases with a larger customer base using miAdidas. Simultaneously the relevance of these forecasts for the inline business will be reduced, once more customers shift from mass production to mass customization offers. At the very extreme, which is only an imaginary situation, if all customers would buy mass customized products, the explanatory power of their customization preferences would diminish.

The third opportunity, which is offering a toolkit for customer innovation, certainly bears some potential. Although most of the miAdidas customers will hardly have sufficient technical knowledge and skills required for developing new form designs and new product material compositions, there may be people outside the organization who could be a valuable innovation source. '*Not all the smart people work for us'* is certainly also true for companies in the sportswear business. Only recently, Adidas has launched a design competition inviting artists, designers and creators worldwide to customize fashion sunglasses. Participants need to have certain design knowledge and skills in order to contribute their own sunglasses 2D and 3D designs. For these kinds of competitions, a toolkit for design and innovation could be very useful, because it would facilitate the activity of crowdsourcing product design and development from an external community of experts. But the use of such an innovation toolkit is also limited: Technical, material, and design innovations are key for Adidas to secure its market position, differentiate against competitors, and grow sales and revenues. Hence Adidas always has and will continue to develop new innovations to a large extent with its own team of R&D specialists.

The second opportunity, the suggestion box, can be considered a valuable approach for the future. We can examine a large and growing number of companies who have implemented this approach on their websites and online platforms. The increasing popularity also calls for further adoption of this approach because customers more and more get used to such offers and will demand to get this opportunity also from companies which so far have not implemented it. Especially mass customization customers could be expected to show a high degree of self-expression and thereby a high contribution rate to such a forum.

The first opportunity, running miAdidas design contests on a temporary or permanent basis, also seems to be a promising approach for exploiting the creative potential of mi-Adidas customers. Adidas has already done a first project in this direction: In 2011, a design competition was run together with the Olympique de Marseille soccer club, where more than 60,000 fans created over 240,000 design proposals for the next season team jersey. With the new modular configurator, the execution of such design contests should be possible without too much implementation efforts. Adidas could also consider a complementing business model for miAdidas centered around a permanent implementation of design contests, similar to the offers of Threadless and Spreadshirt. Imagine the best designs would be produced as a limited edition and offered to customers for pre-ordering before production. This would allow Adidas to make precise material planning without any overstock production. And the successful customer-designers could not only say *'look, I have designed my own shoe'*, but instead tell their friends *'look, you are wearing a shoe which I have designed'.*