

# Introduction to Innovation Management

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## The Influence of Market Orientation on Innovativeness

**With a constant demand for new products, shorter product life-cycles, and a rise in global competition, innovativeness and the generation of innovations are imperative for a company's growth and competitiveness in today's market. Market orientation is a concept that leads to better firm performance and competitiveness and has been shown to influence innovativeness. Due to the significance of innovativeness for a company's success, understanding what influences it is quite important. This article first examines the individual concepts of market orientation and innovativeness and then evaluates the depth of the connection between these concepts. The results demonstrate significant overlaps. Also, an expansion of the traditional market orientation concept to include additional stakeholders and sustainability concerns is discussed. A look at current innovative projects of a selected chemical corporation demonstrates, that both the significant influence of market orientation on innovativeness as well as the consideration of sustainability and additional stakeholders can be observed in the chemical industry.**

## 1 Introduction

The seemingly ever faster-moving world is constantly subjected to change. Subjects like global warming, sustainability and fair trade have gained considerable importance. These changes strongly influence the behaviors and wants and needs of the consumers, leading to shorter product life-cycles and high demands for new products, especially products that address the before-mentioned challenges. At the same time, there is more competition and resources are declining (Damanpour and Wischnevsky, 2006). To succeed in the changing market and stay ahead of their competitors, companies need to create innovations (Gopalakrishnan and Damanpour, 1997). This means, that in today's market, being innovative is essential for a company's survival. Therefore, the question of what makes a company innovative or what influences a firm's innovativeness is more important than ever, because innovativeness and performance are closely linked (Wang and Miao, 2015). Over time, several concepts have been developed that are

supposed to lead to better performance and competitiveness. One of these concepts is market orientation, which refers to an organization's specific approach to dealing with the market (Kohli and Jaworski, 1990). Customer orientation is one of the components of market orientation, it may even be the most obvious one. Since market orientation is said to lead to better performance (Narver and Slater, 1990), it is argued that it achieves this partly by influencing a company's innovativeness. But how deep is the connection between market orientation and innovativeness?

This article has several goals. The first one is to describe the concept of market orientation and highlight the importance of customer orientation. Then the differentiation between innovativeness and innovation will be discussed, followed by an examination of how deeply the concepts of market orientation and innovativeness are connected, to discover how market orientation influences innovativeness.

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Additionally, a potential expansion of the market orientation concept to include other stakeholders and sustainability concerns will be discussed. Lastly, there will be a very brief look at a chemical company to determine if a connection between market orientation, innovativeness and the resulting innovations can be observed in current innovative projects.

## 2 The concept of market orientation

To understand how market orientation influences innovativeness, it is important to first clarify what exactly market orientation is. Even though the concept of market orientation was most closely defined in the 1990s, these definitions are still used in the more recent literature (e.g. Kamboj and Rahman, 2017; Wang and Miao, 2015) and as such can still be considered as the current state of the art.

### 2.1 General definition of market orientation

The most frequently used definition is, that "market orientation refers to the organizationwide generation, dissemination, and responsiveness to market intelligence" (Kohli and Jaworski, 1990, p. 3) and that "effective market intelligence pertains not just to current needs, but to future needs as well" (Kohli and Jaworski, 1990, p. 4). The gathered intelligence is more than just the verbalized needs or preferences of the customers. It also includes analyzing a myriad of factors that influence changes in customer behavior, such as examining exogenous factors (e.g. government regulations), changing conditions in the customers' industry or actions undertaken by the competition. Both current and future needs and preferences of the customers are considered, with the understanding that the development of future products can take years. Since the gathering of market intelligence takes place across the entire organization, it is necessary for the different departments to exchange information. (Kohli and Jaworski, 1990).

Bearing the already mentioned facets in mind, market orientation is composed of the three behavioral components customer orientation, competitor orientation and interfunctional coordination as well as the two decision criteria profitability and long-term focus (Narver and Slater, 1990). A market-oriented organization stands out compared to non-market oriented organizations in its "superior

market sensing, customer linking and channel bonding capabilities" (Day, 1994, p. 41). This enables the organization to sense market trends earlier than their competitors giving it both the opportunity to react quickly and accurately to the coming changes as well as being able to predict what the competition might do next.

### 2.2 Customer orientation as part of market orientation

As already mentioned, customer orientation is one of the three main behavioral components of market orientation and it might be the most obvious one. After all, "the customer is king" is a well-known concept. Customer orientation encompasses actions with the intention of collecting customer information as well as distributing it throughout the organization. The purpose of customer orientation is to continuously produce superior value for the customer. To achieve this goal it is necessary to not only understand the current and future needs of the intended customer but also the customer's entire value chain as well as the customer's customers, for these are factors that influence the customer's needs (Narver and Slater, 1990).

Another aspect of customer orientation is the capability of "customer linkage". This refers to the abilities and processes that are necessary for the establishment of customer relationships with the purpose of faster determining individual customer needs and therefore potentially creating long-term customer value (Day, 1994).

## 3 The concepts of innovation and innovativeness

The terms "innovation" and "innovativeness" are sometimes used interchangeably but efforts have been made to differentiate between them. The following sections describe the differences between these two terms, showing clearly that though they are closely related, innovation and innovativeness are distinguishable from each other.

### 3.1 Innovation

Innovation is the development and implementation of new ideas (Salavou, 2004). To grow and keep up with competitors an organization must implement innovations. This can be

done through innovation generation or innovation adoption. An organization's ability to generate its own innovations is dependent on the organization's market capabilities and technological knowledge, whereas the adoption of innovations refers to the assimilation of an innovation, that was created elsewhere and is new to the adopting organization (Damanpour and Wischnevsky, 2006).

The most commonly used dimensions of innovations have been summarized as being technological innovations, which consist of new products, technologies, or services and administrative/managerial innovations, which include new policies or procedures or changes in the organizational form. A combination of these two dimensions can lead to higher competitiveness of the organization (Mohd Zawawi et al., 2016).

Another way to classify innovations is by their level of newness, making them either radical or incremental. They also differ in their uncertainty. Incremental innovation refers to an innovation that builds on something that is already known, making it less risky than a radical innovation, which can be something that is previously unknown. Also important to consider is the level at which the innovation takes place. A challenge in the innovation process can be to ensure, that an innovation that takes place at a "component level", meaning only a part of an established product is replaced, still functions in the overall system. And when innovation takes place at a higher level in the system, it might become necessary for a firm to change its already established processes and channels to sufficiently support this innovation (Tidd and Bessant, 2021).

In the following chapter, it will become clear, that innovations are a consequence of innovativeness.

### 3.2 Innovativeness

Innovativeness is a precursor for innovations. Innovativeness is a cultural aspect of an organization and refers to the organization's openness to new ideas. It can be used to measure the organization's inclination towards innovation (Hurley and Hult, 1998). Several dimensions have been formulated and validated for innovativeness, namely "creativity", "openness", "future orientation", "risk-taking" and "proactiveness" (Ruvio et al., 2014). In addition to that, a multitude of cultural characteristics, such as "market focus",

"learning and development" and "communication" have been established (Hurley and Hult, 1998). All these characteristics are indicators for an organization's innovativeness and it was found that innovative firms showed a long-term high level of innovativeness (Salavou, 2004).

As mentioned before, innovations can be seen as a result of innovativeness. Therefore, innovativeness is a desirable aspect of the organization's culture, as it is expected to lead to a higher number of innovations, making it a key factor in supporting a company's continuous growth (Salavou, 2004).

## 4 Market orientation and innovativeness

The previous chapters discussed market orientation, innovativeness and innovation as individual concepts. The following chapter will demonstrate, how these concepts are connected.

### 4.1 Connecting market orientation and innovativeness

Having ascertained what market orientation, innovativeness and innovation are, the next step is to find the connection between these concepts. As it has been established, that innovativeness is a precursor to innovation, making innovation the product of innovativeness (Mohd Zawawi et al., 2016), the link between these terms is clear. Now the goal is to determine how market orientation influences innovativeness.

Seeing as innovations are made for the market, it is obvious that there must be a connection between these concepts and several aspects of the relationship between market orientation and innovativeness have been studied. One example is that market orientation seems to influence the balance of radical and incremental innovations (Baker and Sinkula, 2007). A different study found that innovativeness could be enhanced through market orientation (Kirca et al., 2005) and a meta-analysis showed market orientation as having a strong positive effect on the success of new product innovations (Evanschitzky et al., 2012). These studies confirm the correlation between market orientation and innovation. However, previous literature seems to be lacking a direct comparison of the concepts. So to better

understand the depth of this correlation, a comparison of the already established characteristics and aspects of both market orientation and innovativeness can be made to determine the intersections between these concepts. Figure 1 depicts a selection of these aspects and characteristics that have either been directly mentioned or can be discerned from several sources, grouped in a way that illustrates their connection.

#### 4.1.1 Keeping the market in mind

The first two characteristics of innovativeness to discuss are "market intelligence" and "market focus" (Hurley and

Hult, 1998). These characteristics show the most obvious connection to market orientation, considering there is even the word "market" in their name. And market orientation is centered on market intelligence and market focus, so the first correlation between market orientation and innovativeness can easily be seen in these characteristics. As to why these characteristics play an important role in innovativeness, as mentioned before, the market is who innovations are made for, so naturally, a focus on the requirements and changes of the market is necessary for the development of successful innovations. And so, a focus on these aspects influences the innovativeness of an organization.

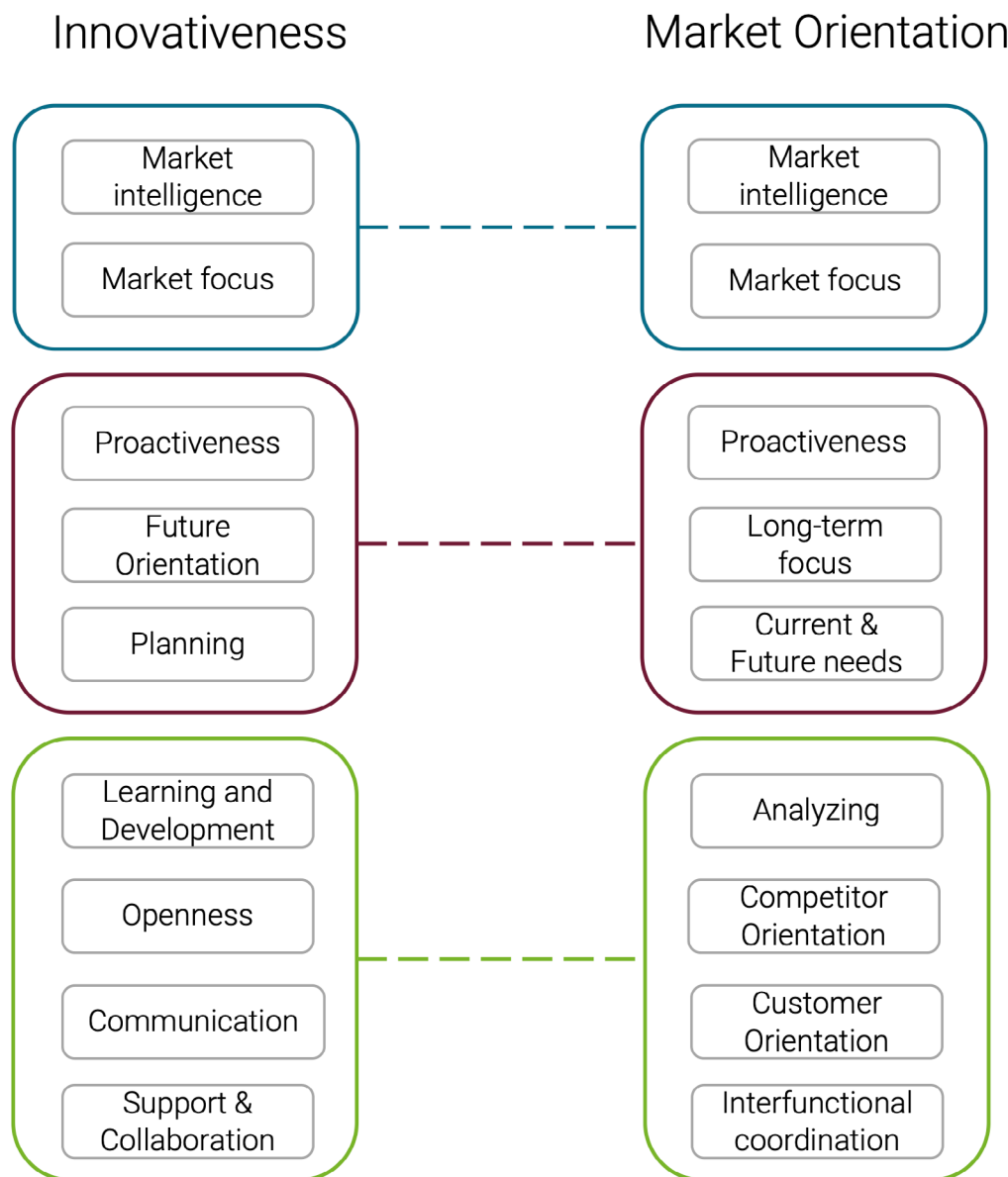


Figure 1: Aspects of market orientation and innovativeness as found in different literature sources (Atuahene-Gima et al., 2005; Hurley and Hult, 1998; Kohli and Jaworski, 1990; Narver and Slater, 1990; Ruvio et al., 2014).

#### 4.1.2 Considering the future

The next characteristics to look at on the innovativeness side are “planning” (Hurley and Hult, 1998), “proactiveness” and “future orientation” (Ruvio et al., 2014). On the market orientation side, there is also “proactiveness” (Atuahene-Gima et al., 2005) as well as “long-term focus” and “current and future needs” (Kohli and Jaworski, 1990). The reason these aspects have been grouped is that they all have a connection to the future. To be proactive is to consider opportunities, be they related to current products or not and to take the initiative to act on possible future needs (Ruvio et al., 2014). Therefore, proactiveness is closely connected to the aspects of “future orientation” and “planning”. To be proactive, one needs to consider what could happen in the future and plan accordingly. This is a very important aspect of innovativeness, especially because it can take several years to develop an innovation (Kohli and Jaworski, 1990). Additionally, product life-cycles are getting shorter, meaning the time between the launch of a product or service and the need for new products or services and therefore innovations is also getting shorter. As a result, companies require an increase in innovativeness. Because it can take a long time to develop an innovation, companies must plan ahead of time and try to estimate what consumers might want in the future, ensuring the company has enough time for the innovation process. This already shows the correlation between the concepts of market orientation and innovativeness because market orientation is future-oriented too and considers both current and future customer wants and needs. These wants and needs are some of the main things that drive the innovativeness of an organization.

#### 4.1.3 Finding inspiration

The last group has the aspects “openness” (Ruvio et al., 2014), “learning and development”, “support and collaboration”, and “communication” on the innovativeness side (Hurley and Hult, 1998). On the market orientation side, there is “analyzing” (Kohli and Jaworski, 1990), “customer orientation”, “competitor orientation” and “interfunctional coordination” (Narver and Slater, 1990). At first glance, it might seem that these characteristics do not have much in common. However, if looked at more closely, one could say that the overall theme in this group is “inspiration”. For companies to be innovative, they need to have a certain level of openness. Because only if they are open to new

ideas and inputs can they be innovative (Ruvio et al., 2014). They need the ability to learn (Hurley and Hult, 1998), both from the consumers’ wants, this being the link to customer orientation, and from the way their competitors’ act. Competitor orientation is also an important aspect of market orientation because to keep up with the competition it is important to understand what it is that they do, learn from that and channel it into the company’s innovativeness. This is also where one can find the connection to the aspect “analyzing”, since both customer and competitor behaviors and exogenous factors that might influence them should be analyzed if companies want to learn from them (Kohli and Jaworski, 1990).

The aspects “support and collaboration” and “communication” are most closely linked to the market orientation characteristic “interfunctional coordination”. Inspiration for innovations does not just come through customer and competitor observations. They also come through communication with other people and other departments which is why “openness” is such an important aspect of innovativeness. To get inspired and to come up with new ideas, one needs to be open and accepting of different and new things. This could be a different opinion of a co-worker. Because every person is different, has different ideas, perhaps grew up in a different culture or made different experiences from one’s own, they might come up with or see things that another person does not. Exchanging opinions and experiences can lead to new innovative ideas. The market orientation concept of “interfunctional coordination” is about a business coordinating the market intelligence gathering and evaluation intra-departmental, so that all departments are included in the process and the information is looked at from different viewpoints (Narver and Slater, 1990). This aspect reflects the aspects of “support and collaboration” as well as “communication”, showing a correlation between market orientation and innovativeness.

#### 4.1.4 Discussion of the comparison results

Having now compared characteristics that make a business innovative with those that pertain to market orientation, it is clear that these concepts show large overlaps in their characteristics. Many aspects that make a company market-orientated help with a company’s innovativeness. Because the characteristics are so closely connected or sometimes even identical, businesses that are market-

orientated have an advantage at being innovative, since they already fulfill many criteria for being innovative and already work with the information that can lead to innovativeness. One could even question whether these concepts are truly distinguishable concepts at all. Because of the extensive overlap, it is debatable, whether a company can truly be innovative in the long term if it is not market-oriented. So perhaps innovativeness could be considered a goal or positive consequences of market orientation, instead of a separate concept.

The significant overlap of the concepts also reaffirms the importance of market orientation to a company's success and shows, that careful and continuous monitoring of the market conditions, as well as the analysis and estimation of future changes, are some of the most important aspects of the innovation process, especially in a time where the market is constantly changing. However, it is also important to note, that market orientation alone and especially the thus far used traditional definition of market orientation is not enough to ensure a firm's success. One of its weak points is that it focuses so largely on the consumers who, while important, are not the only players on the market. Other concepts and factors could and should also be considered. Some of these potential supplemental concepts are discussed in the following chapter.

## 4.2 Expanding the market orientation concept

While the traditional market orientation concept focuses mainly on customers and competitors, this might be to narrow a view for contemporary businesses. To the end of expanding the market orientation viewpoint, more recent literature has suggested two additional concepts, stakeholder orientation and sustainability orientation.

### 4.2.1 The concept of stakeholder orientation

Stakeholder orientation has been defined as the "organizational culture and behaviors that induce organizational members to be continuously aware of and proactively act on a variety of stakeholder issues" (Ferrell et al., 2010, p. 93). In 1984 stakeholders were defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p. 46). While stakeholder orientation recognizes customers

and competitors as important stakeholders, it is not limited to them. Suppliers, employees, regulators, shareholders and local communities are some of the additional stakeholders that hold importance within this concept (Greenley and Foxall, 1997). Stakeholders are part of an interconnected relationship network (Rowley, 1997), with every stakeholder having their interests and issues. These issues range from the environmental impact of products to the transparency of company records. The natural environment has also been suggested as an additional stakeholder, and considering the ongoing climate change, this stakeholder is bound to gain further attention (Haigh and Griffiths, 2009). The different stakeholder interests may not necessarily all align, resulting in a higher coordination effort for the firm. The goal of stakeholder orientation is the long-term welfare of all stakeholders. To that end, stakeholder-oriented firms gather information about stakeholder issues to successfully address them. Overlaps between market orientation and shareholder orientation have been demonstrated, but mostly they are still considered separate concepts (Ferrell et al., 2010). However, some research also suggests, that the market orientation concept has already widened to include additional stakeholders in the overall concept of market orientation (Wilburn Green et al., 2015).

### 4.2.2 The concept of sustainability orientation

As climate change and sustainability become some of the predominant global challenges, the concept of sustainability orientation becomes more important for today's businesses, as well as governments. The goal of this concept is to balance current and future concerns that deal with social, ecological and economical needs (Sayem, 2012). An orientation towards sustainability is especially necessary, if the business acknowledges the natural environment as one of its stakeholders (Haigh and Griffiths, 2009). The concept also goes hand in hand with the increasing customer demand for ecological and sustainable products and production processes (Han et al., 2009), demonstrating the connection to a company's market orientation that leads to the businesses' awareness of customer wishes (Wilburn Green et al., 2015). Since sustainability orientation shows considerable overlaps with market orientation or is a result of market orientation, previous research has suggested the inclusion of sustainability aspects in the market orientation concept (Hult, 2011). Sustainability orientation has also been shown to influence a firm's innovativeness, another linkage to market orientation (Sayem, 2012).



#### 4.2.3 Aggregation of the different concepts

As mentioned before, previous research has suggested the combination of the market orientation, stakeholder and sustainability concepts, sometimes known as “market orientation plus” (Crittenden et al., 2011; Hult, 2011; Wilburn Green et al., 2015). The fact that all these concepts impact a firm’s innovativeness has also been shown in studies (e.g. Flammer and Kacperczyk, 2016; Sayem, 2012). One of the main points is the stated necessity to include additional stakeholders to the traditional customer and competitor (Hult, 2011), while still acknowledging customers as a main stakeholder.

Building on this research, this article illustrates a theoretical aggregated market orientation concept that combines the traditional market orientation concept with stakeholder

orientation and sustainability orientation (Figure 2). In terms of this illustration, innovativeness is not seen as a separate concept but rather a consequence or shared goal of the different orientations. This is due to the before shown large overlap of the innovativeness and market orientation concepts.

It can also be argued that stakeholder orientation and sustainability orientation could already be included in traditional market orientation anyway, by widening the “customer” definition. If a customer is no longer just a firm’s buyer but rather an entity that makes demands of the firm, then a larger group of stakeholders would automatically fall within this customer definition. The traditional customer demands products, the natural environment demands more ecological products and processes, governments demand the upholding of its laws and so on. And sustainability is

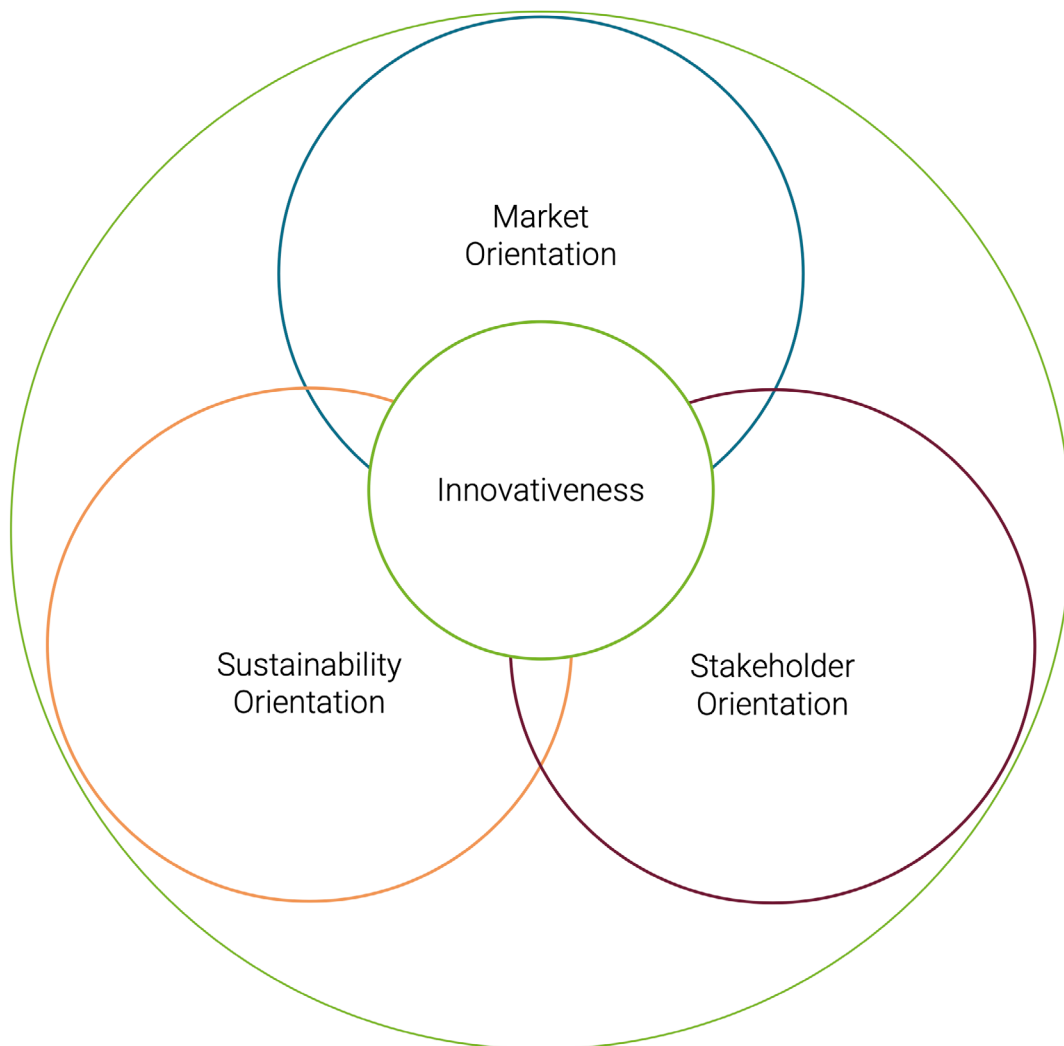


Figure 2: Aggregation of the concepts of market orientation, sustainability orientation and stakeholder orientation. Innovativeness is an expected goal of these concepts. Based on previous work by Hult (2011) and Sayem (2012).

largely reflected in these demands. So perhaps, when taking this customer viewpoint, the traditional market orientation concept would already encompass these different orientations and through this influence a company's innovativeness.

### 4.3 Can the influence of market orientation on innovativeness and innovations be observed in the chemical industry?

Having analyzed the influence of market orientation on innovativeness as well as discussed the possible expansion of the traditional market orientation concept, the final part of this article takes a closer look at the BASF corporation to discover, if a connection between market orientation and innovativeness or the resulting innovations can be observed there.

The BASF corporation made a revenue of 59,149 million euros in the year 2020 and has 110,302 employees. As such, it is the world's largest chemical company (BASF, 2021a). The first step is to examine, whether BASF is market-oriented. They say that their customers are their priority and consider their needs seriously when planning their corporate strategy (BASF, 2021c). This allows the conclusion that BASF is customer-oriented and customer orientation is one of the main factors of market orientation. In addition to that, BASF is improving its organizational structure to increase its ability to address specific market requirements. Among other things, they have created interdisciplinary teams to better attend to customer needs (BASF, 2021b). Understanding and addressing market requirements and coordinating across different departments are also aspects of market orientation. Considering this, it seems that the BASF corporation is a market-oriented organization.

As discussed before, market orientation can influence the company's innovativeness and the resulting innovations. Therefore, the next step is to examine the innovativeness of the BASF corporation. In the year 2020, BASF developed a total of 950 new patents worldwide with about 10,000 employees working in research and development. For the purpose of this article, these factors will be considered indicators for innovativeness. Recognizing that their employees are a key factor for success, BASF tries to build a working environment that supports them in achieving their goals. BASF considers itself the "innovation leader" in

the chemical industry. In addition to that, two of their main values are "creativity" and "openness" (BASF, 2021e). As already discussed in a previous chapter, these are aspects that are important for innovativeness (Ruvio et al., 2014), allowing the conclusion, that innovativeness is an important aspect of the BASF corporation.

The final part of this chapter is to take a look at two current innovative projects of BASF with the intent to determine if a connection to market orientation can be ascertained.

The first project to discuss falls in the category of technological innovation. It pertains to the development of products for the sustainable cleaning process for recycling plastic waste (Chemetall, 2021). Over the past 70 years, there was a sharp increase in plastic production (Chemetall, 2021), but today, sustainability and environmental consciousness are becoming bigger and more important demands on the market. Customers are more aware of the repercussions of plastic waste, so they desire more ecologically friendly alternatives. One possibility is the use of recyclable products. The project to create products to help with the recycling process shows, that BASF is aware of this consumer trend, meaning they analyzed the changes in the market and customer behavior, which are all aspects of market orientation. The obtained information then influenced the company's innovativeness and resulted in the mentioned innovation project. This shows that market orientation influenced innovativeness. Additionally, this product also addresses sustainability aspects, and it can be argued, that additional stakeholders, like the natural environment and potentially governments, profit from this project.

The second project is a joint project between BASF, SABIC, and Linde and the goal is to develop the world's first steam cracker furnace that is electrically heated. This can be categorized as administrative/managerial innovation, as it concerns the process of production in the petrochemical division (BASF, 2021d). The project also follows the market's demand for sustainability, the focus being on the reduction of CO<sub>2</sub> emissions. In recent years, customers have also started to take a closer look at how the products they buy are produced, with fair trade and organic products gaining popularity. The electrically-heated steam cracker furnace would still be able to produce the same products, so the products would stay the same, just as an organic banana is still a banana. However, the production process would change significantly resulting in a potential reduction of CO<sub>2</sub>



emission by 90% (BASF, 2021d). This project also shows a clear future orientation and long-term focus, aspects that, as already discussed, connect market orientation and innovativeness. In addition, this is a joined project between competitors, showing that BASF analyzed who is researching in the same field and decided to cooperate with them, so that they can potentially learn from one another. This can be seen as one of the aspects of competitor orientation. Here it is demonstrated, that this innovation project was also influenced by the company's market orientation and as with the first example, sustainability and other stakeholders also play a role.

Market orientation and market demand are an inspirational source for the innovativeness of the firm and as the examples above show, in the case of the BASF corporation, the influence of market orientation on innovativeness and the resulting innovations can be seen.

## 5 Conclusion and Outlook

This article has discussed market orientation, innovativeness, and innovation. Market orientation refers to an organization's dealing with market intelligence (Kohli and Jaworski, 1990), with customer orientation being one of its main components (Narver and Slater, 1990). Innovativeness is an aspect of the organization's culture that leads to innovations, innovations being most often classified as technological innovation or administrative/managerial innovations (Mohd Zawawi et al., 2016).

The depth of the overlap between the market orientation concept and innovativeness was analyzed by comparing certain aspects of the individual concepts. It was found that market orientation and innovativeness have an extensive overlap in their characteristics, which can explain their influence on each other. A widening of the market orientation to include sustainability and additional stakeholders was also discussed and look at the BASF corporation served as an example to show, that the influence of market orientation on innovativeness and innovations, as well as sustainability and additional stakeholder considerations, can be found in the chemical industry.

It is clear, that market orientation and innovativeness are closely linked to one another. Both concepts are fundamental parts of the organizational culture. Considering exactly how

close these concepts are linked, perhaps it should be further examined, whether they are truly separate concepts or if one is the antecedent and the other the resulting consequence. The question of whether a business that is not market-oriented can be innovative at all, especially in the long-term perspective, should also be discussed further. Lastly, expansions to the traditional market orientation model and the question, if sustainability orientation and stakeholder orientation could not already be included in the traditional market orientation concept simply by widening the customer definition, are also interesting subjects to consider in the future.

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