

ANNUAL REPORT 2019/2020

Nürnberg Institut für Marktentscheidungen e.V.
Founder and Anchor Shareholder of GfK SE





Nuremberg Institute for Market Decision – Founder and Anchor Shareholder of GfK SE

The Nuremberg Institute for Market Decisions (NIM) has a clear focus: As a non-profit organization for consumer and market decision research, it investigates how the decisions of market participants are changing because of the digital transformation. The goal is to understand how consumers make decisions so that marketing managers can make better decisions in their market development efforts.

INTERFACE BETWEEN SCIENCE AND PRACTICE

Conducting research at the interface between science and practice is an integral part of NIM's identity. This is especially true with regard to the increasing level of digitalization in virtually all areas of life and the disruptive, global changes, including those currently triggered by COVID-19.

ANCHOR SHAREHOLDER AND COMMITTED INVESTOR IN GfK SE

In its role as responsible anchor shareholder, the Nuremberg Institute for Market Decisions sees it as its job to contribute to the sustainable transformation of GfK SE. Its history, role as shareholder and close bond with GfK SE are also conveyed through the addition of "Founder and Anchor Shareholder of GfK SE." NIM also collaborates with GfK SE as a research partner in areas of mutual interest.

MEMBERSHIP: MORE DIALOG

The Nuremberg Institute for Market Decisions is expanding active exchange with its members in order to intensify the professional dialog on market decisions. Membership provides access to relevant and current knowledge – such as through studies and research findings, the NIM Marketing Intelligence Review journal, and free participation in the NIM Market Decisions Day. NIM sees its members – whether companies, associations, university professors or young talents – as active "contributors and co-researchers" as well as an important source of ideas for the further development of research topics.

VISUAL APPEARANCE REFINED

The new corporate identity was also created at the beginning of 2019 as part of the name change to Nuremberg Institute for Market Decisions (formerly GfK Verein). The new word and design mark with innovative symbols and modern characters in red are clearly visible in all NIM publications, studies and events and increase recognizability. The corporate identity colors and an open space concept are part of the offices (see page 24) as well. ✕

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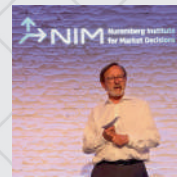
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DEAR READERS,

Looking back over the last 12 months, the one issue that has changed many things and made the unimaginable a part of everyday life is the coronavirus pandemic declared by the WHO on March 11, 2020. The related lockdown and efforts to stop, contain or at least slow down the pandemic surge resulted in government intervention in economic and social processes and in basic human rights, the likes of which have not been seen since World War II. Tremendous uncertainty spread among market participants – on both the supply and demand side. Making business and market decisions took on a whole new meaning and magnitude in the light of the ambiguous and incalculable situation and the risks involved. Panic buying, supply shortages, queuing shoppers in front of stores and rationing of certain food and hygiene products suddenly became commonplace. On the manufacturing and retail side, we saw massive stress on the logistic systems. For some business sectors, this was also accompanied by rapidly decreasing liquidity reserves, unabsorbed overhead costs as well as unprecedented challenges in terms of managing human resources and collective morale.

With its research programme the Nuremberg Institute for Market Decisions (NIM) responded timely to this new and extraordinary situation and carried out bespoke studies, which appeared in a Corona-special publication. (see page 9). The topics included the design requirements for a coronavirus contact tracing app with regards to people's willingness to download, as well as what companies have learned in dealing with unforeseeable crises and their consequences. In this special edition, readers will also find suggestions on how organizations can address the changes caused by COVID-19 and prepare for the challenges of the future. These publications have received a lot of praise and great feedback from our members, readers and were widely covered by the relevant press.

As you will know, NIM is currently providing the services in pursuit of its statutory mission with an austerity budget. This is because no dividend income has been realized from the shareholding in GfK SE since 2017. It is good to see that the restructuring and forward-looking approach of GfK SE is making further progress and the extensive programme to reduce costs over the past few years promises significantly improved earnings. At the same time, GfK's core businesses are also becoming more stable, especially in the consumer panel and retail panel areas. This is encouraging and gives us hope that dividend payments will be possible again in the foreseeable future.

NIM's committees nevertheless believe that a responsible, prudent approach is paramount and that additional liquidity protection measures should be initiated. NIM has therefore negotiated and entered into a put option agreement with Acceleratio HoldCo (KKR), which allows NIM to sell GfK shares to HoldCo at a fixed price while participating in the future value appreciation. The scope of this option agreement has been designed to ensure that NIM can meet its financial needs for years to come without affecting its role as majority shareholder. We therefore feel that we are well placed to further our mission

*» Making market decisions,
took on a whole new
meaning and dimension
in light of the unpredictable
situation and the
risks involved.«*

of researching and analysing market decisions with the interactions and interdependencies of market participants, especially in these dynamic times of rapid market change.

I would like to thank everyone who helped us in the past year to successfully position and establish ourselves with a new name and identity as an interdisciplinary institute for researching market decisions. Our members, the Executive Board, the Members' Council, cooperation partners and above all the employees have supported this major step – and it is their determination and commitment that enables NIM to pursue and fulfil its goal: To better understand market decisions and to improve the quality of such decisions using this knowledge.

We hope you enjoy reading this annual report.


MANFRED SCHESKE
President

Manfred Scheske
President Nuremberg
Institute
for Market Decisions



Market Decisions in a World of Unique Challenges



Dr. Andreas Neus has been managing director of the Nuremberg Institute for Market Decisions, Founder and Anchor Shareholder of GfK SE since October 2018. In this interview, he talks about various things, including how COVID-19 has changed markets and market decisions and the important insights that can be drawn from NIM's current research.

> *The current 2019/2020 annual report of the Nuremberg Institute for Market Decisions (NIM) has been prepared in a time marked by COVID-19 and the changes and discussions triggered by it. What impact does COVID-19 have on research at NIM?*

In order to answer the question of how the coronavirus has changed our research focus of market decisions, it is important to remember what has been happening in the markets as a result of the pandemic. To begin with, the COVID-19 pandemic has shattered a number of long-held basic assumptions: That in 2020 health care systems in the middle of Europe are stretched to their limits, governments have difficulties securing surgical masks and gloves for hospitals, and guides for sewing homemade face masks are published – at the beginning of the year, this was as unimaginable as the frenzy for toilet paper, yeast and pasta. The crisis has starkly illustrated that even seemingly robust systems can falter from one day to the next if the disruptive influences are too great.

Even before COVID-19, however, there were signs that the globally integrated economic system had vulnerabilities. For instance, following the Fukushima nuclear accident, certain computer components were suddenly no longer available on the world market for many months because

production was concentrated in this region. This had a relatively limited effect in a high-tech niche market. For an industrialized country like Germany, however, to be unable to obtain a relatively low-tech product like face masks in sufficient quantities, or that certain drugs were at risk of shortage because the base ingredients were produced predominantly in China, certainly made many market participants stop and think. And it has triggered a new discussion about regional and global market structures.

Just like consumers had to get used to the sight of empty shelves, companies also had to deal with new realities from one day to the next: Working from home, pandemic plans, supply chains affected by COVID-19, radically changing consumer behavior – many simultaneous challenges that needed to be solved very quickly.

For NIM, with its focus on market decisions, this development automatically led to new, exciting questions, which we immediately investigated in research projects: Which app ideas for COVID-19 contact tracing achieve what kind of acceptance levels and why? How did companies react during the crisis, how prepared were they, and how do they view the future? What changes in processes and business models are likely to remain after COVID-19? The answers to these questions and others were digitally published in July in the special publication “Coronavirus: Learning From the Crisis – Consumer and manager



ANDREAS NEUS
MANAGING DIRECTOR NUREMBERG INSTITUTE
FOR MARKET DECISIONS

decisions and what companies should be aware of in the future.” The print version of the publication was also sent to our members. This gives them access to knowledge that can help them make better decisions as market participants – even in exceptional situations like a pandemic.

> ***You mentioned the publication “Coronavirus: Learning From the Crisis.” In your opinion, what are the three most significant learnings to take from the research published in the special issue?***

Hopefully, it’ll be more than just three that our readers will remember. Personally, I thought it was pretty remarkable that our study on the design of a contract tracing app yielded findings that are relevant to anyone developing an app that processes or stores personal data: People feel it is important that an independent (research) institute has oversight and control of such an app. In addition, use of the app should be voluntary and have a time limit on data storage. The fact that users also want anonymity, transparency, information and trust (almost) goes without saying in times when the protection of personal data is becoming increasingly important.



Of course, we also looked at the perspective and experiences of companies in our studies. Since COVID-19 unleashed an unimaginable global crisis, it quickly became apparent that the emergency plans of companies hidden away in some drawer would not be sufficient. What surprised me, however, was that more than half of all managers from the manufacturing industry surveyed said they were blindsided by the pandemic. The German managers we interviewed said that COVID-19 made them realize the critical importance of restructuring their supply chains in order to avoid high dependencies. It also became clear that automation, smart working concepts, an online presence and flexibility are essential building blocks for safeguarding day-to-day business.

Another exciting finding was that the coronavirus crisis has evidently shortened the life cycle of business models that the surveyed companies considered to be stable. Commercial prudence requires that more frequent checks be carried out to determine which of the assumptions underlying the business model will still be applicable tomorrow. Regular checks are therefore a must in my opinion – ideally with empirical data that work around your own toxic assumptions. That is why the goal should always be to identify changes with strategic implications early on, assess opportunities and risks realistically and derive strategies. Unfortunately, this is not a given. People tend to stick to tried and tested methods until it's proven that they no longer work. Only then, and under pressure, do they start to look for alternatives – but by then it is often too late.

> ***Will the actual research focus at NIM continue to be market decisions even after COVID-19?***

With regard to the focus areas of our three research groups – Behavioral Science, Data Science and Future & Trends – nothing will change as a result of or after COVID-19. We will continue to investigate the market decisions of consumers so that companies can make better market decisions. The current challenges in particular require thorough research so we can gain a better understanding of how consumers and companies make decisions.

> ***In addition to the research, has COVID-19 also had an impact on working life at NIM?***

Yes, and that is certainly true for almost all companies. On March 1 – just before the COVID-19 lockdown – we moved into our new offices. We now have more space for workshops and seminars, our own decision lab for experiments and overall more room for professional exchange. However, we had to switch to working from home early on as part of our pandemic plan with a small “emergency operation” in the office. Currently (October 2020), we have limited office hours in three separate groups – each group comes in to the office on different days if they need to. However, the vast majority of research is conducted virtually via conference calls and additional collaboration tools. It makes me quite proud that we have such a strong team that has met the COVID-19 challenge with a certain calm, and above all with resilience and optimism. We will probably have to continue working with the pandemic plan well into next year.

» *The current challenges in particular require thorough research in order to gain a better understand of how consumers and companies wie Konsumenten und Unternehmen make decisions* «

ANDREAS NEUS



Bringing life to our new office afterwards is something we are really looking forward to. In particular, the new premises offer the ideal conditions for workshops and professional exchange with our members.

> *The last question refers to your personal outlook for 2021. Looking ahead twelve months, what would you like to have achieved for NIM by then?*

Our goal as NIM is to initiate and continue exciting research projects related to market decisions in the coming months. For example, we will continue to study the influence that voice assistants and information like quality labels or CO2 data on packaging have on consumers' purchasing decisions. We will also continue to investigate how managers in companies deal with decision-making, while also exploring the topic of "poor decisions" in depth. In 2021, we will also be dealing with questions of how to improve decision-making in innovation and new product development as well as how to cope with non-linear and disruptive changes. Another important topic for us is "data as the basis for rational

decision-making." We keep seeing the worrying trend of data and facts as well as the scientific method being questioned completely. In my view, reliable data and accurate assumptions about shared reality are an important cornerstone of well-functioning markets.

As you can see, we will certainly not run out of research questions. How to better understand, anticipate and ultimately improve the decisions of consumers and companies in markets – and how to distinguish between real and false information – these are all topics that will only become more relevant. We look forward to also discussing these issues with our members and inviting them to become "co-researchers."

✕

Current Studies



The balancing act between humans and technology is the common thread in the current NIM studies. In principle, the focus of the studies pursues NIM's aim of analyzing all issues from the perspective of medium and long-term effects on market decisions. Themes that emerged as the result of the coronavirus pandemic were taken up quickly and flexibly by the NIM researchers in their work. The influence of new technologies, such as voice interfaces, on human decision-making behavior was also investigated.

ACCEPTANCE OF DIFFERENT CONFIGURATIONS OF A CORONAVIRUS TRACING APP IN GERMANY

In the context of the COVID-19 pandemic, apps for tracking contacts are a tool for tracing potential infection chains. The goal is the identification and targeted isolation of individuals who have been in contact with an infected person. NIM asked how such an app should be designed in order for it to be accepted by the German population.

METHOD

Choice-based conjoint study in the form of an online survey with a representative German sample of 1,472 participants.

The different app versions were described in terms of 11 attributes and several implementation options. The spectrum ranged from the question of who should control and monitor the app to what type of data will be collected and how long it should be stored.

The German study is based on a survey previously conducted in the UK by researchers from the Cass Business School in London.

RESULTS

The willingness of the German public to download a contact tracing app strongly depends on the following factors:

- An independent research institute (e.g., RKI) or the government should be in charge and have oversight of the app.
- Use of the app is voluntary and data is collected anonymously.
- There is an "end date" and the data collected is only stored for a limited period.
- Priority access to tests if there has been contact with a potentially infected person would be an added positive effect.
- Fear of contracting COVID-19 and trust in the German government also have an impact on willingness to download the app.
- Public education may be a relevant factor for the success of the app: Respondents who have been following the discussion about contact tracing apps in the media showed a higher willingness to download the app.

RELEVANCE

The study shows the most important acceptance criteria for the coronavirus contact tracing app in Germany. In general, this shows which features data collection apps should have in order to be accepted by potential users. ✕

Study manager: Dr. Fabian Buder

➔ CURRENT SPECIAL PUBLICATIONS

"CORONAVIRUS: LEARNING FROM THE CRISIS – CONSUMER AND MANAGER DECISIONS AND WHAT COMPANIES SHOULD BE AWARE OF IN THE FUTURE"

Even without the coronavirus crisis, companies were already dealing with a number of challenges, such as the advance of digitalization, changing consumer behavior and the consequences of the increasingly clear signs of climate change. Most companies, whether small businesses or large international corporations, were caught off guard by the coronavirus pandemic. The majority found themselves unprepared. What does that mean now for companies? How can they learn from the coronavirus crisis in order to become more resilient? These questions are the focus of studies and

specialist articles, which NIM has summarized in its special publication "Coronavirus: Learning From the Crisis." For example, Bradley Kreit, Director of the Institute for the Future (ITF) in Palo Alto, sees an economic downturn as the best time to start building a new future. The core of the NIM publication are the findings from its own studies. Designed for practical use, the issue offers readers suggestions for how to deal with the corporate changes and future challenges brought about by COVID-19. The special coronavirus issue is available for download on the homepage. ✕





FUTURE-READY ORGANIZATIONS – THE VALUE OF STRATEGIC FORESIGHT FOR ORGANIZATIONS

Strategic foresight can help organizations anticipate long-term changes in order to make better decisions in the present. How is the impact of strategic foresight measured and articulated? What is the difference between an organization that looks ahead strategically and one that does not?

METHOD

A telephone survey of 400 high-ranking managers from large listed companies in the U.S. and EU was carried out in cooperation with the Institute for the Future (ITF), Palo Alto (US) and Beresford Research in Westport, Connecticut (US).

RESULTS

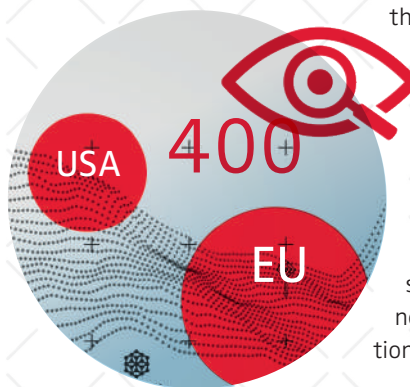
Better ability to anticipate – companies with strategic foresight pay greater attention to the impact of long-term and even indirect developments in their market and also view it as less complex and uncertain.

Greater resilience – top performers in strategic foresight see their business less affected by the global coronavirus pandemic in 2020.

The more strategic foresight is integrated into an organization, the more important it is for its decision makers. However, the research also shows that there is room for improvement: Only a relatively small number of managers rate the existing sources of foresight information in their companies as helpful enough for strategic decision-making.

RELEVANCE

Insights and ideas about how the best foresight performers organize their work and how strategic foresight can support decision makers. The results show that foresight information needs to reach the areas of the organization that require it. ✕



Study manager: Dr. Fabian Buder

VOICES OF THE LEADERS OF TOMORROW 2020: A LOOK INTO THE MINDS OF TOP YOUNG TALENTS

How do the potential leaders of tomorrow see the world that they will influence and help shape in the future? In line with the focus of the St. Gallen Symposium 2020, this year's study dealt with the issue of freedom: How do the decision makers of tomorrow see the impact of modern technology on freedom in the world? Do they expect technological developments to restrict their freedom of information and freedom of choice or even patronize them – and how do they see the role of artificial intelligence? Have older generations thought too short-term in their decision-making at the expense of the younger generation?

METHOD

Online survey of a selected group of top young talents from the global network of the St. Gallen Symposium. Close to 900 "Leaders of Tomorrow" (i.e. potential future decision makers) took part in the survey.

RESULTS

The majority of respondents accuse the older generation of having granted themselves too much freedom at the expense of the younger generation, especially with regard to economic growth and their own material wealth to the detriment of the environment.

For the most part, they see the opportunities and impact of technology on freedom in the world in a positive light, but with a certain degree of skepticism. Accordingly, they want business model concepts with new technologies that are in line with ethical principles.

Most top talents are in favor of certain restrictions and controls when it comes to the internet and social networks to protect people and curb the spread of fake news. It is very important to them that humans retain control of technology.

RELEVANCE

Valuable insights on the assessments and expectations of future managers on three key issues:



New intergenerational contract – rethinking the issues of sustainability, fairness and the limits of freedom not only makes sense but is also necessary for the future.

Holding platforms accountable – public institutions, companies, and network and platform operators should view restrictions for protecting personal data, and preventing manipulation and verbal abuse in the digital sphere as their fundamental duty.

Not just clever but also ethically viable – intelligent technology should not be the only objective of business concepts. The magic words here are also transparency, fairness and trustworthiness. ✕

Study manager: Claudia Gaspar



DECISION MAKING CHALLENGES IM MARKETING 2020: ENTSCHEIDUNGSHINDERNISSE UND GRÜNDE FÜR FEHLENTSCHEIDUNGEN

How can decision-making in marketing be improved and why is it that poor decisions are made over and over again? How often do certain obstacles occur in decision-making processes? The survey provides answers based on the first-hand practical experience of marketing decision makers.

METHOD

Telephone survey of 200 marketing and sales decision makers in companies with at least 50 employees from consumer goods industries.



RESULTS

The reasons most often cited by respondents for poor decisions in marketing and sales were judgment errors about the basic requirements. This means that customers and/or their needs were not understood or the decisions were based on incorrect market assumptions and trend assessments.

RELEVANCE

The respondents believe that the reasons for failure primarily occur at a relatively early stage of decision-making, i.e., at a point when the established position is questioned or broadened. Therefore, more room and priority should be given for such learning and analysis processes at an early stage. ✕

Study manager: Claudia Gaspar



WHEN THE OUTSIDE WORLD HAS A SAY

NIM MARKETING INTELLIGENCE REVIEW ON THE TOPIC OF CROWD INNOVATION

Marketing research for practical use – this is the aim of the Marketing Intelligence Review (MIR) published since 2009. After the name change in 2019, the goal of every issue continues to be to summarize relevant and new insights from renowned international researchers.

The first issue of the NIM Marketing Intelligence Review for 2020 looks at the different aspects of crowd innovation under the theme of “Hype or Help?” Articles by experts and practical examples show that collaborative innovation can be successful, however, it does not happen by itself. Studies indicate that about half of all crowdsourcing campaigns fail and also often end in a communication crisis. Whether new products, strategy development or social projects – each environment has its own rules and pitfalls. The inter-

view with Ryon Stewart from the NASA Center of Excellence for Collaborative Innovation and the case study of the Swiss beverage company Rivella also provide valuable ideas. The current issue of MIR is available for download on the website. ✕

NOTE

The next issue of MIR on “Marketing in the Reputation Economy” will come out in November 2020.





HOW SMART ARE SMART SPEAKERS? HOW DIGITAL ROOMMATES ARE CHANGING OUR LIVES

The impact of new technologies on human decision-making behavior is becoming increasingly greater. Using the example of smart speakers, what concrete meaning can voice user interfaces develop for owners? Are they just a gimmick with an expiration date or will they play an important role in people's personal lives in the future, especially in their everyday decisions?

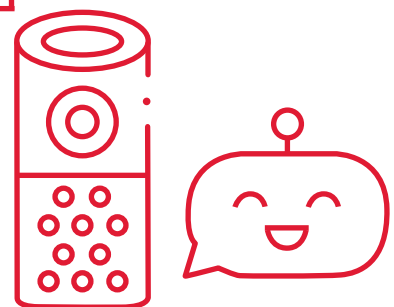
METHOD

Online survey of 1,105 owners and users of smart speakers with voice assistants in their own households in Germany; responsive design for different devices. The field research entitled "Smart Speaker and Voice Assistants in German Households" was carried out at the beginning of 2019.

RESULTS

Voice assistants are valued and loved, and even perceived as a friend in some cases. However, there is still room for improvement. A lot is expected of them as future helpers in making purchase decisions.

1.015



RELEVANCE

There is still considerable room for improvement. However, the relevance of smart speakers – and thus their influence on the behavior and decisions of owners – is high. It is therefore important for researchers, providers, politicians and consumers to be aware of this impact as well as the related opportunities, risks and consequences. ✕

Study manager: Claudia Gaspar

Current Research Projects

The impact of trends, the human factor, disruptions in markets, new user interfaces, tools to help decision-making and complexity modeling – these six areas form the basis of research at NIM. The aim of all research projects is to better understand and investigate human decisions in view of the digital transformation – how technologies change reaction times in markets and the interdependencies of market participants.



ARTIFICIAL VOICES IN HUMAN CHOICES

Communication between humans and computers is increasingly taking place via voice. Research has shown that voice emotion can have a decisive influence on the sales process. But does that also apply to the synthetic voices of speech assistants? Can they influence purchasing behavior and attitude and lead to impulse buys?

RESULTS

The research project shows that

- > The purchasing process in voice shops is faster and more impulsive than in purely text-based shopping environments,
- > an enthusiastic voice leads to more impulse purchases.
- > there are cultural differences in terms of the influence of emotional artificial voices on purchasing behavior and attitude.

METHOD

The influence of emotional language artificially generated with Deep Learning on shopping behavior was measured in cooperation with the Experimental Lab for Business Insights Nuremberg (ELAN) at the Friedrich Alexander University (FAU) Erlangen-Nuremberg. The realistic voice shopping experiments were carried out in the lab as well as online. The project included national, international and intercultural investigations with more than 4,000 participants in the UK, India and the US.

RELEVANCE

Artificial emotional voices are equally suitable for shaping the shopping experience as human voices. This is especially relevant in the context of voice assistants and voice shops. The integration of artificial emotional speech can be used to induce customers to buy more as well as more impulsively. ✕

Project managers: Dr. Carolin Kaiser/René Schallner



EMOTIONAL AROUSAL AND SOCIAL SHARING: A STUDY OF FILM TRAILERS

Emotional arousal is associated with the need to share information with others and can be reliably detected in the voice. This is of great significance for applied consumer research, especially in view of the recent availability of automatic emotional arousal detection software. What impact does emotional arousal have on consumer decisions?

METHOD

Together with Prof. Dr. Jella Pfeiffer from the University of Gießen, NIM conducted an experiment that investigated the relationship between emotional arousal and intrinsic involvement. The test subjects were allowed to select film trailers according to their personal preferences, which they then discussed verbally.

Emotional arousal was derived from these verbal discussions, both automatically using validated software and by human listeners.

RESULTS

According to the listeners, intrinsic involvement and extrinsic rewards lead to higher emotional arousal in the voice. Emotional arousal was associated with more frequent social sharing of the trailers and the emotional spoken reviews were more convincing.

RELEVANCE

Emotional arousal can play a causal role in the decision to share an experience socially. This makes emotional arousal a relevant parameter for marketing. ✕

Project manager: Dr. Matthias Unfried



ANIMAL WELFARE LABELS AND SOCIALLY RESPONSIBLE CONSUMPTION

Labels are used to identify sustainable products. Their targeted design can steer consumers in a specific, socially desirable direction – this is also known as “nudging” in behavioral economics. In addition, the design can be used for targeted advertising of the products. But does label design (e.g. animal welfare labels) also influence consumer willingness to buy and pay?

METHOD

Together with Prof. Dr. Florian Riedmüller and the Nuremberg Institute of Technology, experimental studies are being carried out to investigate how the design of an animal welfare label can change demand behavior (e.g. by adding narrative information). Eye-tracking is used to determine which design element influences demand the most.

RESULTS

Preliminary results from the first data collection in summer 2020 show the following trends: Product labels indicating that two different types of animal husbandry differ only

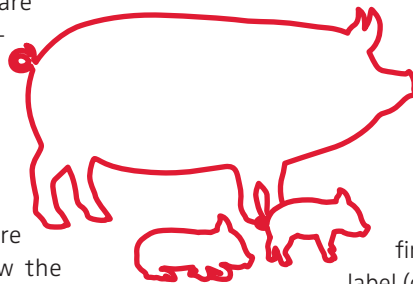
marginally (e.g. in the space available for the animals) can have two different effects:

> The consumer chooses the more expensive product with significantly better husbandry standards (e.g. organic) instead of the meat from only marginally better conditions

> on the other hand, they may choose the worse husbandry system instead of the marginally better one.

RELEVANCE

The goal is to recognize the extent to which label design has an impact on purchasing decision. Another aim is to find out whether a product with a certain label (or a specific label characteristic) can serve as “bait” in order to create a decoy effect. In general, the decoy effect occurs when a product is seen as relatively attractive when compared to another (= bait or decoy), which would not be the case without the decoy product.



Project manager: Dr. Matthias Unfried



AUTOMATED SUMMARIZATION AND COMPARISON OF TRENDS: DECISION-MAKING SUPPORT THROUGH INFORMATION AGGREGATION

changes in human decision-making in markets? In order to provide initial answers to this question, trend reports should be scanned. These publications are put out by many institutes for different industries. The quantity of reports available on the web is enormous and to have them read by humans is time-consuming. The goal instead is to use a more automated method for scanning these trend reports. Which method produces the best summarizations? "Extractive," "abstractive" or "sentence embeddings"? Which of the trends identified are similar in terms of content?

METHOD

100 trend reports in English were summarized and compared, with each trend report consisting of about ten trends. BERTsumExt and BERTsumExtAbs1 were used as extractive and abstractive methods as well as another method called "Sentence Embeddings Clustering" (SEC). See *Liu, Yang and Mirella Lapata: "Text summary with pre-trained encoders."*

RESULTS

In principle, text editing can be automated. The current summarization algorithms focus on short texts (long texts are split into several short ones).

The next step is to determine the criteria for evaluating a summarized text: Is it sufficient for the content to be relevant, consistent and fluently written?



RELEVANCE

The automatic summarization of trends is of great importance for management and marketing. The enormous time savings allows it to generate knowledge, which would be nearly impossible if done by humans. ✕

Project manager: Birgit Stoltenberg



MACHINE LEARNING TO DETERMINE THE CAUSAL RELATIONSHIP BETWEEN TWO VARIABLES

In classical statistics, determining the extent to which a causal relationship exists between two variables requires randomized experiments, or the introduction of strong assumptions or prior knowledge. This question is also being investigated again with machine learning (ML) methods for non-experimental observational data. The aim is to obtain a sufficiently precise approximation for practical purposes rather than definitive proof of causality. The project examines how well and efficiently the latest ML methods can identify causal relationships in observational data from the market context.

In addition, a behavioral experiment is exploring the question of how decision makers deal with the findings of analytics showing a causal basis varying from ambiguous to unambiguous.

METHOD

The preliminary project with unsupervised learning methods analyzed the extent to which causal direction can be determined without training data.

Supervised learning methods were then used to train models based on data with known or missing causality. The goal was to determine whether a causal relationship exists between two variables and, if so, in which direction.

RESULTS

In validation data from various disciplines, the methods investigated achieved a hit rate of 70 to 80 percent in the 3-class problem: 1 – A causes B, 2 – B causes A and 3 – A and B are not causally related.

RELEVANCE

Managers are not the only ones who frequently rely on analytics findings in their decision-making. This often involves the interpretation of observed correlations: Is the observation attributable to a pseudo-correlation, (i.e., a third variable) or does one variable really drive the other? The answer to this question has a direct impact on decisions: For example, should a company invest in image advertising if there is a positive correlation between product image and sales? Or does this correlation result from another positive influencing factor on image, such as product quality? This is where decision makers often rely on their experience. The methods investigated can support such decisions through data analytics. ✗

Project manager: Dr. Vladimir Manewitsch

QUANTUM PROBABILITY FOR DECISIONS UNDER RISK AND AMBIGUITY

Decisions and the description of decision behavior rely heavily on classical probability theory. However, real behavior does not always correspond to these models. Therefore, deviations are labeled as irrational, paradoxical or erroneous. What are the advantages or disadvantages of quantum probability compared to classical probability? It is a real alternative: Initial studies show that quantum probability models can explain paradoxes and fallacies better than classical probability. The aim of the research project is to determine whether these models can be generalized and how suitable they are for forecasting.

METHOD

Development of a new quantum probability model to describe and predict the choice between two lotteries. This will be tested with the data set of [the Choice Prediction Competition 2015](#).

RESULTS

Quantum probability is an alternative way of dealing with probabilities. It maps many known fallacies of behavioral economics and enables the prediction of decisions in additional cases. Quantum probability can therefore become part of the toolbox for researching market decisions.

RELEVANCE

Quantum physics has made groundbreaking discoveries in science and technology possible – and has the potential to bring about long-term change in market decisions. ✕

Project manager: Holger Dietrich



Working Papers and Research Reports Strengthen Exchange and Discussion



The research activities of the Nuremberg Institute for Market Decisions combine science and practice. The NIM **Working Paper Series** serves as a resource for knowledge exchange about the latest market research at an early stage. The aim is to stimulate the discussion between practitioners, market research institutes and scientists. The individual working papers represent the findings from the NIM research groups, partly in collaboration with its cooperation partners.

In 2020, NIM created another format for exchanging knowledge called **Research Reports**. They include relevant insights from expert talks and summaries of the key findings. All working papers and research reports are published in the [Research section of NIM's homepage](#). ✕

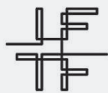




NETWORK



NIM fosters active dialog and cooperation with experts from science and practice, innovators, think tanks and start-ups both in Germany and throughout the world. They include the following:



INSTITUTE FOR THE FUTURE

INSTITUTE FOR THE FUTURE

The Institute for the Future (IFTF) is a non-profit think tank based in Palo Alto, California and the world's leading organization for future-oriented thinking. IFTF and NIM have been cooperating as research partners since the end of 2019 and carry out joint research on "Future Ready Organizations." The results appear in the article "Measuring the impact of strategic foresight – results from a survey of organizational foresight capacity" (F. Buder, 2020), published in "Towards Future Readiness – A Playbook for Building Foresight Capacity."



CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS

Since 2014, NIM has been cooperating with the Business School of the Central University of Finance and Economics (CUFE) in Beijing. Together with CUFE, NIM runs an experimental laboratory, where they are jointly investigating "Social norms and regulatory focus in marketing for real new products – An international comparison." As part of the cooperation, NIM also offers a two-week summer school program at CUFE on "Strategic Foresight and Decision-Making in International Markets." This allows NIM researchers to gain first-hand insight into China's dynamic development and also talk with the students about methods and results.



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

UNIVERSITY OF PRETORIA

Workshops and doctoral seminars on experimental economic research, decision theory and behavioral science were established in 2012 and are part of the cooperation with the University of Pretoria. In addition to training and education, the cooperation also includes joint research, such as the project "Anthropomorphism, voice and social interaction – Reacting to non-human agents."



JUSTUS LIEBIG UNIVERSITY GIESSEN

Together with the department of Prof. Dr. Jella Pfeiffer at Justus Liebig University Gießen, NIM is investigating the extent to which emotional arousal is linked to the need to share information with others in the project "What the voice reveals: emotional arousal drives sharing of experiences."



Changing more than a name

CASS BUSINESS SCHOOL | CITY UNIVERSITY OF LONDON

For the study "Adoption Rates for Contact Tracing App Configurations in Germany," NIM collaborated with researchers from the Cass Business School in London because they had already conducted the survey in the UK (Wiertz et al., 2020).



ST. GALLEN SYMPOSIUM

The St. Gallen Symposium is the world's leading initiative for intergenerational debates on economic, political and social developments. NIM and the St. Gallen Symposium have been cooperating since 2014 on the study "Voices of the Leaders of Tomorrow." Each year, top talents from many countries are surveyed on economic and social issues. The focus of this year's study was "Human Freedom and Choice in the Light of Technological Change."



KIT

In partnership with KIT, CITEC (Bielefeld) and the University of Southern Denmark, NIM investigated the use of virtual reality (VR) technology in virtual supermarkets. In addition, a new study entitled "How virtual reality affects consumer choice" was published in 2019 (Meißner, M., Pfeiffer, J., Peukert, C., Dietrich, H., & Pfeiffer, T., 2020. "How virtual reality affects consumer choice," *Journal of Business Research*, 117, 219–231). In another study conducted at the KD2 lab, NIM investigated the effects that emotional arousal has on the voice and the need to communicate.



FRIEDRICH-ALEXANDER-UNIVERSITY ERLANGEN-NÜRNBERG

NIM (formerly the GfK Verein) established the GfK Department for Marketing Intelligence at FAU Erlangen-Nuremberg in January 2007



BERLIN INSTITUTE FOR POPULATION AND DEVELOPMENT

The Berlin Institute for Population and Development and NIM have been conducting joint research for many years on various studies such as "Europe's Demographic Future. Where the Regions Are Heading after a Decade of Crises."



ZOLLHOF - TECH INCUBATOR

ZOLLHOF Tech Incubator is the digital center for high-tech start-ups and corporate innovators in Middle Franconia. Founded by renowned companies and public partners, ZOLLHOF provides support to more than 50 start-ups and 10 companies in areas related to innovation and entrepreneurship. Inspired by ZOLLHOF's mission, a cooperation was started with the aim of researching and working on the challenges of digital transformation through knowledge exchange and joint events (e.g., workshops).

NIM Market Decisions Day



THE MEETING PLACE FOR MARKET DECISIONS

The annual NIM Market Decisions Day is a unique forum for NIM members and guests and has a clear thematic focus: Understanding, anticipating and improving market decisions. On this day, speakers from science and practice build a bridge between current research findings and concrete practical experience.

In July 2019, around 100 participants discussed and provided information about market decisions from different perspectives. The topics covered by the high-level speakers ranged from the reasons for poor decisions to the impact of artificial intelligence on the development of new products. At NIM Decisions Day 2019, management consultant, author and former professional pilot Peter Brandl focused on head and gut decisions, and showed members and guests why poor decisions are made and how we can learn from mistakes. Erich Harsch, CEO of dm-drogerie markt, spoke to the audience about how digital transparency and customer decisions are connected. Dr. Marius Luedicke,





Associate Professor at Cass Business School, City, University of London, analyzed the exciting question of the potential impact of artificial intelligence on consumer decisions. ✕



OUTLOOK: NIM MARKET DECISIONS DAY WAS CANCELED AND MOVED TO 2021 DUE TO COVID-19.



The New Office

The new office on one level creates inspiring open spaces – for creativity, in-depth exchange and valuable insights for research work.



At the beginning of March 2020, NIM moved to the Johannis (GZJ) commercial center in the historic factory building of Bayerische Metallwarenfabrik (BMF) in Nuremberg. GZJ was founded in 1985 and currently houses around 30 companies, ranging from traditional service providers to young start-ups. The open-plan distribution of the spaces with bright rooms and high ceilings offers the ideal conditions for multifunctional, flexible room concepts.

The goal was to create an office on one level to promote more exchange and creativity. Various concepts were employed for this and they can all be used for different activities: Group work areas for teamwork, seating areas for casual

meetings, individual quiet concentration zones – and even “telephone booths” for working in small groups. It is not unusual for new ideas to emerge in informal areas, so the kitchen was also designed with communication in mind.

A special feature of the new office is the mobile market decision lab, which is equipped with computer workstations. Behavioral experiments can be conducted here to gain a deeper and better understanding of market decisions.





NEW ADDRESS
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90419 NUREMBERG
GERMANY





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Managing Director
and Vice President



Dr. Fabian Buder
Head of Future &
Trends Research



THE NIM-TEAM



Petra Gelsen
Personal Assistant



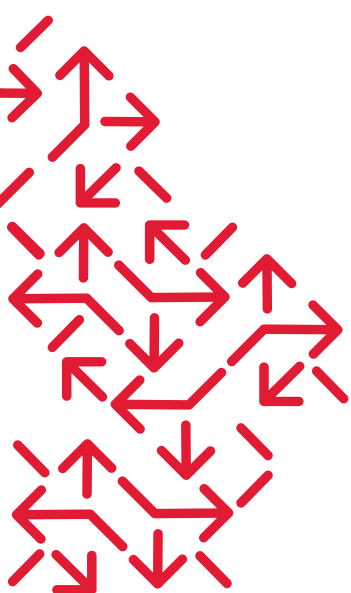
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Senior Researcher



Dr. Vladimir Manewitsch
Senior Researcher



René Schallner
Senior Researcher/
Technology Lab
Manager





Holger Dietrich
Senior Researcher



Claudia Gaspar
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Managing Editor – NIM Marketing Intelligence Review



Sandra Lades
Head of Communication and Events



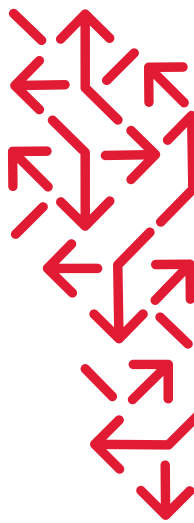
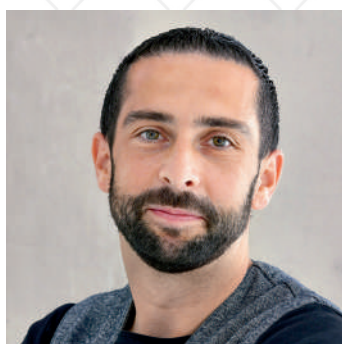
Birgit Stoltenberg
Senior Researcher



Helen Streilein
Personal Assistant



Dr. Matthias Unfried
Head of Behavioral Science



Balance Sheet as of December 31, 2019



in € thousand (rounding differences possible)	12/31/2018	12/31/2019
ASSETS		
NON-CURRENT ASSETS		
Property, plant and equipment		
Land and buildings	130	129
Other equipment, business and office equipment	267	258
	397	387
Financial assets		
Investments	39,201	39,201
	39,598	39,588
CURRENT ASSETS		
Receivables and other assets		
Trade receivables	3,001	21
Other assets	1	55
	3,002	76
Bank balances	15,634	13,828
	18,637	13,904
PREPAID EXPENSES	1	2
	58,236	53,494
EQUITY AND LIABILITIES		
EQUITY		
Andere Gewinnrücklagen	57,588	53,086
RÜCKSTELLUNGEN		
Other retained earnings	499	288
	499	288
PROVISIONS		
Bank borrowings	1	1
Trade payables	56	70
Other	92	49
	149	120
	58,236	53,494

Income statement 2019



in € thousand (rounding differences possible)	2018	2019
Sales	111	100
Membership dues	199	189
Other operating income	13,015	25
	13,325	314
Expenses for services procured	- 1,794	- 555
Personnel expenses	- 2,410	- 1,607
Amortization and depreciation on intangible assets and property, plant and equipment	- 42	- 47
Other operating expenses	- 2,618	- 2,195
	- 6,864	- 4,404
Income from investments	0	0
Other interest and similar income	2	0
Interest and similar expenses	- 175	- 57
Income taxes	0	0
Net income	6,288	- 4,147
Taxes	- 705	- 355
Net profit/loss	5,583	- 4,502



Nuremberg Institute for Market Decisions and GfK SE

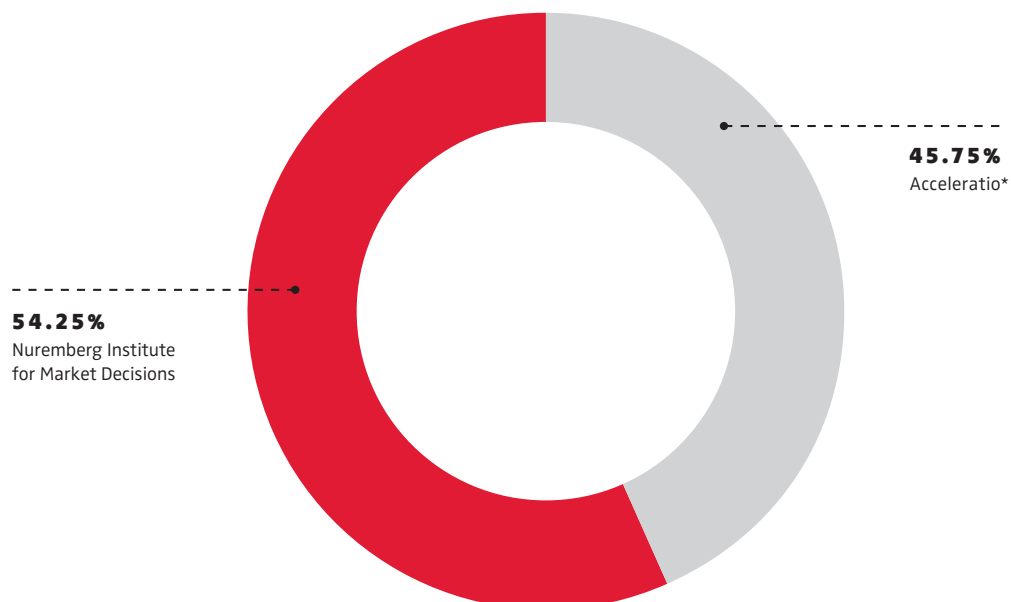


NUREMBERG INSTITUTE FOR MARKET DECISIONS

*Founder and Anchor Shareholder
of GfK SE*

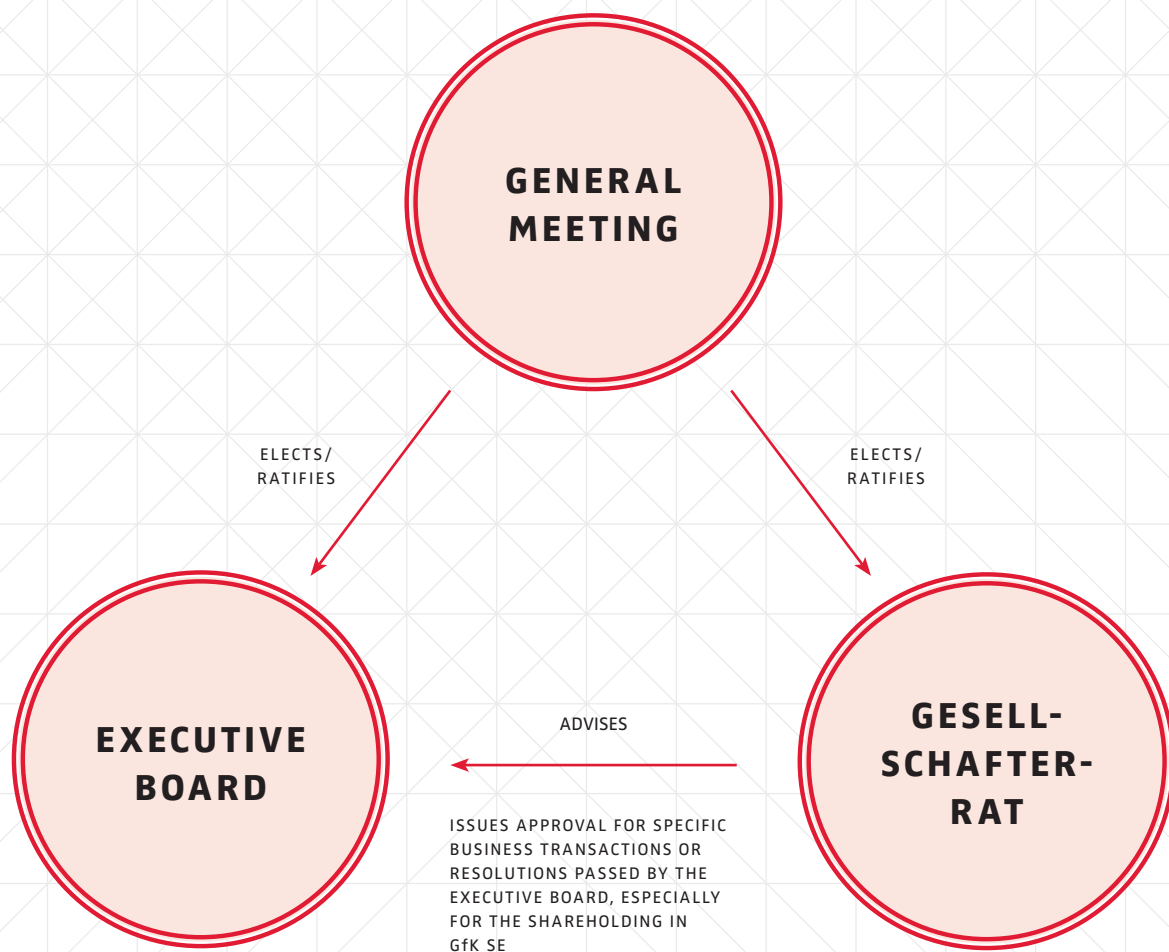
In addition to its research work, the Nuremberg Institute for Market Decisions focuses on its role as majority holder of GfK SE. The Nuremberg Institute for Market Decisions is majority shareholder of GfK SE with a share of 54.25 percent.

SHAREHOLDER STRUCTURE



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NIM MEMBERSHIP

PARTICIPATE – RESEARCH – JOIN

Membership in the Nuremberg Institute for Market Decisions (NIM) means active participation in the professional dialog on market decisions.

In order to generate research ideas and facilitate mutual exchange, it is important to NIM that its members have a high level of interest in how the market decisions of market participants are changing because of the digital transformation. Ideally, the members are engaged with this issue themselves either in the business or science arena, have established professional experience, or are involved in scientific teaching activities.

A new NIM membership category called “Young Talent” has been introduced. Typically, these are students who deal with the topic of market decisions as part of their studies. Young professionals in this field as well

as founders of start-ups who are involved with this topic can also become a “Young Talent” member of the Nuremberg Institute for Market Decisions.

All members benefit from access to current and relevant knowledge on market decisions. This includes studies and research results often months before they are available to the general public. All members also receive the latest copy of the NIM Marketing Intelligence Review (MIR) journal. Each issue of MIR presents the latest scientific findings – usually focusing on a specific theme – in a practice-oriented manner. Membership also includes free participation in NIM Market Decisions Day (see page 22) as well as invitations to webinars and workshops on relevant topics and research results relating to market decisions.

Further information on membership as well as the membership application can be found on the homepage. ✕

LEGAL NOTICE

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TEXT AND EDITING SUPPORT

KOMMversations GmbH
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PHOTO CREDITS

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