

BIG DATA IN SMALL COMPANIES: A SURVEY IN THE RETAIL SECTOR IN THE NETHERLANDS

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ABSTRACT

Over the past years, “big data” has been firmly established in the everyday practice of businesses and even in the specific sector as retail it is becoming a more significant source. However, the utilization of big data analytics lacks behind among small- and medium-sized enterprises in the retail sector. To understand this problem, this research mapped the current situation to what extent these SMEs utilise big data analytics. Based on a review of the literature on maturity frameworks for measuring this utilization of big data analytics, an online questionnaire of the BDAC framework was distributed to SMEs in the retail sector based across the Netherlands. Analysis of the questionnaire demonstrated that SMEs are broadly interested in big data analytics and the adoption and utilization of the tangible resources of analytics are firmly established. However, SMEs are still careful about investing in big data analytics because of the uncertainty of the added value of data analytics. On this basis, it is recommended that further research is needed to determine how SMEs in the retail sector could see the benefits of big data analytics and how these SMEs could utilise big data analytics without making significant investments within the company.

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KEYWORDS

Big data, big data analytics, maturity model, utilization, SME, retail

1. INTRODUCTION

In the last decade, technological innovations in specific sectors like retail are increasing globally and big data is becoming a more significant source for analysing processes (Waller & Fawcett, 2013, p. 80). The increasing popularity of big data in the retail sector has been illustrated in figure 1, where an overview is provided of the search results on the terms 'big data' and 'retail' in the scientific searching engine Scopus. The utilization of big data has been noticed by some small and medium enterprises in the retail sector, which sees the benefits of big data and data-driven working, but it seems that the implementation is a big challenge. This challenge is because the generated data in their stores is primarily collected and stored in the cloud, but its analysis lacks (Balduyck, 2015). For example, the lack of resources and the knowledge of how to analyse big data causes a lack of possibilities for small companies to dive deep into big data analytics (Coleman et al., 2016, p. 2156). In 2018, 52% of the big-sized retail enterprises (>250 employees) had been utilizing big data analytics (CBS, 2018). Compared to the SMEs in the retail sector, the big-data analytics execution is significantly lower with an utilization of 24% by enterprises with 10 to 19 employees, 21% by enterprises with 10 to 50 employees and 33% utilization by enterprises with 50 to 250 employees (CBS, 2018).

A literature review has been conducted regarding the dissimilarities between SMEs and large companies regarding the utilization of big-data analytics. Numerous studies identified several beforementioned causes for the low rate of utilization of big data analytics for SMEs, such as financial barriers, lack of understanding and the lack of management (Coleman et al., 2016, p. 2156). However, it could be considered of these outcomes are generalizable for the SMEs in the Netherlands, especially for a specific sector like the retail sector. Scientific research has not been conducted on which dimensions has been and has been not utilized by these SMEs. This causes a lack of understanding about this problem, leading to not controlling the problem, which further leads to not seizing the full data analytics potential. Therefore, scientific research must be conducted to gain new insights into the big-data utilization of SMEs in the retail sector in the Netherlands. First, the concept of retail must be defined to understand what retail is. Cambridge Dictionary (2021b) describes the term 'retail' as "the activity of selling goods to the public in stores, on the internet, etc., rather than selling to stores, other businesses". In other words, SMEs in the retail sector are

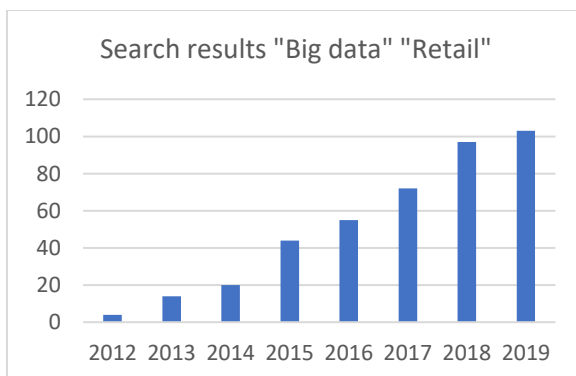


Figure 1 Search results in database Scopus

organisations lower than 250 employees which sell products to end-users, for example, consumer goods to customers, in small orders. This sector must be analysed because it is responsible for 4% of the Dutch GDP, 93 billion added value to the economy, employs 775.000 people, consists of 110.000 companies and is a crucial factor, for example, the catering industry and the tourist sector (Nederlands Comité voor Ondernemerschap, 2019a). Further, brick and mortar retail stores forms the beating heart for inner cities and centres of municipalities which is an essential factor for the attractiveness, vitality, and quality of life in towns and villages and, therefore, the human being (Retail Innovation Platform, 2020).

Moreover, the purpose of this study is to provide a clear insight into what extent SMEs in the retail sector in the Netherlands are utilizing big data analytics. This purpose will be reached by answering the following research question:

"To what extent does SMEs in the retail industry utilise big data analytics in the Netherlands?"

This research aims to gain new insights into the current utilization level of SMEs in retail regarding big data analytics in the Netherlands. Therefore, a questionnaire will be conducted that provides operationalised questions of a maturity model which could assess the utilization of big data analytics with SMEs in specific.

The academic relevance of this research is to map a current situation to what extent SMEs in the retail sector have utilized big data analytics. With this newly gained information, further research could be conducted to identify the causes of the utilization of big data analytics and how to improve this. The practical relevance of this research is to provide a better understanding to what extent SMEs in the retail sector utilise analytics and how these SMEs and the retail industry itself could improve this. With this improvement, SMEs could better understand the firm processes and forecast the future, which could cause increased firm performances.

This report consists of five sections. The first chapter of this report is a systematic literature review on the concepts of big data, big data analytics, and models that assess analytics' maturity. The third chapter will explain which methodology will be conducted in this research. The fourth chapter consists of the results and the analysis of it. Lastly, the reflective analysis, discussion, conclusion, limitations, and recommendations of this research will be discussed.

2. THEORETICAL FRAMEWORK

In this chapter, existing literature will be consulted to understand the used concepts within this research. Firstly, the way of executing the systematic literature review will be presented. Secondly, the concepts of big data and big data analytics will be explained and the ongoing importance of it. Third, the appliance of these terms in the retail sector will be reviewed. Lastly, the maturity level frameworks by Grossman, Parra et al. and Moonen et al. and the selection of these frameworks will be provided.

2.1 SYSTEMATIC LITERATURE REVIEW

This literature review aims to identify important aspects of the definition of big data, big data analytics, and big data maturity frameworks. To analyse the theories in the field, existing literature has been analysed by conducting this literature review. Stating the research title of Watson and Webster (2020, p. 144) "analysing the past to prepare the future" summarizes the importance of literature review. According to

the researchers, literature review creates a foundation for in-depth knowledge based on existing literature for any research project.

This literature review has been conducted with a grounded-theory method for systematic review which contains the stages define, search, select, analyse and what is done in this paper, present (Wolfswinkel, Furmueller, & Wilderom, 2013, p. 52).

2.1.1 SEARCHING STRATEGY

The first phase's tasks are defining the criteria for inclusion/exclusion, identifying the fields of research, determining the appropriate sources, and deciding on the specific search term. A sole criterion is the selection of all non-peer-reviewed articles to achieve a reliable set of articles. The chosen subject areas in this research are business, management and accounting and computer science because these areas connect to the high-level scope and the researchers' educational background. Additionally, to reach for information that is not outdated and thus irrelevant for this research, articles before 2016 were excluded. Furthermore, only articles that were published in a journal were selected. To find valuable information that colleague researchers generally accepted, articles were sorted by citation count from high to low.

The next step is to formulate search terms that are related to the topic. Therefore, the main search terms were "big data", "big data analytics" and "retail". Because of the scarcity of research in these search terms for retailers, the keywords "big data" and "SME" will be the first search term and "big data", and "retail" will be the second. Synonyms of data analytics were excluded because "data analytics" contains about 18500 search hits in the databank Scopus, which could be considered as 'enough' literature to summarize. This searching process has been illustrated in Appendix IV.

In the third phase, the founded articles will be selected by refining the sample (Wolfswinkel et al., 2013, p. 49). First, duplicate articles were removed. After this, the sample was refined by reading the title and summary. An article is interesting when the research subject of the article is comparable to the research subject of this study. The subsequent filtering is reading the full text and after this, 30 articles were selected and remained in the sample. After reading the references of the remaining articles, five additional articles were selected for the final sample.

In the fourth phase, the remaining articles were analysed. First, all relevant findings and insights were highlighted, which resulted in relevant excerpts for the research. After highlighting the articles, excerpts were analysed on mutually exclusion with open coding. With this analytical step of open coding, concepts were identified and labelled based on these excerpts which were supported by the remaining articles. This is illustrated in a concept matrix in Appendix IV (Watson & Webster, 2020, p. 137). Based on this open coding, a set of categories was identified with theoretical and methodological insights.

2.2 BIG DATA

In recent years, from organizations, governments to academics, big data has its attention and has evolved into a valuable asset worldwide. According to Anderson (2018), we live in the 'petabyte age' where 'more is different' and huge amounts of big data are stored in the cloud. However, Lee (2018, p. 1643) described that many accessible big data are not utilized for simple operations like logistics and transactions, which many things could cause.

Moreover, to understand to what extent SMEs in retail utilise big data, detailed information about what "big data" is, has to be provided to understand the concept. Over the years, lots of definitions of big data have been formulated. According to Jin, Wah, Cheng, and Wang (2015, p. 63), there is no such definition that is universally approved and covers the concept of big data. According to the Cambridge Dictionary (2021a), big data are "very large sets of data that are produced by people using the internet, and that can only be stored, understood, and used with the help of special tools and methods". IBM defined big data as "a term applied to data sets whose size or type is beyond the ability of traditional relational databases to capture, manage and process the data with low latency" (IBM, 2020). Further, a questionnaire with 154 different executives has been conducted by SAP that showed how different the definitions and understanding of big data is. The outcome of this research divided the concept into five whole different definitions. (Gandomi & Haider, 2015, p. 140) Therefore, it is challenging to offer one definition of the term big data.

However, in the last years, three V-characteristics has dominated how to define the concept of big data: Volume, Variety and Velocity (Laney, Management, & Volume, 2005). First, Volume refers to the scale of the data and contains terabytes and petabytes amounts of data. Before fully understanding this massive amount of data with applicable analytics and algorithms, these data must be stored, organized, and retrieved in a fast and reliable way by the organization (Hashem et al., 2015, p. 101). Still, according to Gandomi and Haider (2015, p. 141), big data volumes are "relative and vary by factor, such as time and the type of data". Big data can be 'big' today but can be small tomorrow because of the increasing storage capabilities, which allow even more extensive data sets to be stored. Second, Variety refers to the different types of data that are collected via social networks, machines, transactions, or the internet of things (IoT). Types of data could be images, text, audio, and video in a structured, semi-structured or unstructured format. Structured data types could be collected by a machine, which is only 5% of all existing data (Cukier, 2010) and can mostly be found in spreadsheets or relational databases. These data are primarily managed by Structured Query Language (SQL), which is used to communicate with a database containing numbers, words, and dates (Hashem et al., 2015, p. 101). However, semi-structured data contains no strict standards which look like structured data but is not organized in relational database models like tables. An example of semi-structured data is Extensible Markup Language (XML), a textual language for interchanging data on the internet which contains structured and unstructured data (Gandomi & Haider, 2015, p. 140). Text messages, blogs, videos, and social media generates different types of unstructured data through sensors and mobile devices which do not follow a specific format and these data denotes the lack of analysis by the organization (Hashem et al., 2015, p. 101). Third, Velocity refers to the speed at which data is generated and transferred. Nowadays, information technology (IT) infrastructures can analyse data in almost real-time (Coleman et al., 2016, p. 2156). The speed and growth of generating data are increasing because of the multiplication of mobile devices and sensors of these devices which are related to the internet (Hashem et al., 2015, p. 101).

Besides the original three V's in the scientific field, three other dimensions are discovered and mentioning these three V's diversify in scientific research itself. To understand the whole big data concept, the three dimensions Value, Veracity and Variability will be explained. First, Value could be the usefulness of the data by eliminating unimportant and

irrelevant data (Erevelles, Fukawa, & Swayne, 2016, p. 903). Additionally, the values refer to discovering important hidden values from the large datasets (Hashem et al., 2015, p. 101) by analysing these large volumes of datasets (Gandomi & Haider, 2015, p. 140). Second, IBM introduced Veracity, which refers to the understanding of the uncertainty (IBM, 2018) of the data quality and data itself by coping with biases, messiness, imprecisions, and misplaced evidence of the data (Sivarajah, Kamal, Irani, & Weerakkody, 2017, p. 284). An example of veracity is that “customer sentiments in social media are uncertain in nature since they entail human judgment” (Gandomi & Haider, 2015, p. 140). At last, Variability refers to the constantly and rapidly changing meaning of human-generated data. Because of this changing meaning, organizations had to interpret and understand words and meanings in a specific context. Algorithms need to understand words in different contexts, which is challenging (Sivarajah et al., 2017, p. 278)).

Further, universal benchmarks do not exist for volume, variety, velocity, value, veracity, and variability that defines big data. This is because the defining limits depend upon the sector, location, and size of the enterprise, which became different over time (Gandomi & Haider, 2015, p. 140). However, the six V's exists for every type of enterprise despite the sector, location or size of the enterprise where traditional data and analyses of data become inadequate for timely intelligence (Gandomi & Haider, 2015, p. 140). Therefore, organizations must adapt and go along with the dynamic changes in big data history.

2.3 BIG DATA ANALYTICS

To make evidence-based decisions, organizations need efficient methods to analyse large volumes of data into meaningful understandings and visualizations (Gandomi & Haider, 2015, p. 143). According to Fosso Wamba, Akter, Edwards, Chopin, and Gnanzou (2015, p. 243), big data analytics could be defined in many ways. Big data analytics could be defined as “a holistic approach to managing, processing, and analysing the 5 V data dimensions (volume, variety, velocity, veracity and value) to create actionable ideas for delivering sustained value, measuring performance, and establishing competing advantages”. Additionally, data analytics refers to using methods to investigate and attain intellect which can be regarded as a sub-process in the insight extraction of big data (Labrinidis & Jagadish, 2012), which has been broken down by Gandomi and Haider (2015, p. 138) into five stages shown in figure 2. These five stages have been divided into two sub-processes: data management and analytics. First, data management involves whole processes and supporting technologies that stores, prepares, and retrieves data for analysis. Second, analytics refers to techniques and methods to model, analyse and interpret the stored and prepared big data to enhance the decision-making and increase the organisation's output. Big data analytics has been divided

into three main types (Sharda et al., 2014, pp. 1–3; Sivarajah et al., 2017, p. 278). The first type is descriptive analytics, which is the simplest form of big data analytics. These analytics scrutinizes data and information to summarize the current situation of an organization based on historical data. Descriptive analytics uses knowledge patterns with simple statistical methods as mean, median, mode, variance, standard deviation, and frequency. The second type is predictive analytics, which refers to forecasting to determine what would happen in the future based on statistical modelling. This statistical modelling and other relevant techniques help to accurate predictions of future event and outcomes. The third type is prescriptive analytics which refers to achieve the best performance possible based on knowing what is going on, conduct forecasting and making decisions with this information. (Sharda et al., 2014, pp. 1–3; Sivarajah et al., 2017, p. 278)

To understand the types of analytics, examples of commonly used techniques and outcomes are provided in table 1.

	Descriptive analytics	Predictive analytics	Prescriptive analytics
Questions	What happened? What is happening?	What will happen? Why will it happen?	What should I do? Why should I do it?
Enablers	Business reporting, Dashboards, Data warehouse	Data, Text, Web, Media mining, Forecasting.	Optimization. Simulation. Decision modelling. Expert systems.
Out-comes	Well-defined business problems and opportunities	Accurate predictions future events and outcomes	Best possible business decisions and actions
	Business intelligence		Advanced analytics

Table 1 Types of analytics (Sharda et al., 2014, p. 157)

Descriptive analytics

To establish the current situation of an organization, the data must be summarized and converted into meaningful information for monitoring and reporting by answering the questions “what happened?” and “what is happening?” (Sharda et al., 2014, p. 157). Descriptive analytics can be visualized or setup in core applications as business reports, online analytical processing (OLAP), dashboards, scorecards, and data warehouses (Watson, 2014). Examples for some applications are Power BI, SQL, DAX and Tableau. The outcomes could be well-defined business problems and opportunities.

According to Spiess, T'Joens, Dragnea, Spencer, and Philippart (2014), forms of descriptive analytics are root cause analysis and diagnostic analysis that analyses the data and test the system on actions to read out some results. With diagnostic analytics, the question “why is something happening?” will be answered. The authors indicated that root cause analysis is a process to continues digging into historical data and correlate various insights to find fundamental causes of an event (Spiess et al., 2014). Commonly used applications for diagnostic analytics are R Studio, Python, WEKA, Power BI, and Tableau.

A. Gandomi, M. Haider / International Journal of Information Management 35 (2015) 137–144

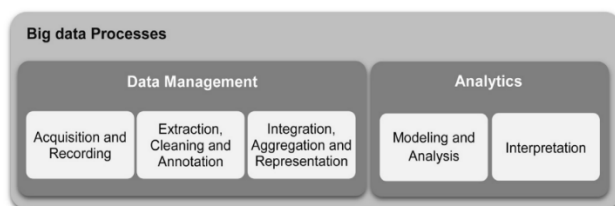


Figure 2 Big data processes

Predictive analytics

This type of analytics refers to forecasting and modelling to determine the future based on historical and real-time data (Gandomi & Haider, 2015, p. 143). These address the questions “what will happen?” and “why will it happen?” (Sharda et al., 2014, p. 157). Predictive analytics aims to seek and uncover patterns and capture relationships in data based on statistical methods. Gandomi and Haider (2015) subdivided predictive analytics into two groups which are regression techniques (for example, multinomial logit models) and machine learning techniques or data mining (for example, neural networks). These machine learning techniques define the concept of artificial intelligence, which is intelligence demonstrated by machines (Lepenioti, Bousdekis, Apostolou, and Mentzas, 2020, 69 p.). Besides this, Lepenioti et al. (2020, p. 69) added data mining to the machine learning aspects and techniques as linear regression under statistical analysis.

Furthermore, the authors added the group ‘probabilistic models’ (for example Markov Chain Monte Carlo) to the concept of predictive analytics. According to Chater, Tenenbaum, and Yuille (2006, p. 289), probabilistic models are techniques that can “be applied in various ways – ranging from analysing a problem that the cognitive system faces, to explicating the function of the specific neural processes that solve it”. The authors indicated that some machine learning techniques, such as moving averages, try to identify a pattern in historical data and extrapolate them into the future to forecast, for example, predicting sales forecast based on the averages of the last three months. Other techniques as linear regression aims to model a relationship between outcome variables and explanatory variables and use them to make predictions, while a technique as Random Forests are applied for discrete outcomes. Conventional statistical methods can predict the future based on a small sample from the population, which in contrast with big data samples, are massive and represent a big majority of the population (Gandomi & Haider, 2015). Examples of other predictive analytics are data, text, web, and media mining to extract data and find patterns in these to make accurate predictions of future events and outcomes (Sharda et al., 2014, p. 157). Lepenioti et al. (2020, p. 69) illustrated the three groups of predictive analytics and predictive analytics techniques in Appendix I.

Prescriptive analytics

This type of analytics refers to determine the cause-effect relationship among analytic results and process optimization based on the feedback input of predictive analytical models (Bihani & Patil, 2014). These address the questions “what should I do?” and “why should I do it?”. Prescriptive analytics, which is termed as decisions and normative analytics, aims to recognize what is going on, what is happening in the future and make decisions to achieve the best performance possible (Sharda et al., 2014, p. 157). To do this, Lepenioti et al. (2020, p. 69) stated that prescriptive analytics “utilizes artificial intelligence, optimization algorithms and expert systems in a probabilistic context to provide adaptive, automated, constrained, time-dependent and optimal decisions”.

The authors divided prescriptive analytics into six groups containing two predictive analytics groups: probabilistic models and machine learning and data mining. This is because machine learning, data mining and probabilistic models could be combined with other methods or may be used for reaching a different research challenge. The other four groups of prescriptive analytics are mathematical programming, evolutionary computation, simulation, and logic-based models (Lepenioti et al., 2020, p. 62). First,

mathematical programming seeks with programming and planning to allocate scarce resources in a most optimized way based on mathematics, management science and operational research to solve complex decision-making problems (Chong & Zak, 2013, pp. 1–3). Second, evolutionary computation is a method for solving problems with a rich data environment in which exact solutions cannot be derived. With this method, solutions are produced stochastically, which means random, by removing undesired solutions and introducing small changes to reach better solutions (Bäck, Thomas Bäck, Fogel, & Michalewicz, 1997, pp. 1–3). Third, simulation is a method to simulate hypothetical solutions on a computer to research what is happening and how a process or system works. With continuous changing the variables, which affect the system, an optimal situation can be simulated (Banks & Carson, 2000, pp. 1–3). At last, logic-based models are models which describe the chain of causes and effects which leads to an outcome. This method is standardly used for proactive decision making in prescriptive analytics (Lepenioti et al., 2020, p. 62). The six groups of predictive analytics and the techniques of predictive analytics are illustrated in Appendix I.

2.4 BIG DATA AND ANALYTICS IN RETAIL

In this section, dimensions of big data, which are applicable in the retail sector, will be discussed. After this, descriptive, predictive, and prescriptive analytics applicable in the retail sector will be provided.

2.4.1 BIG DATA AND RETAIL

As mentioned before, the popularity of big data has increased in the last decade and even in specific sectors as the retail it is becoming more popular, which is illustrated in figure 1. A concept matrix has been made to define concepts of big data in retail, which has been illustrated in table 2. Additionally, concepts have been identified only for brick-and-mortar stores. Concepts of e-commerce organisations have been disregarded.

Concepts/ sources	Custom- er data	Product data	Location data	Time data	Channel data
(Bradlow et al., 2017)	X	X	X	X	X
Fong et al. (2015)			X		X
Hui et al. (2013)			X	X	
Kumar, V. et al. (2008)	X		X		
Rapp, A. et al. (2015)					X
Voleti, S. et al. (2015)		X			

Table 2 Concept matrix big data and retail

To gain more knowledge of big data regarding the retail sector, Bradlow, Gangwar, Kopalle, and Voleti (2017, 81 p.) describes ‘typical’ sources of big data in retailing and how to exploit the vast flows of information in the five dimensions across customers, products, time, geo-spatial location, and channel. First, tracking technologies enabled retailers to move from aggregate data analyses to much more individual-level data analyses for much more granular targeting. With this granular targeting, retailers have available individual-based data. With this individual-based data, organisations could select a specific customer with a specific number of resources and nurture this customer for the future (Kumar, Venkatesan, Bohling, & Beckmann, 2008, p. 596). Furthermore, it could be argued that one of the big missions of enterprises today is to increase their number of columns (measures) and rows (more

unique data) with valuable information. A retail example of the increasing customer information is the collected information from transaction data from a Customer Relationship Management (CRM) system, demographic data from a credit card, questionnaire data from an email, in-store visitation data, social media data and more broadly user-generated content (UGC) causes a rich and nuanced customer-level data (Bradlow et al., 2017, p. 83). Second, the dimension 'product information' could be divided into two dimensions: product identification with a Stock Keeping Unit (SKU) and the increasing measures about the product information matrix (Bradlow et al., 2017, p. 83). With this information, retailers could analyse product similarities, brand premiums (Voleti, Kopalle, & Ghosh, 2015, p. 2722) and subcategory boundaries. Third, location information could impact the effectiveness of marketing by offering specific types of products on a particular location with the help of historical data or real-time data (Hui, Inman, Huang, & Suher, 2013, p. 9) of the CRM database, which enables hyper-targeting of customers on the most granular level (Kumar, V. et al., 2008). However, retailers must consider the ethical and potential boomerang effects of the customers' feeling with hyper-targeting (Fong, Fang, & Luo, 2015, p. 728). Fourth, the dimension 'time' multiplies all the data that allows continuous measurement of the retailers' performance. Because of the continuous measurement, real-time data is available for daily decision making. For example, a database that connects the in-store movements with the customers' purchases could answer the question of what effect giving a discount or changing a product location on the flow of customers in-store and purchase behaviour (Hui et al., 2013). At last, channel information is an asset to identify the pattern of how a customer purchases a product. These data are generated in the 'research shopping' where customers use a channel to access information while purchasing from another channel. Terms like 'showrooming', where the customer searches in the offline channel and buys online, and 'webrooming', where the customer behaviour is quite the opposite (Rapp, Baker, Bachrach, Ogilvie, & Beitelspacher, 2015, p. 362). Additionally, with location targeting, channel information could be identified (Fong, Fang, & Luo, 2015, p. 728).

2.4.2 RETAIL ANALYTICS

Using data as a retail enterprise is valuable. However, it is useless when analytics do not show up to process these data into meaningful insights. In the last decade, analytics is an emerging trend in the retail landscape (McKinsey, 2017). For example, new scientific research identified a positive relationship between customer analytics and enterprise performance of retailers (Germann, Lilien, Fiedler, & Kraus, 2014, p. 589). With such research, retailers could improve their processes and revenues with applications like customer analytics. To understand big data analytics in this research, the three types of analytics will be discussed and the importance of it in the retail sector. In addition, provided example techniques are found in the literature. However, more techniques are available for retail practices.

Descriptive analytics in retail

An SME in the retail could establish a current situation with descriptive analytics based on historical data. With these analytics, an SME could continuously dig deep into its sales data to find root causes why the turnover was high or low in a particular time frame (Sharda et al., 2014, p. 157). Furthermore, a commonly used descriptive analytic is video analytics, which is applicable for store operations that count the number of customers in a specific time frame and the traffic

flow in the shop. Video analytics could provide SMEs valuable information by calculating where customers spend most of their time to evaluate display effectiveness (Institute of Electrical and Electronics Engineers, 2007, pp. 1–3). At last, the average sales per customer could be calculated by dividing the number of counted customers by the number and value of sales, and this could be calculated per display or location in the store (Institute of Electrical and Electronics Engineers, 2007, pp. 1–3). With such techniques, SMEs could quickly analyse the historical data fabricated in the shop and understand the questions "what happened?" and "what is happening?".

Predictive analytics in retail

To predict the subsequent month revenue or crowds in terms of customers, prediction techniques must be used to carry out these possible wishes. For example, Tian, Zhang, and Zhang (2018, p. 201) concluded that weather conditions affect consumer variety-seeking and predict which products consumers will be purchasing based on weather conditions. In addition, Bradlow, Gangwar, Kopalle, and Voleti (2017, 94 p.) found out that a promising retail prediction technique is the Bayesian analysis, a probabilistic model that allows retailers for individual-level customization. With this customization, the model provides optimal marketing decisions at the level of the customers' identity. This analysis is an efficient data use where parameters could be updated at any point of time without re-running the model and the whole dataset again. An example of this analysis in the retail sector could be specific marketing advertisements. The Bayesian analysis allows retailers to group their customers into a group of individuals, households, or segments and after that creating segment-specific or individual-level advertisements if this is cost-efficient (Bradlow et al., 2017, p. 83). Furthermore, Li, Chen, Yang, Huang, and Huang (2020, p. 1321) made a multinomial logit model, a regression model, to predict consumer colour preference. Such models are valuable for a retailer to predict decisions made by the customer and answers the questions "what will happen?" and "why will it happen?".

Prescriptive analytics in retail

According to McKinsey (2017), prescriptive analytics is "far more scalable and enables retail managers to get insights that direct them to take better actions". With prescriptive analytics, retailers can identify which stock-keeping unit (barcode) contains the biggest impact on the basket size and profit and optimize this system by adjusting prices, promotions and assortment in each brick-and-mortar store and online shop to maximize its revenue, profit, and customer loyalty. McKinsey (2017) expect that prescriptive analytics increase same-store sales by 2-5%. Additionally, Flamand, Ghoniem, Haouari, and Maddah (2018, p. 147) investigated the retail assortment planning along with store-wide shelf space allocation in a case study of grocery stores. The authors used mathematical programming to select the most effective solution for shelf space allocation, which promotes unplanned purchases and inconvenience shopping and optimized the system with 0,5%. Another example of prescriptive analytics in retail is the study of Huang, Bergman, and Gopal (2019, p. 1876), which used a prescriptive optimization model to automate expansion decisions for add-on products. This optimization model resulted in a highly effective prediction model which can increase expected sales based on the automated expansions decisions (Huang et al., 2019, p. 1876). Further, the study of Hui et al. (2013, p. 5) contains a simulation model to promote unplanned spending based on in-store travel distance. The outcome of this study was that the unplanned spending of customers was more when

there was greater travel distance between promoted products, which is useful for retailers for optimizing the locating of in-store advertisements. Such techniques and models are valuable for a retailer to optimize its business and answers the questions “what should I do?” and “why should I do it?”.

2.5 MATURITY LEVEL FRAMEWORKS

Recent developments in descriptive, predictive, and prescriptive methods and techniques introduces extra ways for organizations to receive valuable insights and business value from large datasets. However, these organizations have been struggling with their measurement, strategy, and implementation of the potential of these techniques (Muller & Hart, 2016, pp. 137-151). According to Cosic, Shanks, and Maynard (2012, pp. 1-11), a suitable tool to solve this problem is a maturity model which “facilitate the assessment of the level of development of organizational capabilities, processes, and resources”. Maturity was first proposed by Phillip Crosby, which describes maturity as a “state of being complete, perfect or ready” (Simpson & Weiner, 1989). A maturity model assesses the capabilities of an organization with regards to a specific discipline based on a set of criteria and guides the organization to the needed capabilities for reaching the state of “being complete and perfect” for such discipline (Serral, Stede, & Hasic, 2020, p. 118). In this case, a maturity model is needed to measure the discipline of big data analytics for SMEs in the retail sector to identify the current strengths and weaknesses regarding this discipline. First, three maturity frameworks will be explained. At last, based on a decision matrix, the selection of the most applicable framework will be provided.

Analytic Processes Maturity Model (APMM)

The APMM is a framework that divides analytical processes into three basic concepts: analytical models, analytical infrastructure, and analytical operations. Added to this, the framework specializes in processes that are expressed in three terms: analytic strategy, analytical security and compliance and analytic governance. This model is divided into five different stages/levels:

- 1) AML 1- Build reports: “An AML 1 organization can analyse data, build reports summarizing the data, and make use of the reports to further the goals of the organization” (Grossman, 2018, p. 50)
- 2) AML 2 - Build models: “An AML 2 organization can analyse data, build and validate analytic models from the data, and deploy a model” (Grossman, 2018, p. 50)
- 3) AML 3- Repeatable analytics: “An AML 3 organization follows a repeatable process for building, deploying, and updating analytic models. In our experience, a repeatable process usually requires a functioning analytic governance process” (Grossman, 2018, p. 50)
- 4) AML 4- Organisation analytics: “An AML 4 organization uses analytics throughout the organization and analytic models in the organization are built with common infrastructure and process whenever possible, deployed with common infrastructure and process whenever possible, and the outputs of the analytic models integrated as required to optimize the goals of the organization. Analytics across the enterprise are coordinated by an analytic governance structure” (Grossman, 2018, p. 50)

- 5) AML 5 - Strategy-driven analytics: “An AML 5 organization has defined analytic strategy, has aligned the analytic strategy with the overall strategy of the organization, and uses the analytic strategy to select appropriate analytic opportunities and to develop and implement analytic processes that support the overall vision and mission of the organization” (Grossman, 2018, p. 50)

The CHROMA-SHADE Model

This framework presents an assessment of the information-driven decision-making process (DMP) in SMEs and is developed by Parra, Tort-Martorell, Ruiz-Viñals, and Álvarez Gómez (2019, p. 154). The framework called the “Simplified Holistic Approach to DMP Evaluation (SHADE)” and “Circumplex Hierarchical Representation of the Organization Maturity Assessment” (CHROMA)”. This maturity model assesses the main factors which influence the decisions making based on data and divided this assessment into five dimensions:

- 1) *Data availability* – relates to the organizations’ ability to make high qualitative data accessible and available for end-users to support business processes and decisions. This dimension is divided into the subdimensions infrastructure, governance, and properties (Parra et al., 2019, p. 154)
- 2) *Data Quality* – is a crucial factor for businesses to make accurate decisions and is divided into the subdimensions quality and standardization, technology and methods and skills and expertise (Parra et al., 2019, p. 154)
- 3) *Data analysis & insights* – involves processing the data into useful information and is divided into application and tools, techniques and analysis and skills and expertise (Parra et al., 2019, p. 154)
- 4) *Information use* – refers to what extent an organization uses information and knowledge for decision-making and is divided into the subdimensions requirements and use, knowledge management and information governance (Parra et al., 2019, p. 154)
- 5) *Decision-making* – includes the assessment in which organizational decisions were made based on useful and usable information derives from the analysis. This dimension is subdivided into goals and outcomes, DMP and leadership and empowerment (Parra et al., 2019, p. 154)

Big Data Analytics Capabilities (BDAC) Framework for SME’s

Moonen, Baijens, Ebrahim, and Helms (2019, p. 16354) developed a framework for assessing SMEs’ big data analytics capabilities, which is illustrated in Appendix II. Based on the combination and sortation of the past literature and interviews with big data analytics experts, they have set up the framework and divided it into four dimensions:

- 1) *Tangible resources* - contains the resources to purchase and sell on the market, which are divided into four subdimensions. The first area is the data collection which contains the data sources and the types of data. Second, the subdimension data analytics describes the types of analytics and

analytic tools. In the third subdimension, the data architecture with, for example, data storage and processing. The last subdimension is the technology infrastructure with, for example, security of the infrastructure and user access (Moonen et al., 2019, p. 16354)

- 2) *Intangible resources* - are resources that are hard to require and are heterogeneous across companies, which is divided into two subdimensions. The first subdimension includes the organisation's culture, which contains, for example, the trust in employees' big data analytic talents and support from management. The second subdimension is the human resources which include the people and skills and competencies for big data analytics (Moonen et al., 2019, p. 16354)
- 3) *Governance* - is the mechanism for assigning authority and control over big data analytics capabilities and is divided into two subdimensions. The first subdimension is the analytics governance which includes process and structure. Subdimension two is the IT/data governance which assesses the IT and data governance (Moonen et al., 2019, p. 16354)
- 4) *Strategy* - assesses the organisation's strategic alignment regarding the use and same vision of big data analytics. Furthermore, the strategy includes the value of financial commitment and contribution (Moonen et al., 2019, p. 16354)

Selection maturity models

To select a maturity framework for this research, a decision matrix has been illustrated in Appendix III to analyse which framework is the most applicable for this research (Watson & Webster, 2020, p. 137). The chosen criteria assess which framework matches the research question the most, is applicable for retail organisations, and if the framework is operationalized in a certain depth. Based on the outcome of the decision matrix, the BDAC Assessment Framework from Moonen et al. (2019, p. 16354) has been selected for this research. This choice has been made because it is assumed that this maturity framework suit with the research goal, dimensions are applicable in retail and the framework is operationalised in an advanced stage. Besides the analysis with the decision matrix, this framework is created in the Netherlands which fits the geographic conditions of this research.

Furthermore, the literature review summarized the chronological order of the concepts descriptive, predictive, and

prescriptive analytics, which will be assessed by the BDAC framework in the dimension tangible resources. However, intangible resources like culture must be assessed to understand the derivation of the utilization level. Without understanding the culture and motifs of using analytics, this research will be less valuable because of the lack of understanding the cause-and-effect relationship of utilizing data analytics. Therefore, the BDAC framework is particularly suitable in this research because it exists of multiple angles of assessing big data analytics.

Moreover, in order to limit the number of questions in the questionnaire, not all facets of the framework could be used. Therefore, another decision matrix of the four dimensions is illustrated in table 3. In the matrix, decisions have been made by the researcher based on assumptions regarding which categories are important and less important to answer the research question. A category has been indicated as less important when this category does not fit within a small- and medium sized company in the retail sector, see next paragraph for a brief explanation.

First, data architecture has been reviewed as less important because the storage, processing, integration, and transformation of data is less relevant for SMEs and the utilization of big data and big data analytics. Second, technology infrastructure has been reviewed as less important because central data warehouse, system integration, the security of the infrastructure and user access are less relevant for small retailers. Lastly, it is assumed that IT/data governance is less important because controlling and developing IT projects and data management is not relevant to the utilization of big data and big data analytics for SMEs.

3. METHODOLOGY

This study presents exploratory research to gain information about the maturity of SMEs in the retail sector regarding big data analytics. The companies who have been approached will be discussed, the data collection of these companies will be provided and the used analysis techniques to mine the collected data will be discussed.

3.1 SUBJECTS OF STUDY

The subjects in this study are small- and medium-sized companies that operate in the retail sector in the Netherlands. Based on the knowledge of the delegates of these SMEs, such as directors and employees, provided information have been asked regarding the utilization of big data analytics in their enterprise. The reason to collect data from these SMEs in the

Dimensions	Concept	Categories	Important	Less important
Tangible resources	Data collection	Data sources	X	
		Data types	X	
	Data analytics	Analytic types	X	
		Analytic tool	X	
	Data architecture	Data Architecture		X
	Technology infrastructure	Technology infrastructure		X
Intangible resources	Culture	Culture	X	
	Human Resources	People	X	
		Skills and competences	X	
Governance	Analytics governance	Process	X	
		Structure	X	
	IT/Data Governance	IT/Data Governance		X
Strategy	Strategy	Strategy	X	
		Value	X	

Table 3 Decision matrix BDAC Framework

retail sector is that they play an essential role in the Dutch economy, responsible for 4% of the Dutch GDP (Nederlands Comité voor Ondernemerschap, 2019a). Due to the lack of time and access to all the 110.00 retail companies, it was not feasible to contact all the SMEs in the retail in the Netherlands. Directors, owners, and managers were chosen to be the intended respondents because of their position in the enterprise. This is because of their experience and overall knowledge of the enterprise, which can relate to the knowledge of data analytics. With their knowledge and beliefs, the outcomes can be affected that can lead to biased results. Additionally, preliminary questions like the specific SME size, where the SME is concentrated, if the firm contains online activities and the retail type of firm have been asked. This has been done in the first phase of the questionnaire to reach more granular data and results of specific groups of SMEs.

3.2 DATA COLLECTION

In order to examine what the current maturity of big data analytics of retailers are, the researchers had agreed to send a questionnaire to a variety of companies. This questionnaire aimed to collect enough data to create representative and reliable research of 'big data analytics in the Netherlands'. The questionnaire was sent to SMEs in the Netherlands which are operating in the retail sector. The distribution of the questionnaire was conducted by using social media and reaching for business associations. To keep the information of a single respondent confidential, the questionnaire results were only shared with the company and the three researchers. In these results, outcomes of the measurement were provided, and no names were used during the questionnaire. However, the cumulative results of all the respondents are not confidential. The possibility for the company existed throughout the questionnaire to not participate in the research. Furthermore, when the respondent had any questions and remarks, they could contact the researcher at any time. Furthermore, the sample size did matter to create representative research with reliable outcomes. According to de Veaux (2015), "a questionnaire that tries to find the proportion of the population falling into a category, you'll usually need several hundred respondents to say anything precise enough to be useful (p. 313)". A large sample size makes the results precisely enough to be representative. Therefore, the target of this questionnaire was 100 respondents. However, reliable conclusions could also be made with a lower number of respondents. The researcher was aware of the risks of a lower response rate due to the corona crisis. This was because the SMEs have more priority for saving their business than filling in a questionnaire about big data analytics. To minimize response errors, questionnaires should be made by following best practices of conducting questionnaires (Vannette & Krosnick, 2017, pp. 1–3). In big data analytics, it could be hard to understand its concepts without having any background information. Therefore, to make it as prime as possible, we included the following best practices: eliminating double-barrelled questions, using simple jargon for complex words, using short questions, avoid questions that push respondents to an answer and ensure that every questions and words are interpreted in the same way. To measure the selected categories of the BDAC framework, questions have been made for each category. The questions were asked in a questionnaire with single answers and multiple

answers. The purpose was to create a questionnaire that can be completed in ten minutes, increasing the response rate, and reaching the target of 100 respondents. Additionally, three questions were added besides the framework to measure the interest of the retailer regarding data analytics. See Appendix VI for the survey for the distributed questions.

4. RESULTS

In this chapter, the results of the questionnaire's data will be described. Microsoft Excel, IBM SPSS Statistic version 26 and Qualtrics were used to analyse the data of the questionnaire. Descriptive analyses were used to analyse the data and find valuable outcomes. To gain more understanding of the results and to what extent SMEs in the retail utilise big data analytics, this chapter has been divided into two sections. First, the group of respondents will be discussed. Lastly, the overall outcome of the respondents is provided. Please refer to Appendix VI and Appendix VII for the exact numbers of the questionnaires due to page restraints. In this section, only the results are demonstrated, please see the data analysis and reflective analysis sections for the interpretation and analysis of the results.

4.1 RESPONDENTS

The number of respondents for this questionnaire is 58 respondents. Before analysing the collected data, the data preparation has to be executed. The dataset and the group of respondents were assessed if they comply with the retailers' specifications and if they took at least 3 minutes to fill in the questionnaire. This time limit has been set as the minimum threshold for a reliable response. Therefore, two of the 58 cases have been removed because of the named sector 'catering industry' and position as 'lawyer' which does not comply with the specifications of the retail sector in this study. Additionally, the lawyer filled in the questionnaire in less time than the minimum time threshold. For this reason, 56 respondents have been left over for further analysis. The preliminary questions were questioned after filling in the questionnaire. The distribution of the respondents regarding the company size has been overviewed in figure 3.

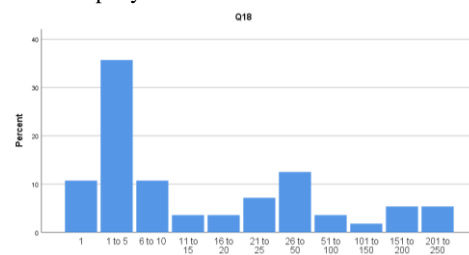


Figure 3 SME Size Question 18

In figure 4, the presupposed sectors of the respondents have been overviewed. Fourteen respondents have indicated to operate in 'another' sector than the presupposed sectors in the questionnaire. The sectors have been reviewed and it could be concluded that these 'other' named sectors all comply with the retail sector specifications. All the specific information of the respondents has been overviewed in Appendix VI.

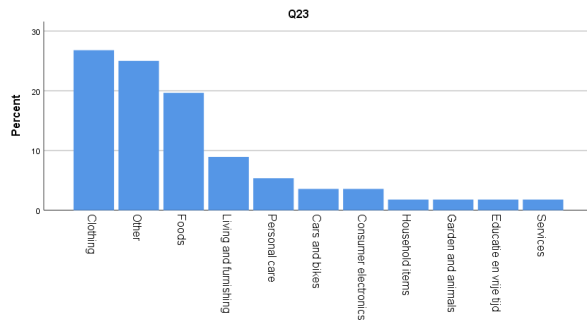


Figure 4 Choice of Sector Question 23

4.2 OVERALL OUTCOME SMEs

In this section, the overall outcome has been overviewed based on the BDAC Assessment Framework for SME's of Moonen et al. (2019, p. 16354). Further, the interest in data analytics is presented.

Data analytics interests

The first two questions of the questionnaire aimed to investigate at which certain level the SMEs are interested in data analytics and if they are open to getting more training in data analytics for further usage in the field. According to figure 5 and figure 6, 98% of the SMEs thinks that data analytics is moderately interesting, interesting, or very interesting and 48% agrees with wanting more training in data analytics.

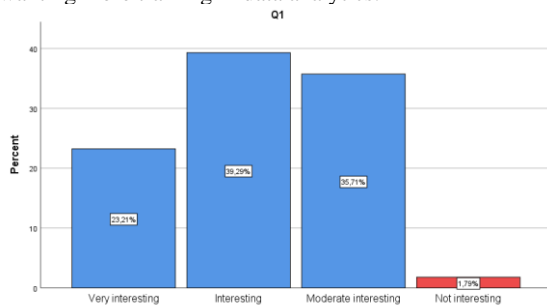


Figure 5 BDA-interest Question 1

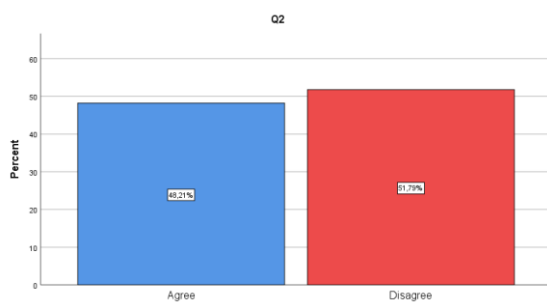


Figure 6 Training in data analytics Question 2

Tangible resources

Questions 3 till question 8, which is presented in Appendix VI, embodies the first dimension of the BDAC maturity framework, which investigates the usage of tangible resources in the organisation of an SME. Figure 7 and figure 8 indicate that SMEs utilise different kinds of descriptive and predictive tools for different types of goals, which has been overviewed in more tables in Appendix VI.

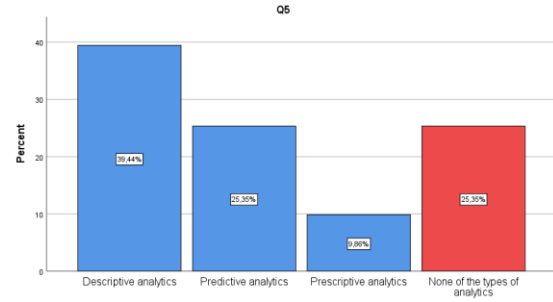


Figure 7 Types of analytics Question 5

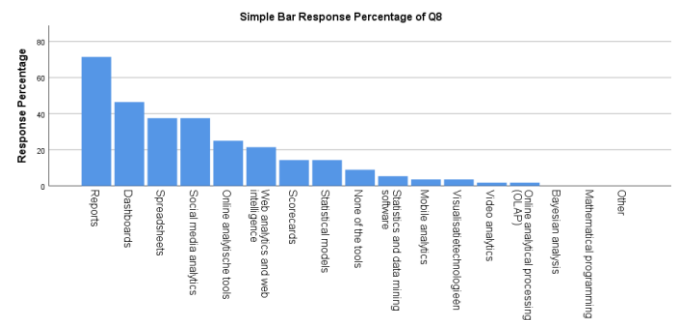


Figure 8 Analytical tools Question 8

Intangible resources

Questions 9 till 12, illustrated in Appendix VII, embodies the second dimension of the BDAC maturity framework, which investigates the intangible resources for the SME. Figure 9 and figure 10 indicate that 61% of the SMEs do not think it is vital that employees have data analytic skills and make data-driven decisions. In addition, 70% of the SMEs do not stimulate employees utilizing data analytics or does not internal or external training for their employees regards data analytics. Further, only 25% of the SMEs wants to make changes in the company to increase their utilization rate of data analytics in the future. Lastly, 54% of the SMEs use data to make choices supported by the company's owner, which has been illustrated in Appendix VII.

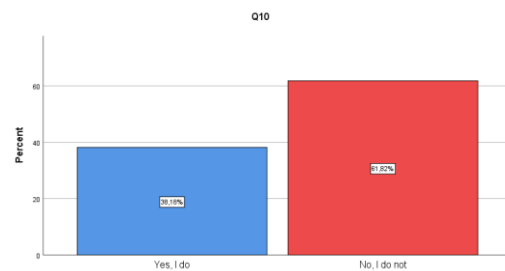


Figure 9 Importance of analytics Question 10

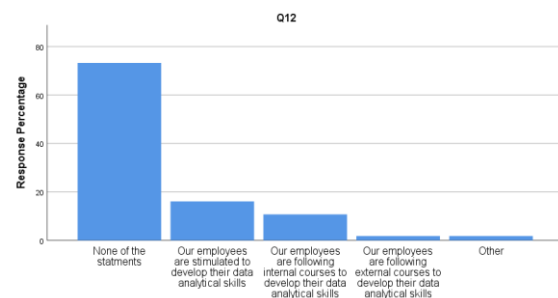


Figure 10 Development skills Question 12

Governance and Strategy

Questions 13 till 16, illustrated in Appendix VI, embodies the third and fourth part of the BDAC maturity framework, which investigates the SMEs' governance and strategy. Figure 11 and 12 indicates that 43% of the SMEs works together or have contact with a supplier or colleague in the same branch regarding data analytics. Further, 61% of the SMEs sees the benefit of using data analytics. At last, 71% indicated not have formulated a data analytics strategy.

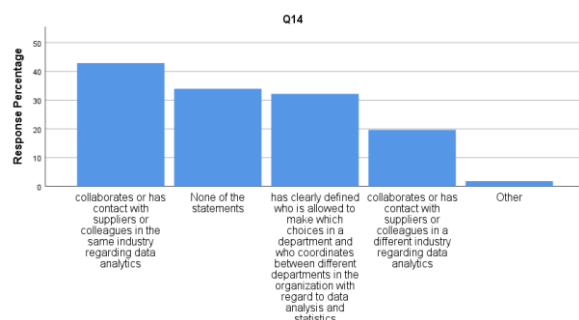


Figure 11 Analytics and Cooperation Question 14

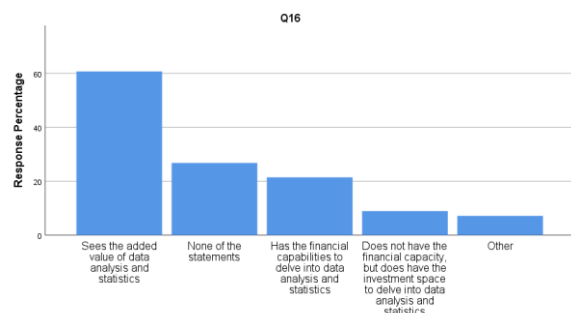


Figure 12 Analytical value Question 16

Level of data drive

After filling in the BDAC maturity framework questions, the SMEs has been asked to choose from how data-driven they are feeling. Almost 65% of the SMEs indicated that they are not feeling data-driven or moderate data-driven, which is illustrated in figure 13.

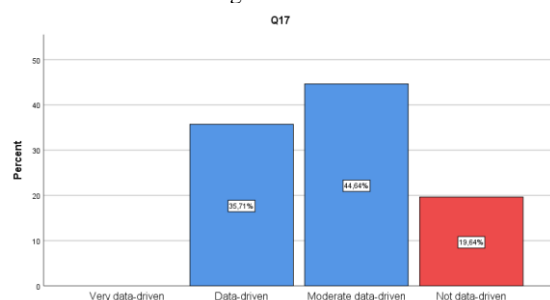


Figure 13 Data-driven Question 17

5. DATA ANALYSIS

To dive deeper into the dataset for analysing the results, SPSS has been used to make custom tables for specific groups such as SME size, sector, and location. Based on this analysis, it revealed that size, sector, and location impact the utilization of data analytics. Due to page constraints, not all results can be demonstrated; please refer to Appendix VI for the questionnaire results

regarding the size, location, and sector of the SME. Further, only the results are presented, which are assumed to be a huge difference and have a minimum amount of 10 respondents to make reliable conclusions. For more detailed results, see Appendix VII.

Data analytics interests

First, question 1 and 2 were analysed. Regarding the interests of data analytics, 32% of the SMEs in towns and villages assumed that data analytics is very interesting which is high relative to 23% on average. However, these results were tested with a Chi-Square test as not significant, illustrated in Appendix VIII. Further, 41% of the SMEs in cities are moderate interested in data analytics relative to 36% on average. However, SMEs in towns and villages and SMES cities both indicated wanting more training in data analytics with 52%. In addition, 50% of the SMEs located in towns and villages and cities do want more training in data analytics.

Tangible resources

Second, the tangible resources, question 3 till 8, were analysed regarding SME size, location, and sector.

The analysis showed that 90% of the SMEs with a company size of 1 to 5 employees indicated utilizing internal data relative to 80% on average. Moreover, 85% of the SMEs with this size indicated using data analytics for sales purposes relative to 73% on average of the SMEs. Additionally, 55% of these SMEs analyses their suppliers relative to 38% on average. However, these SMEs scores on average lower with using analytics for strategic, tactic and operational purposes.

Moreover, SMEs in towns and villages utilizes more internal data and less external data than SMEs in cities. The utilization of descriptive analytics has more been adopted in cities than in towns and villages. However, in towns and villages, the utilization of predictive and prescriptive analytics has been more adopted. Additionally, SMEs in towns and villages primarily utilise descriptive analytics for marketing purposes, observing the business and offering services to its customers with the help of tools like dashboards, scorecards and reports, and social media and web analytics. SMEs in cities utilise primarily descriptive analytics for sales purposes, supplier analysis, and strategical goals utilizing tools like reports, dashboards, and online analytical tools.

Furthermore, SMEs in the food and clothing sectors utilise on average more internal data but less external data. 82% of the SMEs in the food sector adopted data analytics which is more than in the clothing sector with 67%. The clothing sector utilizes descriptive analytics on average higher, for example, sales and marketing purposes, observing and adjusting business operations and supplier and competitor analysis. At last, the food sector utilizes more reports and spreadsheets but less social media and web analytics than the clothing sector.

Intangible resources

Regarding the dimension intangible resources, question 9 till 12, the SME size has a positive impact on making data-driven choices and on the importance of employees having knowledge about data analytics and making data-driven choices, see Appendix VII. Based on the analysis, the SME size has a negative impact on the willingness to have

employees with communication skills. However, this outcome was tested as not significant, see Appendix VIII.

Further, 58% of the SMEs in towns and villages make data-driven choices stimulated by the owner or manager. For SMEs in cities, this is lower with a percentage of 48%. However, SMEs in the cities have more vision of utilizing more data in the future than SMEs in towns and villages. Nevertheless, these SMEs in the cities make less data-driven choices. Therefore, it is assumed that SMEs in cities are more curious than those in towns and villages. Additionally, SMEs in the cities have chosen more employees' skills options in the questionnaire than those SMEs in towns and villages. Furthermore, SMEs in the cities and towns and villages do not stimulate the development of data analytic skills of their employees.

At last, 67% of the SMEs in the clothing sector encourage making data-driven choices that are higher than 55% in the food sector. However, 80% of the SMEs in the clothing sector do not make data-driven choices as much as possible, which is high compared to 55% in the food sector. Moreover, 47% of the SMEs in the clothing sector in this study think it is important that employees have data analytic skills, which is high compared to 18% of the SMEs in the food sector. However, this outcome was tested as not significant, see Appendix VIII. Furthermore, SMEs in the clothing sector care more about their employees' skills than in the food sector.

Governance and strategy

Regarding the governance and strategy, question 13 till 17, size has a positive impact on deciding which data are essential to the SME and thinking about the risks and danger of these data. Additionally, small SMEs have less strategy about data analytics than bigger SMEs. Furthermore, more prominent SMEs have more financial capabilities to dive deep into the world of data analytics.

Moreover, 48% of the SMEs located in towns and villages indicated using criteria that data is essential for them, which is high compared to the SMEs in the cities with 37%. 40% of the SMEs located in towns and villages and cities indicated having a data analytics strategy that complies with the company's strategy. In addition, SMEs in cities indicated that they have more financial resources to deepen in data analytics than the SMEs in towns and villages.

At last, 64% of the SMEs in the food sector indicated that they worked together with suppliers and colleagues regarding data analytics which is higher than the clothing sector with 47%. Furthermore, these SMEs formulated a data analytics strategy more often than the SMEs in the food sector. Both sectors do not have the financial capabilities to dive deep into data analytics.

Level of data drive

As mentioned in the overall results, SMEs have been asked how data-driven they are feeling. The results in Appendix VII show that the SME size has a positive impact on the level of the feeling of being data driven.

6. REFLECTIVE ANALYSIS

As mentioned before, the utilization of data analytics of SMEs in the retail sector lacks behind in comparison with more significant retail enterprises (CBS, 2018). A lack of understanding is still present on which dimensions of data analytics has been and has been not utilized by the SMEs in the retail sector. Therefore, this study has been

conducted to fill this gap to improve the understanding of SMEs' current utilization of data analytics in the retail sector. Based on the BDAC maturity framework of Moonen et al. (2019, p. 16354), the overall results of this study indicate that 50% of the SMEs in the retail sector utilizes the lowest threshold of data analytics, 54% of the SMEs makes data-driven choices which are supported by the management, 43% operates in conjunction with their colleagues or suppliers regarding data analytics and 71% do not have a strategy regarding data analytics. Additionally, 98% of the SMEs indicates that data analytics is at least moderate interesting, 50% do want more training and 65% indicates to be not data-driven or moderate data-driven.

Regarding the outcome of the tangible resources, question 1 to 8 in this study, results contradict the claims of CBS (2018) that SMEs in the retail utilizes on average 25% data analytics, which has resulted in this study of a utilization rate of at least 50% of the lowest threshold of data analytics. However, because of the small sample size of 56 respondents, it is infeasible to generalise the whole population and properly contradict theories based on this dataset. However, the structure of the utilization of analytics confirms the theory of Sharda et al. (2014, p. 157), where the structure has been built up with descriptive, predictive and prescriptive analytics regarding the amount of utilization. Moreover, the results provide new insights into the scientific field with the utilization rate of SMEs with 1 to 10 employees, indicated at 50%. Furthermore, the results of this study are consistent with CBS (2018) figures which indicate that size has a positive impact on the utilization of analytics. Most important, the results of question 1 and 2 indicate that at least 98% thinks big data analytics is moderately interesting to very interesting in data analytics and almost 50% is interested in having more training in data analytics, which could be seen as a high potential for the SMEs and the retail sector itself. Therefore, it is recommended to conduct further research to fulfil this potential and further improve the interests of utilising big data analytics among SMEs in the retail sector by tackling the retailer's obstacles regarding data analytics. However, it must be considered to have resistance because a big group does not see data analytics as a high priority, especially in crisis times, such as the current pandemic.

Next, comparing the overall outcome of the intangible resources, questions 9 to 12, with the results with location, size and sector of the SME as the independent variable, exciting points came out. Based on the results, data-driven working has more been adopted in towns and villages than in cities. However, the SMEs in cities indicated to be more willing to make more data-driven choices than SMEs in towns and villages. Further, only 25% of the SMEs are willing to make changes in their business to increase the utilization of big data analytics, which could be seen as low. Additionally, the results of this study indicated that the clothing sector is working more data-driven than the food sector. Due to the small sample size, it could be concluded as not totally reliable. Regarding the support of the superiors, 73% of the management do not encourage the employees to develop analytical skills. This result is consistent with Coleman et al. (2016, p. 2161) theory, which indicated that lack of management is an important cause of the current utilization of data analytics. However,

this result is not consistent with the high amount of interest in data analytics. Therefore, further research has to be conducted to gain knowledge about the causes of this low support of management and how to eliminate the causes.

Lastly, the results from the overall outcome of the last two dimensions, governance and strategy, question 13 to 16, with the independent variable of size, location and sector, has been analysed. 61% of the SMEs sees the benefit of utilizing data analytics. The results indicate that SME size has a positive impact on having a data analytics strategy. Additionally, more prominent SMEs have more financial capabilities to make a deep dive into data analytics. This result is in line with Coleman et al. (2016, p.2161) theory, which stated that a lack of finance is a significant cause of the lack of utilization of data analytics. It might be that the lack of financial capabilities is a cause of having no big data analytics strategy at all. Therefore, further research has to be conducted to learn how these small SMEs can utilise big data analytics without being dependent on financial capabilities.

7. CONCLUSION & DISCUSSION

This research aimed to gain new relevant insights into the current utilization level of SMEs in the retail sector regarding big data analytics in the Netherlands. Therefore, the following research question was formulated:

“To what extent does SMEs in the retail industry utilise big data analytics in the Netherlands?”

The following conclusions and recommendations have been made to answer the research question:

- SMEs in the retail industry are broadly interested in big data analytics, the adoption of the tangible resources of big data analytics are firmly established and retailers indicated wanting more training in data analytics. Therefore, it is recommended to identify which retailers want additional training in data analytics to increase data analytics utilization in the future.
- Further, data-driven working is well supported by the SMEs and the cooperation between these SMEs and their colleagues and suppliers has a broad share. Additionally, it could be concluded that there is a vast potential regarding big data analytics in the retail sector because of the broad interest of SMEs. However, the questionnaire results indicate that a significant part of the SMEs do not have a strategy regarding big data analytics and are not willing to make changes in their business operations to increase utilization of analytics in the future. This is because the SMEs do not want to take any risks regarding the added value of data analytics which has been indicated as unclear. This research clearly illustrates this problem but also raises the question of how to solve this. Therefore, further research is needed to determine how SMEs in the retail sector could easily adopt data analytics without making radical changes in their business processes.
- Additionally, results have shown that the clothing sector encourages data-driven working

and wanting more employees with analytical skills than the food sector. Therefore, further research has to be conducted to investigate this difference between such sectors and if sector-specific approaches have to be considered for future improvements regarding data analytics.

- Moreover, this research confirms the theory of the lack of support from management for further utilization of big data analytics. Therefore, free information and training meeting regarding data analytics has to be given.
- At last, this research confirms the theory of lack of financial capabilities for further utilization of data analytics. Size of the SME has a positive impact on utilizing data analytics due to this financial capabilities. Therefore, further research has to be conducted how SMEs could utilize big data analytics without making major investments.

It would be valuable for the retail industry to determine which causes have to be eliminated to fulfil the enormous potential and possibilities of big data analytics, which could change the future of retailing endlessly.

To properly analyse the conducted study, the limitation of this research have to be shown. The purpose of this study was to investigate what the utilization of data analytics was in the Netherlands. First, the intended response rate of 100 respondents have not been achieved. In addition, entrepreneurs do not like to fill in questionnaires, which was observed during the research. It is expected that the current pandemic is an important cause for achieving an appropriate amount of 100 respondents. This is because a questionnaire on a topic like data analytics is not urgent during a pandemic and financial pressure that comes with it. As a consequence of the financial pressure, the subjectivity could be different, which could cause biased results and conclusions. Regarding the sample size, additional empirical evidence is needed to generalize this study to the whole country and most importantly, increase the reliability and validity of the data. Second, this research requires a more extended timeframe to collect a sufficient amount of data and this limitation goes along with the first limitation. Thirdly, there is a possibility that the results and conclusion are biased due to the general knowledge of the respondents regarding data analytics. This is because the respondent did not know enough of data analytics to answer specific substantive questions. Further, there exists a possibility that a significant share of the respondents had a biased interest in data analytics. This limitation could lead to biased results and conclusions. At last, besides the clear-written survey with multiple examples per question, it was possible to provide your interpretation of certain concepts and questions, for example, the understanding of the content of data analytics tools. Therefore, results and conclusions could be biased.

8. ACKNOWLEDGEMENTS

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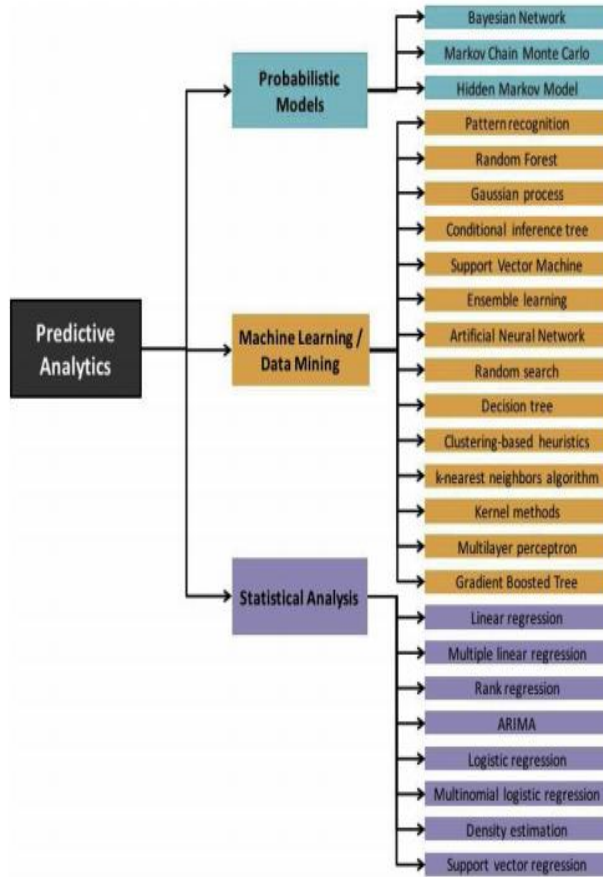
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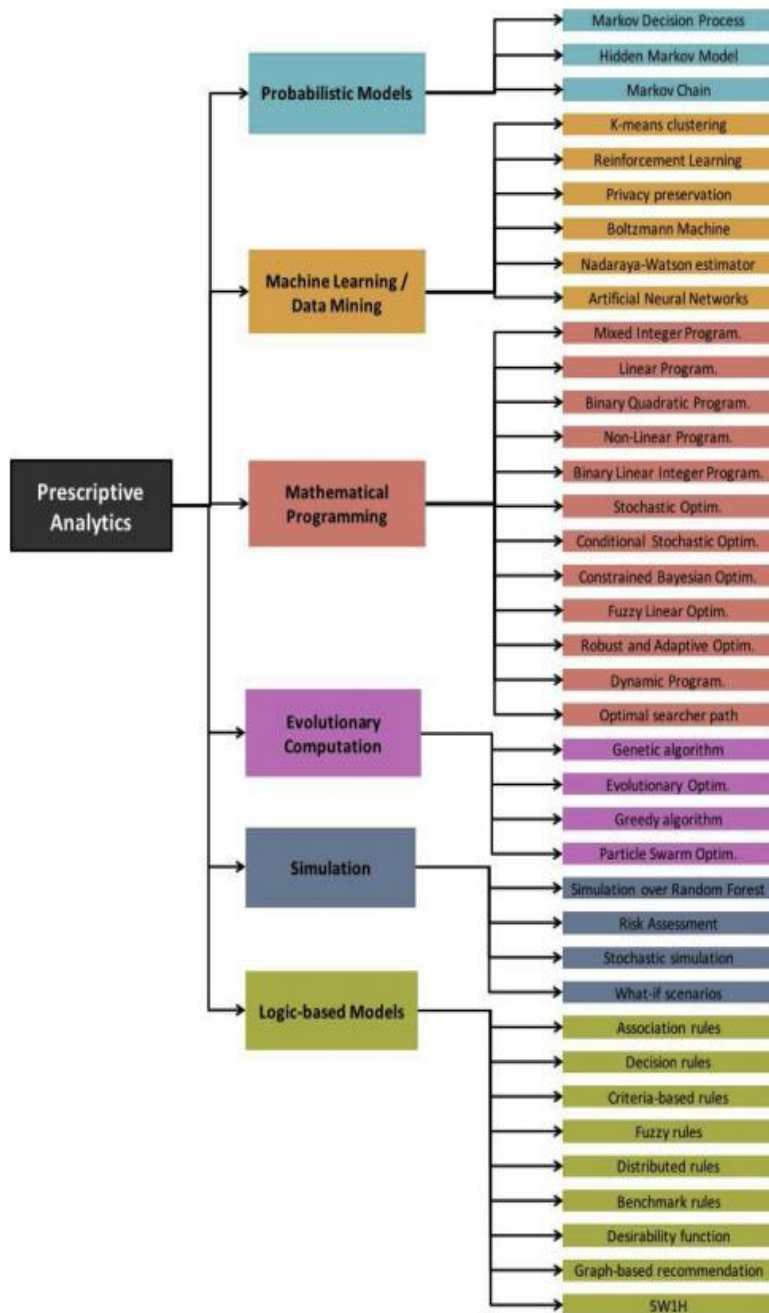
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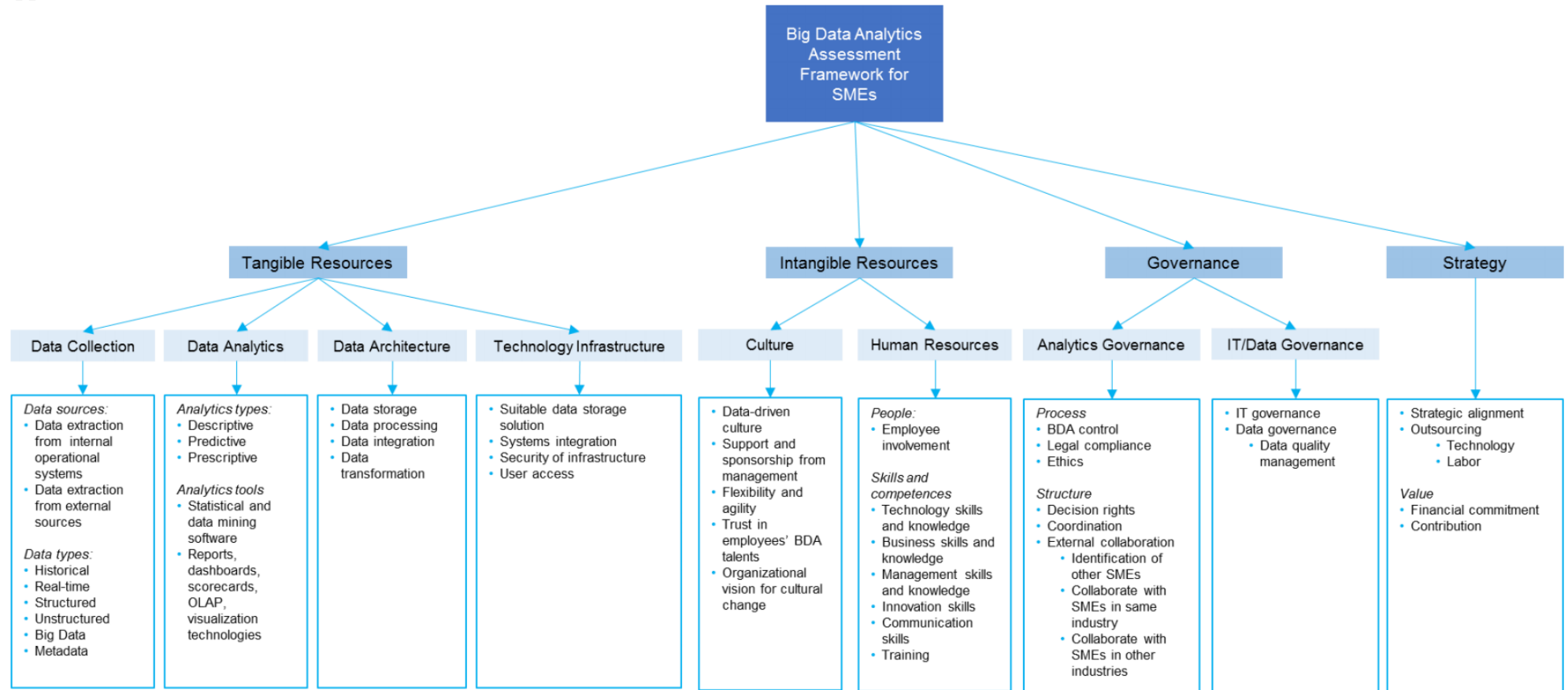
10. APPENDICES

Appendix I





Appendix II



Appendix III

Criteria	Options						
	Weighting	(Grossman, 2018, p. 50)		(Parra et al., 2019, p. 154)		(Moonen et al., 2019, p. 16354)	
		Score	Total	Score	Total	Score	Total
Research goal	5	5	25	4	20	5	25
Retail applicable	4	3	12	3	12	4	16
Operationalized framework	3	2	6	2	6	4	12
	TOTAL		43		42		53

Appendix IV

Systematic review

Keywords	Initial hits	Automatically filtered on:				Used articles	Search key
		Years (hits)	Area (hits)	Articles in journals	Sorted on		
“Big data” “usage”	2948	2016-2020 (2384)	Business Management and Accounting (165)	103	Cited (by highest)	III	TITLE-ABS-KEY ("big data" "usage") AND (LIMIT-TO (SUBJAREA , "COMP") OR LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018)) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (DOCTYPE , "ar"))
“big data” “SME”	228	2016-2020 (204)	Business Management and Accounting (52)	38	Cited (by highest)	III	TITLE-ABS-KEY ("big data" "SME") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (SRCTYPE , "j"))
“big data” “retail”	485	2016-2020 (399)	Business Management and Accounting (97)	66	Cited (by highest)	II	TITLE-ABS-KEY ("big data" "retail") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017)) AND (LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))
“big data analytics”	7407	2016-2020 (6173)	Business Management and Accounting (865)	534	Cited (by highest)	III	TITLE-ABS-KEY ("big data analytics") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016)) AND (LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))
“data analytics” “SME”	81	2016-2020 (74)	Business Management and Accounting, Computer Science (59)	27	Cited (by highest)	III	TITLE-ABS-KEY ("data analytics" "SME") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016)) AND (LIMIT-TO (SUBJAREA , "COMP") OR LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (

							DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))
"analytics" "retail"	586	2016-2020 (439)	Business Management and Accounting (137)	89	Cited (by highest	II	TITLE-ABS-KEY ("analytics" "retail") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016)) AND (LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))
"prescriptive analytics" "retail"	10	2016–2020 (10)	Business Management and Accounting, Computer Science (10)	4	Cited (by highest	III	TITLE-ABS-KEY ("prescriptive analytics" "retail") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016)) AND (LIMIT-TO (SUBJAREA , "COMP") OR LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))
"maturity model" "analytics"	98	2016–2020 (80)	Business Management and Accounting, Computer Science (66)	23	Cited (by highest	III	TITLE-ABS-KEY ("maturity model" "analytics") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016)) AND (LIMIT-TO (SUBJAREA , "COMP") OR LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))
"maturity model" "SME"	136	2016–2020 (73)	Business Management and Accounting, Computer Science (61)	23	Cited (by highest	II	TITLE-ABS-KEY ("maturity model" "SME") AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016)) AND (LIMIT-TO (SUBJAREA , "COMP") OR LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))

Concept matrix

Authors	Concepts				
	Big Data	Big retail data	Big analytics data	Big analytics data retail	Maturity level frameworks
Bäck et al. (1997)			X		
Banks, J., & Carson, J. (2000)			X		
Bihani, P., & Patil, S. T. (2014)			X		
Bradlow, E. T. et al. (2017)		X		X	
Cambridge Dictionary. (2021a)	X				
Chater, N. et al. (2006)			X		
Chong, E. K. P., & Zak, S. H. (2013).			X		
Coleman, S. et al. (2016)	X				
Cosic, R. et al. (2012).					X
Cukier. (2010)	X				
Erevelles et al. (2016)	X				
Flamand, T. et al. (2018)				X	
Fong, N. M., Fang, Z., & Luo, X. (2015)		X			
Gandomi, A., & Haider, M. (2015)	X		X		
Germann, F. et al. (2014).			X	X	
Grossman, R. L. (2018).					X
Hashem, I. A. T. et al.(2015)	X				
Huang, T., Bergman, D., & Gopal, R. (2019)		X		X	
Hui, S. K. et al. (2013)				X	
IBM. (2020)	X				
IBM. (2018)	X				
Institute of Electrical and Electronics Engineers. (2007)				X	
Jin, X. et al. (2015)	X				
Kumar, V. et al. (2008)		X			
Labrinidis, A., & Jagadish, H. V. (2012)			X		
Laney, D., Management, D., & Volume, C. D. (2005)	X				
Lee, H. L. (2018)	X				
Lepeniotti, K. et al. (2020)			X		
Li et al. (2020)					
McKinsey. (2017)				X	
Moonen, N. et al.(2019)					X
Muller, L.; Hart, M. (2016)					X
Parra, X. et al. (2019)					X
Rapp, A. et al. (2015)		X			
Sharda, R. et al. (2014)	X		X		
Serral, E., Stede, C. V., & Hasic, F. (2020)					X
Simpson, J.A.; Weiner, E.S.C. (1989).					X
Sivarajah, U. et al.(2017)	X				
Spiess, J. et al. (2014).				X	
Tian et al. (2018)				X	
Voleti, S. et al. (2015)		X			
Watson, H. J. (2014).			X		

Appendix V

Questionnaire

Enquête

Introductie

Bedankt en wat mooi dat u tijd vrijmaakt voor het invullen van deze enquête. Indien u over een detailhandel MKB-onderneming beschikt of u werkt in een soortgelijke MKB-onderneming, is uw feedback erg van belang voor deze studie. Deze enquête bestaat uit vragen waarbij meerdere stellingen kunnen worden geselecteerd en zal ongeveer 10 minuten in beslag nemen. U zal na de afronding van deze studie, als u daar geïnteresseerd in bent, een geanonimiseerd vergelijkingsrapport ontvangen van de totaal beantwoorde vragen in deze studie waarmee u uw organisatie kan vergelijken met uw collega's in de betreffende detailhandel branche. Alle resultaten zullen worden geanonimiseerd.

Indien u zelf anoniem wilt blijven, is het niet verplicht om (op het einde van deze enquête) uw email-adres in te vullen.

Doelstelling

Dit onderzoek gaat over het gebruik van data analytics binnen de detailhandel in MKB-Nederland. Onder data analytics verstaan we het gebruik en de analyse van data en (indien van toepassing) het gebruik van statistiek voor verschillende doeleinden in de bedrijfsvoering van uw MKB-bedrijf (bijvoorbeeld het in kaart brengen van uw jaaromzet tot het berekenen van juiste prognoses). Het doel van dit onderzoek is om de huidige situatie binnen MKB-Nederland in de detailhandel in kaart te brengen wat betreft het gebruik van data analyse en statistiek. Met deze inzichten, kunnen wij MKB-Nederland en u verder helpen voor een nóg betere bedrijfsvoering.

Dit onderzoek wordt uitgevoerd door de Digitale Werkplaats Twente in samenwerking met de Universiteit Twente en de Hogeschool Saxion. Digitale werkplaats Twente (DWT) helpt het MKB te innoveren en verdergaand te digitaliseren.

Nogmaals bedankt voor uw hulp en tijd!

Measuring interest

Q1 Ik vind data-analyse en statistiek:

- ☐ Erg interessant
- ☐ Interessant
- ☐ Gematigd interessant
- ☐ Niet interessant

Q2 Ik zou meer training willen krijgen om data te analyseren en vervolgens te gebruiken in de bedrijfsvoering.

- ☐ Eens
- ☐ Oneens

Huidige staat (Huidige staat (BDAC Framework))

Questionnaire applicable categories:

Q3 Data Collection - Data sources:

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Ik gebruik data die wordt gegenereerd:

- ☐ binnen mijn bedrijf (bijv. kassadata)
- ☐ binnen mijn bedrijf om de bedrijfsvoering te verbeteren (bijv. productanalyse)
- ☐ buiten mijn bedrijf (bijv. weersverwachting m.b.t. klantdrukke)
- ☐ buiten mijn bedrijf om de bedrijfsvoering te verbeteren (bijv. externe analyse)
- ☐ geen van de bovenstaande stellingen

Q4 Data Collection - Data types:

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Ik beschik over:

- ☐ historische data van mijn bedrijf
- ☐ real-time data van mijn bedrijf
- ☐ gestructureerde data van mijn bedrijf (data die gelijk bruikbaar is zoals Excel-bestanden vol met gegevens over klanten of producten)
- ☐ ongestructureerde data van mijn bedrijf die ik eerst zelf moet verwerken (zoals social media data, foto's, emails etc.)
- ☐ grote sets van data (te grote en ongestructureerde om met reguliere systemen te worden onderhouden)
- ☐ aanvullende informatie/metadata over mijn databestanden om het beter te begrijpen en waar het vandaan komt (zoals datum, aantal pagina's, taal etc.)
- ☐ geen van de bovenstaande stellingen

Q5 Data analyse en statistiek - Analytic types:

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Ik gebruik:

- ☐ beschrijvende gereedschappen/hulpmiddelen zoals business rapporten en dashboards om data samen te vatten en te begrijpen
- ☐ voorspellende methoden om prognoses te maken binnen mijn bedrijfsvoering
- ☐ simulerende gereedschappen/hulpmiddelen om mijn bedrijfsvoering te voorspellen en daar op te acteren
- ☐ geen van de bovenstaande gereedschappen/hulpmiddelen

Q6 Data analyse en statistiek - Analytic types:

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

De doelen van het gebruik van data analyse en statistiek zijn:

- ☐ Marketingdoeleinden
- ☐ Verkoopdoeleinden
- ☐ Bijsturing in de bedrijfsvoering om op koers te blijven
- ☐ Bedrijfsvoering observeren (inzichten en trends)
- ☐ Operationele doelstellingen
- ☐ Tactische doelstellingen
- ☐ Strategische doelstellingen
- ☐ Leveranciersanalyse
- ☐ Concurrentieanalyse
- ☐ Om service aan te bieden aan mijn klanten
- ☐ Geen van de bovenstaande stellingen
- ☐ Anders.....

Q7 Data analytics - Analytic types:

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Het doel van het gebruiken van data analyse en statistiek is om te weten:

- ☐ wat er is gebeurd (beschrijvend)
- ☐ wat er op dit moment gebeurd (beschrijvend)
- ☐ wat er gaat gebeuren (voorspellend)
- ☐ waarom iets gaat gebeuren (voorspellend)
- ☐ wat te doen in de toekomst (simulerend)
- ☐ waarom ik iets zou doen in de toekomst (simulerend)
- ☐ geen van de bovenstaande stellingen
- ☐ Anders...

Q8 Data analytics - Analytical tools

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

De volgende gereedschappen/hulpmiddelen gebruik ik binnen mijn bedrijfsvoering:

- ☐ Spreadsheets
- ☐ Online analytische tools
- ☐ Rapporten
- ☐ Dashboards
- ☐ Scorecards
- ☐ Video analytics (analyse van consumentengedrag)

- ☐ Social media analytics (marketing en klantendata)
- ☐ Web analytics and web intelligence (webshop effectiviteit)
- ☐ Mobile analytics (locatie analyse van de consument)
- ☐ Statistische modellen
- ☐ Statistiek en data mining software
- ☐ Online analytical processing (OLAP)
- ☐ Visualisatietechnologieën
- ☐ Bayesian analysis (individuele consumentenbenadering met bijv. marketing)
- ☐ Wiskundig programmeren (simulatie doeleinden voor procesoptimalisatie)
- ☐ Geen van de bovenstaande hulpmiddelen
- ☐ Anders.....

Q9 Culture – Culture

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Ons bedrijf:

- ☐ probeert zoveel mogelijk te onderbouwen op basis van data i.p.v. intuïtie
- ☐ gebruikt data om keuzes te maken en dit wordt gestimuleerd door de eigenaar/management
- ☐ is flexibel en behendig om de bedrijfsvoering te veranderen op basis van veranderingen in de markt
- ☐ erkend de analytische skills van medewerkers en deze skills worden gebruikt in de bedrijfsvoering
- ☐ heeft een visie en is gewillig om veranderingen in de bedrijfsvoering te maken om (meer) data te gaan gebruiken in de toekomst
- ☐ Geen van de bovenstaande stellingen

Q10 Human Resources - People

Ik vind het belangrijk dat mijn medewerkers kennis hebben van data analyse en statistiek en op basis hiervan keuzes maken.

- ☐ Ja, dit doe ik
- ☐ Nee, dit doe ik niet

Q11 Human Resources - Skills and competences

Tijdens een sollicitatieprocedure speelt de volgende competenties een rol (meerdere stellingen mogelijk):

- ☐ Technische skills en kennis
- ☐ Business skills en kennis
- ☐ Management skills en kennis
- ☐ Innovatie skills
- ☐ Communicatie skills
- ☐ Geen van de bovenstaande competenties
- ☐ Anders....

Q12 Human Resources - Skills and competences

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Onze medewerkers (indien van toepassing):

- ☐ volgen externe trainingen en cursussen om skills over data analyse en statistiek te verkrijgen
- ☐ volgen interne trainingen en cursussen om skills over data analyse en statistiek te verkrijgen
- ☐ worden gestimuleerd om data analyse en statistiek skills te ontwikkelen
- ☐ Geen van de bovenstaande stellingen
- ☐ Anders...

Q13 Analytics Governance – Process

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

- ☐ Ik gebruik criteria om te bepalen welke gegevens en resultaten belangrijk voor mij zijn
- ☐ Ik heb nagedacht over de risico's en gevaren wat betreft het gebruik en de beschikbaarheid van mijn data
- ☐ Geen van de bovenstaande stellingen
- ☐ Anders...

Q14 Analytics Governance – Structure

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Onze organisatie:

- ☐ heeft duidelijk afgebakend wie welke keuzes mag maken op een afdeling en wie coördineert tussen (indien van toepassing) verschillende afdelingen in de organisatie wat betreft data analyse en statistiek
- ☐ werkt samen of heeft contact met leveranciers of collega's in dezelfde branche wat betreft data analyse en statistiek
- ☐ werkt samen of heeft contact met leveranciers of collega's in een andere branche wat betreft data analyse en statistiek
- ☐ Geen van de bovenstaande stellingen
- ☐ Anders...

Q15 Strategy – Strategy

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Onze organisatie:

- ☐ heeft een strategie m.b.t. data analyse en statistiek geformuleerd
- ☐ heeft een strategie m.b.t. data analyse en statistiek en komt overeen met onze bedrijfsstrategie
- ☐ Geen van de bovenstaande stellingen
- ☐ Anders...

Q16 Strategy – Value

Selecteer uit de volgende stellingen welke relevant zijn binnen uw bedrijf (meerdere stellingen mogelijk):

Onze organisatie:

- ☐ heeft de financiële capaciteiten om zich te verdiepen in data analyse en statistiek
- ☐ heeft niet de financiële capaciteiten maar wel de investeringsruimte om zich te verdiepen in data analyse en statistiek
- ☐ ziet de meerwaarde van data analyse en statistiek
- ☐ Geen van de bovenstaande stellingen
- ☐ Anders...

Q17 – data driven

Na het invullen van deze enquête schat ik mijn onderneming als:

- ☐ Erg data-gedreven
- ☐ Data-gedreven
- ☐ Gematigd data-gedreven
- ☐ Niet data-gedreven

Preliminary questions

Q De resultaten van deze enquête zouden wij willen gebruiken voor doeleinden, indien u hier geen probleem mee heeft, kunt u hieronder uw bedrijfsnaam noteren en kunnen wij de resultaten van dit onderzoek met u delen. Indien u anoniem wilt blijven, hoeft u niet uw bedrijfsnaam in te vullen.

Q18 Hoeveel werknemers heeft uw organisatie?

- ☐ 1
- ☐ 1 tot 5
- ☐ 6 tot 10
- ☐ 11 tot 15
- ☐ 16 tot 20
- ☐ 21 tot 25
- ☐ 26 tot 50
- ☐ 51 tot 100
- ☐ 101-150
- ☐ 151-200
- ☐ 201-250

Q19 In welke provincie bevindt uw organisatie zich?

- ☐ Drenthe
- ☐ Flevoland

- ☐ Friesland
- ☐ Gelderland
- ☐ Groningen
- ☐ Limburg
- ☐ Noord-Brabant
- ☐ Noord-Holland
- ☐ Overijssel
- ☐ Utrecht
- ☐ Zeeland
- ☐ Zuid-Holland

Q20 Mijn bedrijf heeft het volgende aantal vestigingen:

- ☐

Q21 Mijn bedrijf is gevestigd in een:

- ☐ Stad
- ☐ Dorp
- ☐ Verschillende steden en dorpen

Q22 Selecteer de volgende stellingen welke relevant is binnen uw bedrijf (meerdere stellingen mogelijk):

Mijn bedrijf genereert omzet op het gebied van:

- ☐ Online webshop
- ☐ Online marktplaats
- ☐ Social media
- ☐ Fysieke handel

Q23 In welke detailhandel branche bevindt uw organisatie zich?

- ☐ Auto, motor en rijwielen
- ☐ Consumentenelektronica
- ☐ Persoonlijke verzorging
- ☐ Huishoudelijke artikelen
- ☐ Kleding, mode en textiel
- ☐ Doe-het-zelf, Tuin en Dier
- ☐ Educatie en vrije tijd
- ☐ Wonen en inrichting
- ☐ Voedings- en genotsmiddelen
- ☐ Dienstverlening
- ☐ Anders...

Q24 Vul de **optionele** gegevens hieronder in indien u een vergelijkingsrapport wilt ontvangen:

- ☐ Email-adres.....

Appendix VI

Participants of the questionnaire (N=56)

Company size	Province	Participants	Located	Sector(s)	Occupation(s)
1	Gelderland	3	City	Other	Owner
	Overijssel	3	Village	Other, Clothing	Owner
			City	Clothing	Owner
1 -5	Gelderland	1	City	Foods	Owner
	Noord-Holland	1	City	Car, motorcycle and bicycles	Owner
	Overijssel	18	Village	Household items, Clothing , Personal care, Foods	Owner, Sales assistant, CEO
			City	Other, Consumer electronics, Clothing , Foods, Living and furnishing	Co-owner, Owner, Shop manager, Director, Employee
6 -10	Gelderland	1	City	Other	Owner
	Noord-Holland	2	City	Foods	Owner
	Overijssel	1	Village	Clothing	Owner
		1	City	Other	Director
		1	City and villages	Car motorcycle and bicycles	Supply chain engineer
11-15	Overijssel	1	Village	Foods	Owner
		1	City	Other	Sales coordinator
16-20	Overijssel	1	Village	Other	PR employee and secretary
		1	City	Personal Care	Store manager
21-25	Overijssel	1	Village	Foods	Owner
		1	City	Foods	Entrepreneur
	Limburg	1	Village	Other	Intern
		1	City	Education and leisure	Region employee
26 -50	Gelderland	1	Multiple cities and villages	Clothing	Director
	Overijssel	2	Village	Other, Do-it-yourself, garden and animal	Company director, Technical field salesman
		1	City	Personal care	Director
		2	Multiple cities and villages	Other, Clothing	Company Director, Owner
	Noord-Holland	1	City	Services	Development manager
51-100	Overijssel	1	Village	Foods	Entrepreneur
		1	Multiple cities and villages	Foods	Owner
101-150	Overijssel	1	Multiple cities and villages	Clothing	Branche manager
151-200	Overijssel	1	City	Living and furnishing	Director
		2	Multiple cities and villages	Other	General employee
201-250	Gelderland	2	Multiple cities and villages	Clothing	Region manager
	Overijssel	1	City	Other	Process engineer

Appendix VI

SPSS outcome (Overall)

BDA interest

Q1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Erg interessant	13	23,2	23,2	23,2
	Interessant	22	39,3	39,3	62,5
	Gematigd interessant	20	35,7	35,7	98,2
	Niet interessant	1	1,8	1,8	100,0
	Total	56	100,0	100,0	

Q2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Oneens	29	51,8	51,8	51,8
	Eens	27	48,2	48,2	100,0
	Total	56	100,0	100,0	

Tangible resources

Questions

Question 3	What data sources do you use in your company?
Question 4	What types of data do you use in your company?
Question 5	What analytic types do you use in your company?
Question 6	What is the goal of using data analytics in your company?
Question 7	What do you want to know by using big data analytics?
Question 8	Which tools do you use in your company?

Q3

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Data sources	Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf (bijv. kassadata)	45	39,5%	80,4%	45
	Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf om de bedrijfsvoering te verbeteren	38	33,3%	67,9%	38
	Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf om de bedrijfsvoering te verbeteren	16	14,0%	28,6%	16
	Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf (bijv. weersverwachting)	14	12,3%	25,0%	14
	Ik gebruik data dat wordt gegenereerd: geen van de bovenstaande stellingen	1	0,9%	1,8%	1
	Total	114	100,0%		56

Q4

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q4	Ik beschik over: historische data van mijn bedrijf	48	29,3%	85,7%	48
	Ik beschik over: real-time data van mijn bedrijf	41	25,0%	73,2%	41
	Ik beschik over: gestructureerde data van mijn bedrijf (data die gelijk bruikbaar is zoals Excel-bestanden vol met gegevens over klanten of producten)	36	22,0%	64,3%	36
	Ik beschik over: ongestructureerde data van mijn bedrijf die ik eerst zelf moet verwerken (zoals social media data, foto's, emails etc.)	23	14,0%	41,1%	23
	Ik beschik over: grote sets van data (te grote en ongestructureerde data om met reguliere systemen te worden onderhouden)	8	4,9%	14,3%	8
	Ik beschik over: aanvullende informatie/metadata over mijn databestanden om het beter te begrijpen en waar het vandaan komt (zoals datum, aantal pagina's, taal etc.)	7	4,3%	12,5%	7
	Ik beschik over: geen van de bovenstaande stellingen	1	0,6%	1,8%	1
	Total	164	100,0%	100,0%	56

Q5

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q5	Ik gebruik: beschrijvende gereedschappen/hulpmiddelen zoals business rapporten en dashboards om data samen te vatten en te begrijpen	28	39,4%	50,0%	28
	Ik gebruik: voorspellende methoden om bijvoorbeeld prognoses te maken binnen mijn bedrijfsvoering	18	25,4%	32,1%	18
	Ik gebruik: geen van de bovenstaande gereedschappen/hulpmiddelen	18	25,4%	32,1%	18
	Ik gebruik: simulatie gereedschappen/hulpmiddelen om mijn bedrijfsvoering te voorspellen en daar op te acteren	7	9,9%	12,5%	7
	Total	71	100,0%	100,0%	56

Q6

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q6	Verkoopdoeleinden	41	18,1%	73,2%	41
	Bijsturing in de bedrijfsvoering om op koers te blijven	31	13,7%	55,4%	31
	Marketingdoeleinden	29	12,8%	51,8%	29
	Bedrijfsvoering observeren (inzichten en trends)	29	12,8%	51,8%	29
	Om service aan te bieden aan mijn klanten	23	10,2%	41,1%	23
	Leveranciersanalyse	21	9,3%	37,5%	21
	Strategische doelstellingen	17	7,5%	30,4%	17
	Operationele doelstellingen	12	5,3%	21,4%	12
	Tactische doelstellingen	10	4,4%	17,9%	10
	Concurrentieanalyse	9	4,0%	16,1%	9
	Geen van de bovenstaande stellingen	3	1,3%	5,4%	3
	Anders:	1	0,4%	1,8%	1
	Total	226	100,0%	100,0%	56

Q7

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q7	wat er is gebeurd (beschrijvend)	46	27,7%	82,1%	46
	wat er op dit moment gebeurd (beschrijvend)	40	24,1%	71,4%	40
	wat te doen in de toekomst (simulerend)	29	17,5%	51,8%	29
	wat er gaat gebeuren in de toekomst (voorspellend)	22	13,3%	39,3%	22
	waarom ik iets zou doen in de toekomst (simulerend)	13	7,8%	23,2%	13
	waarom iets gaat gebeuren (voorspellend)	10	6,0%	17,9%	10
	geen van de bovenstaande stellingen	5	3,0%	8,9%	5
	Anders:	1	0,6%	1,8%	1
	Total	166	100,0%	100,0%	56

Q8

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q8	Rapporten	40	24,4%	71,4%	40
	Dashboards	26	15,9%	46,4%	26
	Spreadsheets	21	12,8%	37,5%	21
	Social media analytics (marketing en klantendata)	21	12,8%	37,5%	21
	Online analytische tools	14	8,5%	25,0%	14
	Web analytics and web intelligence (webshop effectiviteit)	12	7,3%	21,4%	12
	Scorecards	8	4,9%	14,3%	8
	Statistische modellen	8	4,9%	14,3%	8
	Geen van de bovenstaande hulpmiddelen	5	3,0%	8,9%	5
	Statistiek en data mining software	3	1,8%	5,4%	3
	Mobile analytics (locatie analyse van de consument)	2	1,2%	3,6%	2
	Visualisatietechnologieën	2	1,2%	3,6%	2
	Video analytics (analyse van consumentengedrag)	1	0,6%	1,8%	1
	Online analytical processing (OLAP)	1	0,6%	1,8%	1
	Bayesian analysis (individuele consumentenbenadering met bijv. marketing)	0	0,0%	0,0%	0
	Wiskundig programmeren (simulatie doeleinden voor procesoptimalisatie)	0	0,0%	0,0%	0
	Anders:	0	0,0%	0,0%	0
	Total	164	100,0%	100,0%	56

Intangible resources

Questions

Question 9	What statements complies with your company culture?
Question 10	Do you think it is important that your employees has data analytics skills and make decisions upon this?
Question 11	Which competencies are important during a job Application procedure?
Question 12	Which statements complies with your company culture?

Q9

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q9	Ons bedrijf: gebruikt data om keuzes te maken en dit wordt gestimuleerd door de eigenaar/management	30	27,8%	53,6%	30
	Ons bedrijf: is flexibel en behendig om de bedrijfsvoering te veranderen op basis van veranderingen in de markt	28	25,9%	50,0%	28
	Ons bedrijf: probeert zoveel mogelijk te onderbouwen op basis van data i.p.v. intuïtie	20	18,5%	35,7%	20
	Ons bedrijf: heeft een visie en is gewilligd om veranderingen in de bedrijfsvoering te maken om (meer) data te gaan gebruiken in de toekomst	14	13,0%	25,0%	14
	Ons bedrijf: Geen van de bovenstaande stellingen	9	8,3%	16,1%	9
	Ons bedrijf: erkend de analytische skills van medewerkers en deze skills worden gebruikt in de bedrijfsvoering	7	6,5%	12,5%	7
	Total	108	100,0%	100,0%	56

Q10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ja, dit doe ik	21	37,5	38,2	38,2
	Nee, dit doe ik niet	34	60,7	61,8	100,0
	Total	55	98,2	100,0	
Missing	System	1	1,8		
Total		56	100,0		

Q11

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q11	Communicatie skills	38	34,5%	67,9%	38
	Technische skills en kennis	19	17,3%	33,9%	19
	Business skills en kennis	14	12,7%	25,0%	14
	Management skills en kennis	12	10,9%	21,4%	12
	Geen van de bovenstaande competenties	11	10,0%	19,6%	11
	Innovatie skills	10	9,1%	17,9%	10
	Anders....	6	5,5%	10,7%	6
	Total	110	100,0%	100,0%	56

Q12

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q12	Geen van de bovenstaande stellingen	41	70,7%	73,2%	41
	Onze medewerkers (indien van toepassing) worden gestimuleerd om data analyse en statistiek skills te ontwikkelen	9	15,5%	16,1%	9
	Onze medewerkers (indien van toepassing) volgen interne trainingen en cursussen om skills over data analyse en statistiek te verkrijgen	6	10,3%	10,7%	6
	Onze medewerkers (indien van toepassing) volgen externe trainingen en cursussen om skills over data analyse en statistiek te verkrijgen	1	1,7%	1,8%	1
	Anders:	1	1,7%	1,8%	1
	Total	58	100,0%	100,0%	56

Governance and strategy

Questions	
Question 13	Which statements complies with your company process control?
Question 14	Which statements complies with your company organisation?
Question 15	Which statements complies with your company strategy?
Question 16	Which statements complies with your company's value and financial situation?

Q13

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q13	Geen van de bovenstaande stellingen	25	37,9%	44,6%	25
	Ik gebruik criteria om te bepalen welke gegevens en resultaten belangrijk voor mij zijn	23	34,8%	41,1%	23
	Ik heb nagedacht over de risico's en gevaren wat betreft het gebruik en de beschikbaarheid van mijn data	18	27,3%	32,1%	18
	Anders:	0	0,0%	0,0%	0
	Total	66	100,0%	100,0%	56

Q14

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q14	werkt samen of heeft contact met leveranciers of collega's in dezelfde branche wat betreft data analyse en statistiek	24	32,9%	42,9%	24
	Geen van de bovenstaande stellingen	19	26,0%	33,9%	19
	heeft duidelijk afgebakend wie welke keuzes mag maken op een afdeling en wie coördineert tussen (indien van toepassing) verschillende afdelingen in de organisatie wat betreft data analyse en statistiek	18	24,7%	32,1%	18
	werkt samen of heeft contact met leveranciers of collega's in een andere branche wat betreft data analyse en statistiek	11	15,1%	19,6%	11
	Anders:	1	1,4%	1,8%	1
	Total	73	100,0%	100,0%	56

Q15

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q15	Ons bedrijf: - Geen van de bovenstaande stellingen	40	66,7%	71,4%	40
	Ons bedrijf: - heeft een strategie m.b.t. data analyse en statistiek geformuleerd	10	16,7%	17,9%	10
	Ons bedrijf: - heeft een strategie m.b.t. data analyse en statistiek en komt overeen met onze bedrijfsstrategie	10	16,7%	17,9%	10
	Ons bedrijf: - Anders:	0	0,0%	0,0%	0
	Total	60	100,0%	100,0%	56

Q16

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q16	Ons bedrijf: ziet de meerwaarde van data analyse en statistiek	34	48,6%	60,7%	34
	Ons bedrijf: - Geen van de bovenstaande stellingen	15	21,4%	26,8%	15
	Ons bedrijf: - heeft de financiële capaciteiten om zich te verdiepen in data analyse en statistiek	12	17,1%	21,4%	12
	Ons bedrijf: heeft niet de financiële capaciteiten maar wel de investeringsruimte om zich te verdiepen in data analyse en statistiek	5	7,1%	8,9%	5
	Ons bedrijf: - Anders:	4	5,7%	7,1%	4
	Total	70	100,0%	100,0%	56

After Questionnaire**Q17**

		Count	Table N %
Na het invullen van deze enquête schat ik mijn bedrijf als:	Erg data-gedreven	0	0,0%
	Data-gedreven	20	35,7%
	Gematigd data-gedreven	25	44,6%
	Niet data-gedreven	11	19,6%
	Total	56	100,0%

After liminary questions

Questions	
Question 18	How many employees has your company?
Question 19	In which region operates your company?
Question 20	How many establishments has your company?
Question 21	Where is your company located?
Question 22	In which area does your company generate revenue?
Question 23	In which retail branch does your company operates?
Question 24	What is your position in the company?
Question 25	What is your email address (if desired for a free market analysis?

Q18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	10,7	10,7	10,7
	1 tot 5	20	35,7	35,7	46,4
	6 tot 10	6	10,7	10,7	57,1
	11 tot 15	2	3,6	3,6	60,7
	16 tot 20	2	3,6	3,6	64,3
	21 tot 25	4	7,1	7,1	71,4
	26 tot 50	7	12,5	12,5	83,9
	51 tot 100	2	3,6	3,6	87,5
	101 tot 150	1	1,8	1,8	89,3
	151 tot 200	3	5,4	5,4	94,6
	201 tot 250	3	5,4	5,4	100,0
	Total	56	100,0	100,0	

Q19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Overijssel	42	75,0	75,0	75,0
	Gelderland	8	14,3	14,3	89,3
	Noord-Holland	4	7,1	7,1	96,4
	Limburg	2	3,6	3,6	100,0
	Total	56	100,0	100,0	

Q20

	N	Minimum	Maximum	Mean	Std. Deviation
Mijn bedrijf heeft het volgende aantal vestigingen:	56	1,00	100,00	9,6607	25,18894
Valid N (listwise)	56				

Q21

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stad	27	48,2	48,2	48,2
	Dorp	19	33,9	33,9	82,1
	Verschillende steden en dorpen	10	17,9	17,9	100,0
	Total	56	100,0	100,0	

Q22

		Responses	Column Responses %	Layer Total N %	Adjusted Count
Q22	Fysieke handel	48	48,0%	85,7%	48
	Online webshop	25	25,0%	44,6%	25
	Social media	18	18,0%	32,1%	18
	Anders:	5	5,0%	8,9%	5
	Online marktplaats	4	4,0%	7,1%	4
	Total	100	100,0%	100,0%	56

Q23

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Kleding, mode en textiel	15	26,8	26,8	26,8
	Anders:	14	25,0	25,0	51,8
	Voedings- en genotsmiddelen	11	19,6	19,6	71,4
	Wonen en inrichting	5	8,9	8,9	80,4
	Persoonlijke verzorging	3	5,4	5,4	85,7
	Auto, motor en rijwielen	2	3,6	3,6	89,3
	Consumentenelektronica	2	3,6	3,6	92,9
	Huishoudelijke artikelen	1	1,8	1,8	94,6
	Doe-het-zelf, Tuin en Dier	1	1,8	1,8	96,4
	Educatie en vrije tijd	1	1,8	1,8	98,2
	Dienstverlening	1	1,8	1,8	100,0
	Total	56	100,0	100,0	

Q24

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Eigenaar	26	46,4	46,4	46,4
	Bedrijfsleider	2	3,6	3,6	50,0
	DGA	2	3,6	3,6	53,6
	Directeur	2	3,6	3,6	57,1
	Mede-eigenaar	2	3,6	3,6	60,7
	Ondernemer	2	3,6	3,6	64,3
	Administratief + verkoopmedewerker	1	1,8	1,8	66,1
	Algemeen medewerker	1	1,8	1,8	67,9
	Bestuurder	1	1,8	1,8	69,6
	CEO	1	1,8	1,8	71,4
	development manager	1	1,8	1,8	73,2
	DGA en zorgverlener	1	1,8	1,8	75,0
	Filiaalleidster	1	1,8	1,8	76,8
	Geen	1	1,8	1,8	78,6
	Inkoper	1	1,8	1,8	80,4
	Medewerker	1	1,8	1,8	82,1
	p.r. + activiteiten, secretaris	1	1,8	1,8	83,9
	Process engineer	1	1,8	1,8	85,7
	Regio Manager	1	1,8	1,8	87,5
	regio-medewerker	1	1,8	1,8	89,3
	sales coordinator	1	1,8	1,8	91,1
	Shopmanager	1	1,8	1,8	92,9
	Stagiair	1	1,8	1,8	94,6
	Store manager	1	1,8	1,8	96,4
	Supply chain	1	1,8	1,8	98,2
	Technisch verkoper buitendienst	1	1,8	1,8	100,0
	Total	56	100,0	100,0	

Appendix VII

SPSS outcome (per group)

De Row Total N is gekozen omdat dit meer zegt over de groep tov het gemiddelde. Indien column % wordt gebruikt, zegt dit niet veel omdat sommige groepen gewoonweg meer count hebben. Alle opmerkingen die worden gemaakt zijn obv het totale gemiddelde en of dit dan uitschiet of niet

BDA interests

Q1

Ik vind data-analyse en statistiek:

		Erg interessant		Interessant		Gematigd interessant		Niet interessant		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	1	16,7%	3	50,0%	2	33,3%	0	0,0%	6	100,0%
	1 tot 5	2	10,0%	9	45,0%	8	40,0%	1	5,0%	20	100,0%
	6 tot 10	2	33,3%	2	33,3%	2	33,3%	0	0,0%	6	100,0%
	11 tot 15	2	100,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	21 tot 25	1	25,0%	1	25,0%	2	50,0%	0	0,0%	4	100,0%
	26 tot 50	1	14,3%	3	42,9%	3	42,9%	0	0,0%	7	100,0%
	51 tot 100	1	50,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	101 tot 150	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	151 tot 200	2	66,7%	0	0,0%	1	33,3%	0	0,0%	3	100,0%
	201 tot 250	0	0,0%	3	100,0%	0	0,0%	0	0,0%	3	100,0%
	Total	13	23,2%	22	39,3%	20	35,7%	1	1,8%	56	100,0%

Q1

Ik vind data-analyse en statistiek:

		Erg interessant		Interessant		Gematigd interessant		Niet interessant		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	6	22,2%	10	37,0%	11	40,7%	0	0,0%	27	100,0%
	Dorp	6	31,6%	7	36,8%	5	26,3%	1	5,3%	19	100,0%
	Verschillende steden en dorpen	1	10,0%	5	50,0%	4	40,0%	0	0,0%	10	100,0%
	Total	13	23,2%	22	39,3%	20	35,7%	1	1,8%	56	100,0%

Q1

Ik vind data-analyse en statistiek:

		Erg interessant		Interessant		Gematigd interessant		Niet interessant		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	4	26,7%	6	40,0%	4	26,7%	1	6,7%	15	100,0%
	Anders:	4	28,6%	6	42,9%	4	28,6%	0	0,0%	14	100,0%
	Voedings- en genotsmiddelen	3	27,3%	4	36,4%	4	36,4%	0	0,0%	11	100,0%
	Wonen en inrichting	1	20,0%	2	40,0%	2	40,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	1	33,3%	1	33,3%	1	33,3%	0	0,0%	3	100,0%
	Consumentenelektronica	0	0,0%	0	0,0%	2	100,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	0	0,0%	1	50,0%	1	50,0%	0	0,0%	2	100,0%
	Dienstverlening	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Total	13	23,2%	22	39,3%	20	35,7%	1	1,8%	56	100,0%

Q2

Ik zou meer training willen krijgen om data te analyseren en vervolgens
te gebruiken in de bedrijfsvoering

		Eens		Oneens		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	3	50,0%	3	50,0%	6	100,0%
	1 tot 5	10	50,0%	10	50,0%	20	100,0%
	6 tot 10	4	66,7%	2	33,3%	6	100,0%
	11 tot 15	0	0,0%	2	100,0%	2	100,0%
	16 tot 20	0	0,0%	2	100,0%	2	100,0%
	21 tot 25	3	75,0%	1	25,0%	4	100,0%
	26 tot 50	2	28,6%	5	71,4%	7	100,0%
	51 tot 100	1	50,0%	1	50,0%	2	100,0%
	101 tot 150	0	0,0%	1	100,0%	1	100,0%
	151 tot 200	2	66,7%	1	33,3%	3	100,0%
	201 tot 250	2	66,7%	1	33,3%	3	100,0%
	Total	27	48,2%	29	51,8%	56	100,0%

Q2

Ik zou meer training willen krijgen om data te analyseren en vervolgens te gebruiken in de bedrijfsvoering

		Eens		Oneens		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	14	51,9%	13	48,1%	27	100,0%
	Dorp	10	52,6%	9	47,4%	19	100,0%
	Verskillende steden en dorpen	3	30,0%	7	70,0%	10	100,0%
	Total	27	48,2%	29	51,8%	56	100,0%

Q2

Ik zou meer training willen krijgen om data te analyseren en vervolgens te gebruiken in de bedrijfsvoering

		Eens		Oneens		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	6	40,0%	9	60,0%	15	100,0%
	Anders:	7	50,0%	7	50,0%	14	100,0%
	Voedings- en genotsmiddelen	5	45,5%	6	54,5%	11	100,0%
	Wonen en inrichting	3	60,0%	2	40,0%	5	100,0%
	Persoonlijke verzorging	1	33,3%	2	66,7%	3	100,0%
	Consumentenelektronica	0	0,0%	2	100,0%	2	100,0%
	Auto, motor en rijwielen	1	50,0%	1	50,0%	2	100,0%
	Dienstverlening	1	100,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	1	100,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	0	0,0%	1	100,0%
	Total	27	48,2%	29	51,8%	56	100,0%

Tangible resources

Q3

		Data sources										Total	
		Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf (bijv. kassadata)		Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf om de bedrijfsvoering te verbeteren		Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf (bijv. weersverwachting)		Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf om de bedrijfsvoering te verbeteren		Ik gebruik data dat wordt gegenereerd: geen van de bovenstaande stellingen			
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	4	66,7%	2	33,3%	2	33,3%	2	33,3%	0	0,0%	6	100,0%
	1 tot 5	18	90,0%	14	70,0%	4	20,0%	2	10,0%	1	5,0%	20	100,0%
	6 tot 10	5	83,3%	3	50,0%	2	33,3%	3	50,0%	0	0,0%	6	100,0%
	11 tot 15	2	100,0%	2	100,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	16 tot 20	1	50,0%	1	50,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	21 tot 25	2	50,0%	3	75,0%	2	50,0%	3	75,0%	0	0,0%	4	100,0%
	26 tot 50	6	85,7%	6	85,7%	1	14,3%	2	28,6%	0	0,0%	7	100,0%
	51 tot 100	2	100,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	101 tot 150	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	2	66,7%	2	66,7%	2	66,7%	2	66,7%	0	0,0%	3	100,0%
	201 tot 250	2	66,7%	3	100,0%	1	33,3%	0	0,0%	0	0,0%	3	100,0%
	Total	45	80,4%	38	67,9%	14	25,0%	16	28,6%	1	1,8%	56	100,0%

Q3

		Data sources										Total	
		Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf (bijv. kassadata)		Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf om de bedrijfsvoering te verbeteren		Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf (bijv. weersverwachting)		Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf om de bedrijfsvoering te verbeteren		Ik gebruik data dat wordt gegenereerd: geen van de bovenstaande stellingen			
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	21	77,8%	16	59,3%	7	25,9%	7	25,9%	0	0,0%	27	100,0%
	Dorp	16	84,2%	14	73,7%	4	21,1%	6	31,6%	1	5,3%	19	100,0%
	Verschillende steden en dorpen	8	80,0%	8	80,0%	3	30,0%	3	30,0%	0	0,0%	10	100,0%
	Total	45	80,4%	38	67,9%	14	25,0%	16	28,6%	1	1,8%	56	100,0%

Q3

		Data sources											
		Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf (bijv. kassadata)		Ik gebruik data dat wordt gegenereerd: binnen mijn bedrijf om de bedrijfsvoering te verbeteren		Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf om de bedrijfsvoering te verbeteren		Ik gebruik data dat wordt gegenereerd: buiten mijn bedrijf (bijv. weersverwachting)		Ik gebruik data dat wordt gegenereerd: geen van de bovenstaande stellingen		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	14	93,3%	9	60,0%	1	6,7%	4	26,7%	1	6,7%	15	100,0%
	Anders:	9	64,3%	8	57,1%	8	57,1%	3	21,4%	0	0,0%	14	100,0%
	Voedings- en genotsmiddelen	11	100,0%	9	81,8%	2	18,2%	5	45,5%	0	0,0%	11	100,0%
	Wonen en inrichting	4	80,0%	5	100,0%	2	40,0%	1	20,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	3	100,0%	2	66,7%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	1	50,0%	1	50,0%	1	50,0%	1	50,0%	0	0,0%	2	100,0%
	Auto, motor en rijwiel	1	50,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	Dienstverlening	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
Total		45	80,4%	38	67,9%	16	28,6%	14	25,0%	1	1,8%	56	100,0%

Q4

Q4																		
Ik beschik over: historische data van mijn bedrijf			Ik beschik over: real-time data van mijn bedrijf			Ik beschik over: gestructureerde data van mijn bedrijf (data die gelijk bruikbaar is zoals Excel-bestanden vol met gegevens over klanten of producten)		Ik beschik over: ongestructureerde data van mijn bedrijf die ik eerst zelf moet verwerken (zoals social media data, foto's, emails etc.)		Ik beschik over: grote sets van data (te grote en ongestructureerde data om met reguliere systemen te worden onderhouden)		Ik beschik over: aanvullende informatie/metadata over mijn databestanden om het beter te begrijpen en waar het vandaan komt (zoals datum, aantal pagina's, taal etc.)		Ik beschik over: geen van de bovenstaande stellingen		Total		
	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	3	50,0%	3	50,0%	3	50,0%	3	50,0%	0	0,0%	0	0,0%	0	0,0%	6	100,0%	
	1 tot 5	18	90,0%	14	70,0%	10	50,0%	6	30,0%	0	0,0%	0	0,0%	1	5,0%	20	100,0%	
	6 tot 10	6	100,0%	4	66,7%	5	83,3%	3	50,0%	1	16,7%	1	16,7%	0	0,0%	6	100,0%	
	11 tot 15	2	100,0%	2	100,0%	2	100,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%	
	16 tot 20	1	50,0%	1	50,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%	
	21 tot 25	3	75,0%	3	75,0%	3	75,0%	3	75,0%	1	25,0%	0	0,0%	0	0,0%	4	100,0%	
	26 tot 50	7	100,0%	5	71,4%	5	71,4%	3	42,9%	1	14,3%	3	42,9%	0	0,0%	7	100,0%	
	51 tot 100	1	50,0%	2	100,0%	1	50,0%	1	50,0%	1	50,0%	1	50,0%	0	0,0%	2	100,0%	
	101 tot 150	1	100,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%	
	151 tot 200	3	100,0%	3	100,0%	2	66,7%	1	33,3%	2	66,7%	2	66,7%	0	0,0%	3	100,0%	
	201 tot 250	3	100,0%	3	100,0%	3	100,0%	1	33,3%	1	33,3%	0	0,0%	0	0,0%	3	100,0%	
	Total	48	85,7%	41	73,2%	36	64,3%	23	41,1%	8	14,3%	7	12,5%	1	1,8%	56	100,0%	

Q4

		Ik beschik over: historische data van mijn bedrijf		Ik beschik over: real-time data van mijn bedrijf		Q4 Ik beschik over: gestructureerde data van mijn bedrijf (data die gelijk bruikbaar is zoals Excel-bestanden vol met gegevens over klanten of producten)		Ik beschik over: ongestructureerde data van mijn bedrijf die ik eerst zelf moet verwerken (zoals social media data, foto's, emails etc.)		Ik beschik over: grote sets van data (te grote en ongestructureerde data om met reguliere systemen te worden onderhouden)		Ik beschik over: aanvullende informatie/metadata over mijn databestanden om het beter te begrijpen en waar het vandaan komt (zoals datum, aantal pagina's, taal etc.)		Ik beschik over: geen van de bovenstaande stellingen		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	22	81,5%	17	63,0%	18	66,7%	11	40,7%	3	11,1%	3	11,1%	0	0,0%	27	100,0%
	Dorp	17	89,5%	16	84,2%	12	63,2%	9	47,4%	3	15,6%	2	10,5%	1	5,3%	19	100,0%
	Verscheidende steden en dorpen	9	90,0%	8	80,0%	6	60,0%	3	30,0%	2	20,0%	2	20,0%	0	0,0%	10	100,0%
	Total	48	85,7%	41	73,2%	36	64,3%	23	41,1%	8	14,3%	7	12,5%	1	1,8%	56	100,0%

Q4

		Ik beschik over: historische data van mijn bedrijf		Ik beschik over: real-time data van mijn bedrijf		Q4 Ik beschik over: gestructureerde data van mijn bedrijf (data die gelijk bruikbaar is zoals Excel-bestanden vol met gegevens over klanten of producten)		Ik beschik over: ongestructureerde data van mijn bedrijf die ik eerst zelf moet verwerken (zoals social media data, foto's, emails etc.)		Ik beschik over: grote sets van data (te grote en ongestructureerde data om met reguliere systemen te worden onderhouden)		Ik beschik over: aanvullende informatie/metadata over mijn databestanden om het beter te begrijpen en waar het vandaan komt (zoals datum, aantal pagina's, taal etc.)		Ik beschik over: geen van de bovenstaande stellingen		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	14	93,3%	12	80,0%	9	60,0%	4	26,7%	0	0,0%	0	0,0%	1	6,7%	15	100,0%
	Anders:	10	71,4%	9	64,3%	9	64,3%	5	35,7%	3	21,4%	3	21,4%	0	0,0%	14	100,0%
	Voedings- en genotsmiddelen	10	90,9%	9	81,8%	7	63,6%	9	81,8%	1	9,1%	1	9,1%	0	0,0%	11	100,0%
	Wonen en inrichting	4	80,0%	4	80,0%	4	80,0%	2	40,0%	1	20,0%	1	20,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	3	100,0%	2	66,7%	3	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	2	100,0%	1	50,0%	1	50,0%	0	0,0%	1	50,0%	1	50,0%	0	0,0%	2	100,0%
	Auto, motor en rijwiel	2	100,0%	1	50,0%	0	0,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	Dienstverlening	1	100,0%	1	100,0%	1	100,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	0	0,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Total	48	85,7%	41	73,2%	36	64,3%	23	41,1%	8	14,3%	7	12,5%	1	1,8%	56	100,0%

Q5

		Ik gebruik: beschrijvende gereedschappen/hulpmiddelen zoals business rapporten en dashboards om data samen te vatten en te begrijpen		Ik gebruik: voorspellende methoden om bijvoorbeeld prognoses te maken binnen mijn bedrijfsvoering		Q5 Ik gebruik: simulatie gereedschappen/hulpmiddelen om mijn bedrijfsvoering te voorspellen en daar op te acteren		Ik gebruik: geen van de bovenstaande gereedschappen/hulpmiddelen		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	2	33,3%	0	0,0%	0	0,0%	4	66,7%	6	100,0%
	1 tot 5	9	45,0%	5	25,0%	1	5,0%	7	35,0%	20	100,0%
	6 tot 10	4	66,7%	3	50,0%	1	16,7%	1	16,7%	6	100,0%
	11 tot 15	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	1	50,0%	0	0,0%	0	0,0%	1	50,0%	2	100,0%
	21 tot 25	4	100,0%	1	25,0%	1	25,0%	0	0,0%	4	100,0%
	26 tot 50	3	42,9%	2	28,6%	1	14,3%	3	42,9%	7	100,0%
	51 tot 100	1	50,0%	2	100,0%	1	50,0%	0	0,0%	2	100,0%
	101 tot 150	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	1	33,3%	2	66,7%	1	33,3%	1	33,3%	3	100,0%
	201 tot 250	2	66,7%	1	33,3%	1	33,3%	1	33,3%	3	100,0%
	Total	28	50,0%	18	32,1%	7	12,5%	18	32,1%	56	100,0%

Q5

		Ik gebruik: beschrijvende gereedschappen/hulpmiddelen zoals business rapporten en dashboards om data samen te vatten en te begrijpen		Ik gebruik: voorspellende methoden om bijvoorbeeld prognoses te maken binnen mijn bedrijfsvoering		Q5 Ik gebruik: simulatie gereedschappen/hulpmiddelen om mijn bedrijfsvoering te voorspellen en daar op te acteren		Ik gebruik: geen van de bovenstaande gereedschappen/hulpmiddelen		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	16	59,3%	8	29,6%	3	11,1%	9	33,3%	27	100,0%
	Dorp	10	52,6%	6	31,6%	4	21,1%	5	26,3%	19	100,0%
	Verschillende steden en dorpen	2	20,0%	4	40,0%	0	0,0%	4	40,0%	10	100,0%
	Total	28	50,0%	18	32,1%	7	12,5%	18	32,1%	56	100,0%

Q5

		Ik gebruik: beschrijvende gereedschappen/hulpmiddelen zoals business rapporten en dashboards om data samen te vatten en te begrijpen		Ik gebruik: voorspellende methoden om bijvoorbeeld prognoses te maken binnen mijn bedrijfsvoering		Q5 Ik gebruik: simulatie gereedschappen/hulpmiddelen om mijn bedrijfsvoering te voorspellen en daar op te acteren		Ik gebruik: geen van de bovenstaande gereedschappen/hulpmiddelen		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	7	46,7%	4	26,7%	0	0,0%	5	33,3%	15	100,0%
	Anders:	8	57,1%	4	28,6%	2	14,3%	5	35,7%	14	100,0%
	Voedings- en genotsmiddelen	6	54,5%	5	45,5%	3	27,3%	2	18,2%	11	100,0%
	Wonen en inrichting	4	80,0%	2	40,0%	1	20,0%	1	20,0%	5	100,0%
	Persoonlijke verzorging	1	33,3%	0	0,0%	0	0,0%	2	66,7%	3	100,0%
	Consumentenelektronica	0	0,0%	1	50,0%	0	0,0%	1	50,0%	2	100,0%
	Auto, motor en rijwielen	0	0,0%	1	50,0%	0	0,0%	1	50,0%	2	100,0%
	Dienstverlening	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	0	0,0%	1	100,0%	1	100,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	0	0,0%	0	0,0%	0	0,0%	1	100,0%	1	100,0%
	Total	28	50,0%	18	32,1%	7	12,5%	18	32,1%	56	100,0%

Q6

		Verkoopdoeleinden		Bijsturing in de bedrijfsvoering om op koers te blijven		Marketingdoeleinden		Bedrijfsvoering observeren (inzichten en trends)		Om service aan te bieden aan mijn klanten		Leveranciersanalyse		Strategische doelstellingen		Operationele doelstellingen		Tactische doelstellingen		Concurrentieanalyse		Geen van de bovenstaande stellingen		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	3	50,0%	2	33,3%	3	50,0%	2	33,3%	1	16,7%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	16,7%	0	0,0%	6	100,0%
	1 tot 5	17	85,0%	9	45,0%	11	55,0%	12	60,0%	8	40,0%	11	55,0%	4	20,0%	1	5,0%	0	0,0%	3	15,0%	1	5,0%	1	5,0%	20	100,0%
	6 tot 10	5	83,3%	4	66,7%	3	50,0%	3	50,0%	3	50,0%	3	50,0%	2	33,3%	2	33,3%	0	0,0%	0	0,0%	1	16,7%	0	0,0%	6	100,0%
	11 tot 15	1	50,0%	2	100,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	2	100,0%	1	50,0%	0	0,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	21 tot 25	2	50,0%	2	50,0%	3	75,0%	3	75,0%	3	75,0%	0	0,0%	2	50,0%	1	25,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	4	100,0%
	26 tot 50	6	85,7%	4	57,1%	5	71,4%	3	42,9%	3	42,9%	3	42,9%	2	28,6%	2	28,6%	3	42,9%	2	28,6%	0	0,0%	0	0,0%	7	100,0%
	51 tot 100	1	50,0%	2	100,0%	1	50,0%	0	0,0%	1	50,0%	0	0,0%	1	50,0%	1	50,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	101 tot 150	1	100,0%	1	100,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	1	33,3%	2	66,7%	1	33,3%	1	33,3%	0	0,0%	2	66,7%	3	100,0%	2	66,7%	2	66,7%	2	66,7%	0	0,0%	0	0,0%	3	100,0%
	201 tot 250	2	66,7%	2	66,7%	1	33,3%	3	100,0%	2	66,7%	2	66,7%	1	33,3%	2	66,7%	1	33,3%	1	33,3%	0	0,0%	0	0,0%	3	100,0%
	Total	41	73,2%	31	55,4%	29	51,8%	29	51,8%	23	41,1%	21	37,5%	17	30,4%	12	21,4%	10	17,9%	9	16,1%	3	5,4%	1	1,8%	56	100,0%

Q6

		Verkoopdoeleinden		Bijsturing in de bedrijfsvoering om op koers te blijven		Marketingdoeleinden		Bedrijfsvoering observeren (inzichten en trends)		Om service aan te bieden aan mijn klanten		Leveranciersanalyse		Strategische doelstellingen		Operationele doelstellingen		Tactische doelstellingen		Concurrentieanalyse		Geen van de bovenstaande stellingen		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	21	77,8%	12	44,4%	12	44,4%	14	51,9%	9	33,3%	11	40,7%	9	33,3%	5	18,5%	4	14,8%	4	14,8%	2	7,4%	0	0,0%	27	100,0%
	Dorp	13	68,4%	11	57,9%	12	63,2%	10	52,6%	10	52,6%	6	31,6%	4	21,1%	5	26,3%	2	10,5%	1	5,3%	1	5,3%	1	5,3%	19	100,0%
	Verschillende steden en dorpen	7	70,0%	8	80,0%	5	50,0%	5	50,0%	4	40,0%	4	40,0%	4	40,0%	2	20,0%	4	40,0%	4	40,0%	0	0,0%	0	0,0%	10	100,0%
	Total	41	73,2%	31	55,4%	29	51,8%	29	51,8%	23	41,1%	21	37,5%	17	30,4%	12	21,4%	10	17,9%	9	16,1%	3	5,4%	1	1,8%	56	100,0%

Hooveel werknemers heeft uw bedrijf?	1	5	83,3%	3	50,0%	1	16,7%	0	0,0%	3	50,0%	1	16,7%	1	16,7%	0	0,0%	6	100,0%
	1 tot 5	16	80,0%	16	80,0%	5	25,0%	2	10,0%	8	40,0%	4	20,0%	2	10,0%	0	0,0%	20	100,0%
	6 tot 10	5	83,3%	4	66,7%	4	66,7%	0	0,0%	3	50,0%	2	33,3%	1	16,7%	0	0,0%	6	100,0%
	11 tot 15	2	100,0%	1	50,0%	1	50,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	1	50,0%	2	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	50,0%	1	50,0%	2	100,0%
	21 tot 25	4	100,0%	1	25,0%	3	75,0%	2	50,0%	3	75,0%	1	25,0%	0	0,0%	0	0,0%	4	100,0%
	26 tot 50	7	100,0%	6	85,7%	2	28,6%	3	42,9%	5	71,4%	1	14,3%	0	0,0%	0	0,0%	7	100,0%
	51 tot 100	1	50,0%	1	50,0%	1	50,0%	1	50,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	101 tot 150	1	100,0%	1	100,0%	1	100,0%	1	100,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	2	66,7%	2	66,7%	2	66,7%	1	33,3%	2	66,7%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	201 tot 250	2	66,7%	3	100,0%	2	66,7%	0	0,0%	2	66,7%	2	66,7%	0	0,0%	0	0,0%	3	100,0%
Total	46	82,1%	40	71,4%	22	39,3%	10	17,9%	29	51,8%	13	23,2%	5	8,9%	1	1,8%	56	100,0%	

Q7

		water is gebeurd (beschrijvend)		water op dit moment gebeurd (beschrijvend)		water te doen in de toekomst (simulerend)		water er gaat gebeuren in de toekomst(voorspellend)		waarom ik iets zou doen in de toekomst (simulerend)		waarom iets gaat gebeuren (voorspellend)		geen van de bovenstaande stellingen		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	13	86,7%	13	86,7%	9	60,0%	6	40,0%	7	46,7%	3	20,0%	1	6,7%	0	0,0%	15	100,0%
	Anders:	11	78,6%	8	57,1%	9	64,3%	6	42,9%	1	7,1%	1	7,1%	2	14,3%	1	7,1%	14	100,0%
	Voedings- en genotsmiddelen	8	72,7%	6	54,5%	6	72,7%	4	36,4%	2	18,2%	4	36,4%	2	18,2%	0	0,0%	11	100,0%
	Wonen en inrichting	4	80,0%	5	100,0%	2	40,0%	2	40,0%	2	40,0%	1	20,0%	0	0,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	3	100,0%	3	100,0%	1	33,3%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	1	50,0%	2	100,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	2	100,0%	0	0,0%	0	0,0%	2	100,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Dienstverlening	1	100,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
Huishoudelijke artikelen	1	100,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%	
Total		46	82,1%	40	71,4%	29	51,8%	22	39,3%	13	23,2%	10	17,9%	5	8,9%	1	1,8%	56	100,0%

Q8

Rapporten		Dashboards		Spreadsheets		Social media analytics (marketing en klantentact)		Online analytics tools		Web analytics en web intelligence (webshop effectiviteit)		Scorecards		Statistische modellen		Geen van de bovenstaande hulpmiddelen		Statistiek en data mining software		Mobile analytics (locale analyse van de consument)		Visualisatie-technologieën		Video analytics (analyse van consumentengedrag)		Online analytical processing (OLAP)		Externe analyse (independente consumentenbeoordeling met bijv. markring)		Werkwijze programma's (nuttelijke doelen voor procesoptimalisatie)		Anders		Total					
						Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
						Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoewel we anders hadden kunnen denken?	1	3	50.0%	2	33.3%	0	0.0%	2	33.3%	1	16.7%	1	16.7%	1	16.7%	1	16.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6	100.0%				
1 tot 5	13	45.0%	7	35.0%	8	50.0%	9	45.0%	3	15.0%	6	30.0%	2	10.0%	2	10.0%	2	10.0%	0	0.0%	1	5.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	20	100.0%					
6 tot 10	5	83.3%	3	50.0%	3	50.0%	2	33.3%	1	16.7%	1	16.7%	0	0.0%	0	0.0%	1	16.7%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	100.0%					
11 tot 15	2	100.0%	1	50.0%	1	50.0%	1	50.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%					
16 tot 20	1	50.0%	1	50.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%					
21 tot 25	4	100.0%	3	75.0%	2	50.0%	3	75.0%	3	75.0%	1	25.0%	1	25.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	100.0%					
26 tot 50	4	57.1%	3	42.9%	4	57.1%	3	42.9%	1	14.3%	1	14.3%	2	28.6%	1	14.3%	1	14.3%	1	14.3%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	0	0.0%	7	100.0%					
51 tot 100	2	100.0%	1	50.0%	1	50.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%					
101 tot 150	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%					
151 tot 200	2	66.7%	2	66.7%	3	100.0%	0	0.0%	2	66.7%	0	0.0%	1	33.3%	1	33.3%	0	0.0%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	100.0%					
201 tot 250	3	100.0%	3	100.0%	1	33.3%	0	0.0%	1	33.3%	0	0.0%	0	0.0%	3	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	100.0%					
Total	40	71.4%	26	46.4%	21	37.5%	21	37.5%	14	25.0%	12	21.4%	8	14.3%	8	14.3%	5	8.6%	3	5.4%	2	3.6%	2	3.6%	1	1.8%	1	1.8%	0	0.0%	0	0.0%	56	100.0%					

Q8

Wijze van gebruik	Rapporten		Dashboards		Spreadsheets		Social media analytics (marketing en klantentactiek)		Online analytische tools		Web analytics en website effectiviteit		Screenshots		Statistische modellen		Geen van de bovenstaande hulpmiddelen		Statistiek en data mining software		Mobiele analytics (locatie analyse van de consument)		Visualisatiehulpmiddelen		Video analytics (analyse van consumentgedrag)		Online analytical processing (OLAP)		Geavanceerde analyse (individueel consumentengedrag met Big Marketing)		Wisselend programma's (statistische modellen voor procesoptimalisatie)		Anders		Totaal	
	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N				
	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N				
Mijn bedrijf is geregistreerd in een	19	70.6%	12	44.6%	11	40.7%	9	33.3%	8	29.6%	6	22.2%	4	14.8%	2	7.4%	3	11.1%	1	3.7%	1	3.7%	2	7.4%	1	3.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	27	100.0%
Dorp	13	68.4%	10	52.6%	8	41.6%	11	57.9%	5	26.3%	6	31.6%	3	15.8%	1	5.3%	2	10.5%	1	5.3%	0	0.0%	0	0.0%	1	5.3%	0	0.0%	1	5.3%	0	0.0%	19	100.0%		
Verreinde steden en dorpen	8	80.0%	4	40.0%	4	40.0%	1	10.0%	1	10.0%	0	0.0%	1	10.0%	3	30.0%	1	10.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	10	100.0%		
Totaal	40	71.4%	26	46.4%	21	37.5%	21	37.6%	14	25.0%	12	21.4%	8	14.3%	8	14.3%	5	8.9%	3	5.0%	2	3.6%	2	3.6%	1	1.8%	1	1.8%	0	0.0%	0	0.0%	56	100.0%		

C8

	Rapporten		Dashboards		Spreadsheets		Social media analytics (marketing en customer care)		Online analytische tools		Web analytics and web intelligence (marketing)		Scoresheets		Statistische modellen		Deen van de voorstander (analyse van de concurrentie)		Statistiek en data mining (analyse van de concurrentie)		Middel analytiek (analyse van de concurrentie)		Visualisatie technologieën		Video analytics (analyse van de concurrentie)		Online analytiek processing (data mining)		Business analytics (individuele consumentenanalyse met big data marketing)		Werkzaam programma's (analyse van de concurrentie)		Anders		Total			
	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N	Count	Row Total N		
In welke dashboard wordt de informatie gebruikt?	10	66.7%	8	53.3%	3	20.0%	7	46.7%	2	13.3%	5	33.3%	0	0.0%	2	13.3%	2	13.3%	0	0.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	15	100.0%		
Kleding, mode en toilet	8	57.1%	6	42.9%	6	42.9%	5	35.7%	4	28.6%	1	6.7%	0	0.0%	3	21.4%	1	7.1%	1	7.1%	1	7.1%	1	7.1%	0	0.0%	1	7.1%	0	0.0%	0	0.0%	0	0.0%	14	100.0%		
Anders	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%		
Voeding en gezondheidszorg	4	30.0%	4	30.0%	4	30.0%	4	30.0%	4	30.0%	4	30.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Wonen en inrichting	4	30.0%	3	20.0%	2	13.3%	3	20.0%	3	20.0%	3	20.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Personenlijke verzorging	2	10.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Consumentenactiviteit	2	10.0%	1	6.7%	1	6.7%	0	0.0%	0	0.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Auto, motor en vliegtuig	2	10.0%	0	0.0%	1	6.7%	1	6.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Reizen	1	6.7%	1	6.7%	0	0.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Educatie en vrije tijd	1	6.7%	1	6.7%	0	0.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Doelmatig, Tuin en dier	1	6.7%	0	0.0%	0	0.0%	1	6.7%	0	0.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Huishoudelijke apparaten	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Totaal	40	71.4%	26	46.4%	21	37.5%	21	37.5%	14	25.0%	12	21.4%	8	14.3%	8	14.3%	1	1.8%	5	8.9%	3	4.5%	2	3.5%	2	3.5%	1	1.8%	1	1.8%	0	0.0%	2	3.5%	56	100.0%		

Intangible resources

Q9

		Q9		Q9		Q9		Q9		Q9		Q9		Total	
		Ons bedrijf: gebruikt data om keuzes te maken en dit wordt gestimuleerd door de eigenaar/management		Ons bedrijf: is flexibel en behendig om de bedrijfsvoering te veranderen op basis van veranderingen in de markt		Ons bedrijf: probeert zoveel mogelijk te onderbouwen op basis van data i.p.v. intuïtie		Ons bedrijf: heeft een visie en is gewilligd om veranderingen in de bedrijfsvoering te maken om (meer) data te gaan gebruiken in de toekomst		Ons bedrijf: Geen van de bovenstaande stellingen		Ons bedrijf: erkend de analytische skills van medewerkers en deze skills worden gebruikt in de bedrijfsvoering		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	2	33,3%	2	33,3%	1	16,7%	1	16,7%	1	16,7%	0	0,0%	6	100,0%
	1 tot 5	9	45,0%	10	50,0%	6	30,0%	4	20,0%	3	15,0%	1	5,0%	20	100,0%
	6 tot 10	3	50,0%	4	66,7%	2	33,3%	2	33,3%	1	16,7%	1	16,7%	6	100,0%
	11 tot 15	2	100,0%	0	0,0%	2	100,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	1	50,0%	0	0,0%	0	0,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	21 tot 25	1	25,0%	2	50,0%	3	75,0%	1	25,0%	0	0,0%	2	50,0%	4	100,0%
	26 tot 50	5	71,4%	4	57,1%	2	28,6%	1	14,3%	2	28,6%	0	0,0%	7	100,0%
	51 tot 100	2	100,0%	1	50,0%	1	50,0%	1	50,0%	0	0,0%	1	50,0%	2	100,0%
	101 tot 150	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	2	66,7%	2	66,7%	1	33,3%	2	66,7%	0	0,0%	1	33,3%	3	100,0%
	201 tot 250	2	66,7%	2	66,7%	2	66,7%	2	66,7%	1	33,3%	1	33,3%	3	100,0%
	Total	30	53,6%	28	50,0%	20	35,7%	14	25,0%	9	16,1%	7	12,5%	56	100,0%

Q9

		Q9		Q9		Q9		Q9		Q9		Q9		Total	
		Ons bedrijf: gebruikt data om keuzes te maken en dit wordt gestimuleerd door de eigenaar/management		Ons bedrijf: is flexibel en behendig om de bedrijfsvoering te veranderen op basis van veranderingen in de markt		Ons bedrijf: probeert zoveel mogelijk te onderbouwen op basis van data i.p.v. intuïtie		Ons bedrijf: heeft een visie en is gewilligd om veranderingen in de bedrijfsvoering te maken om (meer) data te gaan gebruiken in de toekomst		Ons bedrijf: Geen van de bovenstaande stellingen		Ons bedrijf: erkend de analytische skills van medewerkers en deze skills worden gebruikt in de bedrijfsvoering		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	13	48,1%	12	44,4%	10	37,0%	8	29,6%	4	14,8%	4	14,8%	27	100,0%
	Dorp	11	57,9%	10	52,6%	8	42,1%	3	15,8%	3	15,8%	3	15,8%	19	100,0%
	Verscheidende steden en dorpen	6	60,0%	6	60,0%	2	20,0%	3	30,0%	2	20,0%	0	0,0%	10	100,0%
	Total	30	53,6%	28	50,0%	20	35,7%	14	25,0%	9	16,1%	7	12,5%	56	100,0%

Q9

		Q9													
		Ons bedrijf: gebruikt data om keuzes te maken en dit wordt gestimuleerd door de eigenaar/management		Ons bedrijf: is flexibel en behendig om de bedrijfsvoering te veranderen op basis van veranderingen in de markt		Ons bedrijf: probeert zoveel mogelijk te onderbouwen op basis van data i.p.v. intuïtie		Ons bedrijf: heeft een visie en is gewilligd om veranderingen in de bedrijfsvoering te maken om (meer) data te gaan gebruiken in de toekomst		Ons bedrijf: Geen van de bovenstaande stellingen		Ons bedrijf: erkend de analytische skills van medewerkers en deze skills worden gebruikt in de bedrijfsvoering		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	10	66,7%	5	33,3%	3	20,0%	4	26,7%	4	26,7%	1	6,7%	15	100,0%
	Anders:	6	42,9%	8	57,1%	6	42,9%	5	35,7%	1	7,1%	3	21,4%	14	100,0%
	Voedings- en genotsmiddelen	6	54,5%	7	63,6%	5	45,5%	3	27,3%	2	18,2%	1	9,1%	11	100,0%
	Wonen en inrichting	3	60,0%	5	100,0%	3	60,0%	2	40,0%	0	0,0%	1	20,0%	5	100,0%
	Persoonlijke verzorging	1	33,3%	1	33,3%	0	0,0%	0	0,0%	1	33,3%	0	0,0%	3	100,0%
	Consumentenelektronica	1	50,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	0	0,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	Dienstverlening	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Total	30	53,6%	28	50,0%	20	35,7%	14	25,0%	9	16,1%	7	12,5%	56	100,0%

Q10

Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken.

		Ja, dit doe ik		Nee, dit doe ik niet		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	0	0,0%	6	100,0%	6	100,0%
	1 tot 5	8	40,0%	12	60,0%	20	100,0%
	6 tot 10	0	0,0%	6	100,0%	6	100,0%
	11 tot 15	0	0,0%	2	100,0%	2	100,0%
	16 tot 20	1	50,0%	1	50,0%	2	100,0%
	21 tot 25	2	50,0%	1	25,0%	3	100,0%
	26 tot 50	4	57,1%	3	42,9%	7	100,0%
	51 tot 100	1	50,0%	1	50,0%	2	100,0%
	101 tot 150	1	100,0%	0	0,0%	1	100,0%
	151 tot 200	2	66,7%	1	33,3%	3	100,0%
	201 tot 250	2	66,7%	1	33,3%	3	100,0%
	Total	21	37,5%	34	60,7%	55	100,0%

Q10

Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken.

		Ja, dit doe ik		Nee, dit doe ik niet		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	9	33,3%	17	63,0%	26	100,0%
	Dorp	8	42,1%	11	57,9%	19	100,0%
	Verskillende steden en dorpen	4	40,0%	6	60,0%	10	100,0%
	Total	21	37,5%	34	60,7%	55	100,0%

Q10

Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken.

		Ja, dit doe ik		Nee, dit doe ik niet		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	7	46,7%	8	53,3%	15	100,0%
	Anders:	4	28,6%	10	71,4%	14	100,0%
	Voedings- en genotsmiddelen	2	18,2%	8	72,7%	10	100,0%
	Wonen en inrichting	2	40,0%	3	60,0%	5	100,0%
	Persoonlijke verzorging	2	66,7%	1	33,3%	3	100,0%
	Consumentenelektronica	1	50,0%	1	50,0%	2	100,0%
	Auto, motor en rijwielen	0	0,0%	2	100,0%	2	100,0%
	Dienstverlening	1	100,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	1	100,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	0	0,0%	1	100,0%	1	100,0%
	Total	21	37,5%	34	60,7%	55	100,0%

Q11

		Q11															
		Communicatie skills		Technische skills en kennis		Business skills en kennis		Management skills en kennis		Geen van de bovenstaande competenties		Innovatie skills		Anders....		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	3	50,0%	1	16,7%	2	33,3%	0	0,0%	0	0,0%	0	0,0%	2	33,3%	6	100,0%
	1 tot 5	15	75,0%	8	40,0%	4	20,0%	2	10,0%	5	25,0%	5	25,0%	2	10,0%	20	100,0%
	6 tot 10	5	83,3%	3	50,0%	3	50,0%	0	0,0%	1	16,7%	1	16,7%	0	0,0%	6	100,0%
	11 tot 15	2	100,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	2	100,0%	0	0,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%	2	100,0%
	21 tot 25	2	50,0%	2	50,0%	0	0,0%	2	50,0%	1	25,0%	0	0,0%	0	0,0%	4	100,0%
	26 tot 50	4	57,1%	2	28,6%	1	14,3%	2	28,6%	2	28,6%	0	0,0%	1	14,3%	7	100,0%
	51 tot 100	1	50,0%	0	0,0%	0	0,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	101 tot 150	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	151 tot 200	1	33,3%	1	33,3%	2	66,7%	1	33,3%	1	33,3%	1	33,3%	0	0,0%	3	100,0%
	201 tot 250	2	66,7%	1	33,3%	0	0,0%	3	100,0%	0	0,0%	2	66,7%	0	0,0%	3	100,0%
Total		38	67,9%	19	33,9%	14	25,0%	12	21,4%	11	19,6%	10	17,9%	6	10,7%	56	100,0%

Q11

		Q11															
		Communicatie skills		Technische skills en kennis		Business skills en kennis		Management skills en kennis		Geen van de bovenstaande competenties		Innovatie skills		Anders....		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	21	77,8%	12	44,4%	8	29,6%	6	22,2%	3	11,1%	4	14,8%	3	11,1%	27	100,0%
	Dorp	13	68,4%	6	31,6%	3	15,8%	4	21,1%	5	26,3%	3	15,8%	2	10,5%	19	100,0%
	Verschillende steden en dorpen	4	40,0%	1	10,0%	3	30,0%	2	20,0%	3	30,0%	3	30,0%	1	10,0%	10	100,0%
	Total	38	67,9%	19	33,9%	14	25,0%	12	21,4%	11	19,6%	10	17,9%	6	10,7%	56	100,0%

Q11

		Q11															
		Communicatie skills		Technische skills en kennis		Business skills en kennis		Management skills en kennis		Geen van de bovenstaande competenties		Innovatie skills		Anders....		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	11	73,3%	4	26,7%	4	26,7%	3	20,0%	3	20,0%	5	33,3%	1	6,7%	15	100,0%
	Anders:	8	57,1%	5	35,7%	3	21,4%	2	14,3%	1	7,1%	1	7,1%	5	35,7%	14	100,0%
	Voedings- en genotsmiddelen	8	72,7%	2	18,2%	1	9,1%	1	9,1%	3	27,3%	1	9,1%	0	0,0%	11	100,0%
	Wonen en inrichting	4	80,0%	3	60,0%	3	60,0%	2	40,0%	1	20,0%	2	40,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	2	66,7%	0	0,0%	2	66,7%	1	33,3%	1	33,3%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	2	100,0%	2	100,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	Dienstverlening	1	100,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	0	0,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
Total		38	67,9%	19	33,9%	14	25,0%	12	21,4%	11	19,6%	10	17,9%	6	10,7%	56	100,0%

Q12

		Q12											
		Geen van de bovenstaande stellingen		Onze medewerkers (indien van toepassing) worden gestimuleerd om data analyse en statistiek skills te ontwikkelen		Onze medewerkers (indien van toepassing) volgen interne trainingen en cursussen om skills over data analyse en statistiek te verkrijgen		Onze medewerkers (indien van toepassing) volgen externe trainingen en cursussen om skills over data analyse en statistiek te verkrijgen		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	6	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	6	100,0%
	1 tot 5	15	75,0%	3	15,0%	1	5,0%	0	0,0%	1	5,0%	20	100,0%
	6 tot 10	5	83,3%	1	16,7%	0	0,0%	0	0,0%	0	0,0%	6	100,0%
	11 tot 15	1	50,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	2	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	21 tot 25	2	50,0%	0	0,0%	2	50,0%	0	0,0%	0	0,0%	4	100,0%
	26 tot 50	6	85,7%	1	14,3%	1	14,3%	0	0,0%	0	0,0%	7	100,0%
	51 tot 100	1	50,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	101 tot 150	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	1	33,3%	1	33,3%	1	33,3%	1	33,3%	0	0,0%	3	100,0%
	201 tot 250	1	33,3%	2	66,7%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
Total		41	73,2%	9	16,1%	6	10,7%	1	1,8%	1	1,8%	56	100,0%

Q12

		Q12											
		Geen van de bovenstaande stellingen		Onze medewerkers (indien van toepassing) worden gestimuleerd om data analyse en statistiek skills te ontwikkelen		Onze medewerkers (indien van toepassing) volgen interne trainingen en cursussen om skills over data analyse en statistiek te verkrijgen		Onze medewerkers (indien van toepassing) volgen externe trainingen en cursussen om skills over data analyse en statistiek te verkrijgen		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	21	77,8%	4	14,8%	1	3,7%	1	3,7%	1	3,7%	27	100,0%
	Dorp	13	68,4%	3	15,8%	4	21,1%	0	0,0%	0	0,0%	19	100,0%
	Verschillende steden en dorpen	7	70,0%	2	20,0%	1	10,0%	0	0,0%	0	0,0%	10	100,0%
	Total	41	73,2%	9	16,1%	6	10,7%	1	1,8%	1	1,8%	56	100,0%

Q12

		Q12											
		Geen van de bovenstaande stellingen		Onze medewerkers (indien van toepassing) worden gestimuleerd om data analyse en statistiek skills te ontwikkelen		Onze medewerkers (indien van toepassing) volgen interne trainingen en cursussen om skills over data analyse en statistiek te verkrijgen		Onze medewerkers (indien van toepassing) volgen externe trainingen en cursussen om skills over data analyse en statistiek te verkrijgen		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	11	73,3%	3	20,0%	1	6,7%	0	0,0%	0	0,0%	15	100,0%
	Anders:	10	71,4%	2	14,3%	2	14,3%	0	0,0%	0	0,0%	14	100,0%
	Voedings- en genotsmiddelen	9	81,8%	1	9,1%	1	9,1%	0	0,0%	0	0,0%	11	100,0%
	Wonen en inrichting	3	60,0%	1	20,0%	0	0,0%	1	20,0%	1	20,0%	5	100,0%
	Persoonlijke verzorging	3	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	2	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	1	50,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Dienstverlening	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	0	0,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Total	41	73,2%	9	16,1%	6	10,7%	1	1,8%	1	1,8%	56	100,0%

Q13

		Q13									
		Geen van de bovenstaande stellingen		Ik gebruik criteria om te bepalen welke gegevens en resultaten belangrijk voor mij zijn		Ik heb nagedacht over de risico's en gevaren wat betreft het gebruik en de beschikbaarheid van mijn data		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	4	66,7%	1	16,7%	1	16,7%	0	0,0%	6	100,0%
	1 tot 5	10	50,0%	6	30,0%	6	30,0%	0	0,0%	20	100,0%
	6 tot 10	3	50,0%	3	50,0%	3	50,0%	0	0,0%	6	100,0%
	11 tot 15	0	0,0%	2	100,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	21 tot 25	2	50,0%	1	25,0%	1	25,0%	0	0,0%	4	100,0%
	26 tot 50	3	42,9%	4	57,1%	2	28,6%	0	0,0%	7	100,0%
	51 tot 100	0	0,0%	1	50,0%	2	100,0%	0	0,0%	2	100,0%
	101 tot 150	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	1	33,3%	2	66,7%	1	33,3%	0	0,0%	3	100,0%
	201 tot 250	1	33,3%	1	33,3%	2	66,7%	0	0,0%	3	100,0%
	Total	25	44,6%	23	41,1%	18	32,1%	0	0,0%	56	100,0%

Q13

		Geen van de bovenstaande stellingen		Ik gebruik criteria om te bepalen welke gegevens en resultaten belangrijk voor mij zijn		Q13 Ik heb nagedacht over de risico's en gevaren wat betreft het gebruik en de beschikbaarheid van mijn data		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	13	48,1%	10	37,0%	9	33,3%	0	0,0%	27	100,0%
	Dorp	7	36,8%	9	47,4%	6	31,6%	0	0,0%	19	100,0%
	Verschillende steden en dorpen	5	50,0%	4	40,0%	3	30,0%	0	0,0%	10	100,0%
	Total	25	44,6%	23	41,1%	18	32,1%	0	0,0%	56	100,0%

Q13

		Geen van de bovenstaande stellingen		Ik gebruik criteria om te bepalen welke gegevens en resultaten belangrijk voor mij zijn		Q13 Ik heb nagedacht over de risico's en gevaren wat betreft het gebruik en de beschikbaarheid van mijn data		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	7	46,7%	6	40,0%	6	40,0%	0	0,0%	15	100,0%
	Anders:	7	50,0%	5	35,7%	3	21,4%	0	0,0%	14	100,0%
	Voedings- en genotsmiddelen	4	36,4%	5	45,5%	4	36,4%	0	0,0%	11	100,0%
	Wonen en inrichting	2	40,0%	1	20,0%	3	60,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	1	33,3%	2	66,7%	1	33,3%	0	0,0%	3	100,0%
	Consumentenelektronica	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	Dienstverlening	0	0,0%	1	100,0%	1	100,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Total	25	44,6%	23	41,1%	18	32,1%	0	0,0%	56	100,0%

Q14

Q14													
werkt samen of heeft contact met leveranciers of collega's in dezelfde branche wat betreft data analyse en statistiek				Geen van de bovenstaande stellingen		heeft duidelijk afgebakend wie welke keuzes mag maken op een afdeling en wie coördineert tussen (indien van toepassing) verschillende afdelingen in de organisatie wat betreft data analyse en statistiek		werkt samen of heeft contact met leveranciers of collega's in een andere branche wat betreft data analyse en statistiek		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	1	16,7%	4	66,7%	1	16,7%	0	0,0%	0	0,0%	6	100,0%
	1 tot 5	10	50,0%	8	40,0%	4	20,0%	3	15,0%	1	5,0%	20	100,0%
	6 tot 10	3	50,0%	2	33,3%	1	16,7%	2	33,3%	0	0,0%	6	100,0%
	11 tot 15	1	50,0%	0	0,0%	2	100,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	0	0,0%	1	50,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	21 tot 25	2	50,0%	1	25,0%	2	50,0%	1	25,0%	0	0,0%	4	100,0%
	26 tot 50	2	28,6%	2	28,6%	4	57,1%	0	0,0%	0	0,0%	7	100,0%
	51 tot 100	2	100,0%	0	0,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	101 tot 150	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	1	33,3%	0	0,0%	2	66,7%	1	33,3%	0	0,0%	3	100,0%
	201 tot 250	1	33,3%	1	33,3%	1	33,3%	2	66,7%	0	0,0%	3	100,0%
	Total	24	42,9%	19	33,9%	18	32,1%	11	19,6%	1	1,8%	56	100,0%

Q14

Q14													
		werkt samen of heeft contact met leveranciers of collega's in dezelfde branche wat betreft data analyse en statistiek	Geen van de bovenstaande stellingen		heeft duidelijk afgebakend wie welke keuzes mag maken op een afdeling en wie coördineert tussen (indien van toepassing) verschillende afdelingen in de organisatie wat betreft data analyse en statistiek		werkt samen of heeft contact met leveranciers of collega's in een andere branche wat betreft data analyse en statistiek		Anders:		Total		
			Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	
Mijn bedrijf is gevestigd in een:	Stad	11	40,7%	12	44,4%	7	25,9%	6	22,2%	1	3,7%	27	100,0%
	Dorp	9	47,4%	5	26,3%	7	36,8%	2	10,5%	0	0,0%	19	100,0%
	Verschillende steden en dorpen	4	40,0%	2	20,0%	4	40,0%	3	30,0%	0	0,0%	10	100,0%
	Total	24	42,9%	19	33,9%	18	32,1%	11	19,6%	1	1,8%	56	100,0%

Q14

		Q14											
		werkt samen of heeft contact met leveranciers of collega's in dezelfde branche wat betreft data analyse en statistiek		Geen van de bovenstaande stellingen		heeft duidelijk afgebakend wie welke keuzes mag maken op een afdeling en wie coördineert tussen (indien van toepassing) verschillende afdelingen in de organisatie wat betreft data analyse en statistiek		werkt samen of heeft contact met leveranciers of collega's in een andere branche wat betreft data analyse en statistiek		Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	7	46,7%	5	33,3%	5	33,3%	2	13,3%	0	0,0%	15	100,0%
	Anders:	4	28,6%	3	21,4%	7	50,0%	3	21,4%	0	0,0%	14	100,0%
	Voedings- en genotsmiddelen	7	63,6%	4	36,4%	2	18,2%	3	27,3%	0	0,0%	11	100,0%
	Wonen en inrichting	4	80,0%	1	20,0%	1	20,0%	2	40,0%	1	20,0%	5	100,0%
	Persoonlijke verzorging	1	33,3%	2	66,7%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	0	0,0%	1	50,0%	1	50,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	0	0,0%	1	50,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	Dienstverlening	0	0,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Total	24	42,9%	19	33,9%	18	32,1%	11	19,6%	1	1,8%	56	100,0%

Q15

		Q15									
		Ons bedrijf: - Geen van de bovenstaande stellingen		Ons bedrijf: - heeft een strategie m.b.t. data analyse en statistiek geformuleerd		Ons bedrijf: - heeft een strategie m.b.t. data analyse en statistiek en komt overeen met onze bedrijfsstrategie		Ons bedrijf: - Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	6	100,0%	0	0,0%	0	0,0%	0	0,0%	6	100,0%
	1 tot 5	15	75,0%	4	20,0%	3	15,0%	0	0,0%	20	100,0%
	6 tot 10	6	100,0%	0	0,0%	0	0,0%	0	0,0%	6	100,0%
	11 tot 15	2	100,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	2	100,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	21 tot 25	3	75,0%	0	0,0%	1	25,0%	0	0,0%	4	100,0%
	26 tot 50	3	42,9%	2	28,6%	3	42,9%	0	0,0%	7	100,0%
	51 tot 100	1	50,0%	0	0,0%	1	50,0%	0	0,0%	2	100,0%
	101 tot 150	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	1	33,3%	1	33,3%	1	33,3%	0	0,0%	3	100,0%
	201 tot 250	1	33,3%	2	66,7%	1	33,3%	0	0,0%	3	100,0%
	Total	40	71,4%	10	17,9%	10	17,9%	0	0,0%	56	100,0%

Q15

		Q15		Q15		Q15		Q15		Q15	
		Ons bedrijf - Geen van de bovenstaande stellingen		Ons bedrijf - heeft een strategie m.b.t. data analyse en statistiek geformuleerd		Ons bedrijf - heeft een strategie m.b.t. data analyse en statistiek en komt overeen met onze bedrijfsstrategie		Ons bedrijf - Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	21	77,8%	5	18,5%	4	14,8%	0	0,0%	27	100,0%
	Dorp	15	78,9%	2	10,5%	2	10,5%	0	0,0%	19	100,0%
	Verskillende steden en dorpen	4	40,0%	3	30,0%	4	40,0%	0	0,0%	10	100,0%
	Total	40	71,4%	10	17,9%	10	17,9%	0	0,0%	56	100,0%

Q15

		Q15		Q15		Q15		Q15		Q15	
		Ons bedrijf - Geen van de bovenstaande stellingen		Ons bedrijf - heeft een strategie m.b.t. data analyse en statistiek geformuleerd		Ons bedrijf - heeft een strategie m.b.t. data analyse en statistiek en komt overeen met onze bedrijfsstrategie		Ons bedrijf - Anders:		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	10	66,7%	3	20,0%	2	13,3%	0	0,0%	15	100,0%
	Anders:	10	71,4%	2	14,3%	4	28,6%	0	0,0%	14	100,0%
	Voedings- en genotsmiddelen	9	81,8%	1	9,1%	1	9,1%	0	0,0%	11	100,0%
	Wonen en inrichting	2	40,0%	3	60,0%	2	40,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	3	100,0%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	2	100,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	2	100,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Dienstverlening	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%

Q16

		Ons bedrijf: ziet de meerwaarde van data analyse en statistiek		Ons bedrijf: - Geen van de bovenstaande stellingen		Q16 Ons bedrijf: - heeft de financiële capaciteiten om zich te verdiepen in data analyse en statistiek		Ons bedrijf: heeft niet de financiële capaciteiten maar wel de investeringsruimte om zich te verdiepen in data analyse en statistiek		Ons bedrijf: - Anders:	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	4	66,7%	2	33,3%	0	0,0%	0	0,0%	0	0,0%
	1 tot 5	10	50,0%	7	35,0%	3	15,0%	3	15,0%	1	5,0%
	6 tot 10	4	66,7%	1	16,7%	1	16,7%	0	0,0%	2	33,3%
	11 tot 15	2	100,0%	0	0,0%	1	50,0%	0	0,0%	0	0,0%
	16 tot 20	1	50,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%
	21 tot 25	3	75,0%	1	25,0%	1	25,0%	1	25,0%	0	0,0%
	26 tot 50	2	28,6%	3	42,9%	2	28,6%	1	14,3%	0	0,0%
	51 tot 100	2	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%
	101 tot 150	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%
	151 tot 200	2	66,7%	0	0,0%	2	66,7%	0	0,0%	1	33,3%
	201 tot 250	3	100,0%	0	0,0%	2	66,7%	0	0,0%	0	0,0%
	Total	34	60,7%	15	26,8%	12	21,4%	5	8,9%	4	7,1%

Q16

		Ons bedrijf: ziet de meerwaarde van data analyse en statistiek		Ons bedrijf: - Geen van de bovenstaande stellingen		Q16 Ons bedrijf: - heeft de financiële capaciteiten om zich te verdiepen in data analyse en statistiek		Ons bedrijf: heeft niet de financiële capaciteiten maar wel de investeringsruimte om zich te verdiepen in data analyse en statistiek		Ons bedrijf: - Anders:	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	16	59,3%	9	33,3%	6	22,2%	2	7,4%	2	7,4%
	Dorp	11	57,9%	5	26,3%	3	15,8%	2	10,5%	0	0,0%
	Verschillende steden en dorpen	7	70,0%	1	10,0%	3	30,0%	1	10,0%	2	20,0%
	Total	34	60,7%	15	26,8%	12	21,4%	5	8,9%	4	7,1%

Q16

		Ons bedrijf: ziet de meerwaarde van data analyse en statistiek		Ons bedrijf: - Geen van de bovenstaande stellingen		Q16 Ons bedrijf: - heeft de financiële capaciteiten om zich te verdiepen in data analyse en statistiek		Ons bedrijf: heeft niet de financiële capaciteiten maar wel de investeringsruimte om zich te verdiepen in data analyse en statistiek		Ons bedrijf: - Anders:	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	8	53,3%	4	26,7%	2	13,3%	4	26,7%	0	0,0%
	Anders:	9	64,3%	3	21,4%	5	35,7%	0	0,0%	2	14,3%
	Voedings- en genotsmiddelen	7	63,6%	4	36,4%	1	9,1%	0	0,0%	0	0,0%
	Wonen en inrichting	5	100,0%	0	0,0%	3	60,0%	0	0,0%	0	0,0%
	Persoonlijke verzorging	2	66,7%	1	33,3%	0	0,0%	0	0,0%	0	0,0%
	Consumentenelektronica	0	0,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%
	Auto, motor en rijwielen	1	50,0%	1	50,0%	0	0,0%	0	0,0%	1	50,0%
	Dienstverlening	0	0,0%	1	100,0%	0	0,0%	0	0,0%	0	0,0%
	Educatie en vrije tijd	1	100,0%	0	0,0%	0	0,0%	1	100,0%	0	0,0%
	Doe-het-zelf, Tuin en Dier	0	0,0%	0	0,0%	1	100,0%	0	0,0%	0	0,0%
	Huishoudelijke artikelen	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%
	Total	34	60,7%	15	26,8%	12	21,4%	5	8,9%	4	7,1%

Q17

Na het invullen van deze enquête schat ik mijn bedrijf als:

		Erg data-gedreven		Data-gedreven		Gematigd data-gedreven		Niet data-gedreven		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	0	0,0%	0	0,0%	2	33,3%	4	66,7%	6	100,0%
	1 tot 5	0	0,0%	6	30,0%	10	50,0%	4	20,0%	20	100,0%
	6 tot 10	0	0,0%	0	0,0%	4	66,7%	2	33,3%	6	100,0%
	11 tot 15	0	0,0%	2	100,0%	0	0,0%	0	0,0%	2	100,0%
	16 tot 20	0	0,0%	1	50,0%	0	0,0%	1	50,0%	2	100,0%
	21 tot 25	0	0,0%	2	50,0%	2	50,0%	0	0,0%	4	100,0%
	26 tot 50	0	0,0%	3	42,9%	4	57,1%	0	0,0%	7	100,0%
	51 tot 100	0	0,0%	1	50,0%	1	50,0%	0	0,0%	2	100,0%
	101 tot 150	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	0	0,0%	1	33,3%	2	66,7%	0	0,0%	3	100,0%
	201 tot 250	0	0,0%	3	100,0%	0	0,0%	0	0,0%	3	100,0%
	Total	0	0,0%	20	35,7%	25	44,6%	11	19,6%	56	100,0%

Q17

Na het invullen van deze enquête schat ik mijn bedrijf als:

		Erg data-gedreven		Data-gedreven		Gematigd data-gedreven		Niet data-gedreven		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	0	0,0%	10	37,0%	10	37,0%	7	25,9%	27	100,0%
	Dorp	0	0,0%	5	26,3%	10	52,6%	4	21,1%	19	100,0%
	Verskillende steden en dorpen	0	0,0%	5	50,0%	5	50,0%	0	0,0%	10	100,0%
	Total	0	0,0%	20	35,7%	25	44,6%	11	19,6%	56	100,0%

Q17

Na het invullen van deze enquête schat ik mijn bedrijf als:

		Erg data-gedreven		Data-gedreven		Gematigd data-gedreven		Niet data-gedreven		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	0	0,0%	6	40,0%	7	46,7%	2	13,3%	15	100,0%
	Anders:	0	0,0%	5	35,7%	4	28,6%	5	35,7%	14	100,0%
	Voedings- en genotsmiddelen	0	0,0%	3	27,3%	6	54,5%	2	18,2%	11	100,0%
	Wonen en inrichting	0	0,0%	3	60,0%	2	40,0%	0	0,0%	5	100,0%
	Persoonlijke verzorging	0	0,0%	1	33,3%	2	66,7%	0	0,0%	3	100,0%
	Consumentenelektronica	0	0,0%	0	0,0%	1	50,0%	1	50,0%	2	100,0%
	Auto, motor en rijwielen	0	0,0%	0	0,0%	1	50,0%	1	50,0%	2	100,0%
	Dienstverlening	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	0	0,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	Huishoudelijke artikelen	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Total	0	0,0%	20	35,7%	25	44,6%	11	19,6%	56	100,0%

Q22

		Q22											
		Fysieke handel		Online webshop		Social media		Anders:		Online marktplaats		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Hoeveel werknemers heeft uw bedrijf?	1	5	83,3%	2	33,3%	1	16,7%	1	16,7%	0	0,0%	6	100,0%
	1 tot 5	19	95,0%	8	40,0%	6	30,0%	0	0,0%	1	5,0%	20	100,0%
	6 tot 10	6	100,0%	2	33,3%	3	50,0%	0	0,0%	0	0,0%	6	100,0%
	11 tot 15	1	50,0%	2	100,0%	1	50,0%	0	0,0%	1	50,0%	2	100,0%
	16 tot 20	2	100,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	21 tot 25	2	50,0%	2	50,0%	1	25,0%	2	50,0%	0	0,0%	4	100,0%
	26 tot 50	6	85,7%	2	28,6%	3	42,9%	1	14,3%	1	14,3%	7	100,0%
	51 tot 100	2	100,0%	1	50,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	101 tot 150	1	100,0%	1	100,0%	1	100,0%	0	0,0%	0	0,0%	1	100,0%
	151 tot 200	2	66,7%	2	66,7%	1	33,3%	0	0,0%	0	0,0%	3	100,0%
	201 tot 250	2	66,7%	2	66,7%	1	33,3%	1	33,3%	1	33,3%	3	100,0%
	Total	48	85,7%	25	44,6%	18	32,1%	5	8,9%	4	7,1%	56	100,0%

Q22

		Q22											
		Fysieke handel		Online webshop		Social media		Anders:		Online marktplaats		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
Mijn bedrijf is gevestigd in een:	Stad	24	88,9%	12	44,4%	7	25,9%	2	7,4%	2	7,4%	27	100,0%
	Dorp	16	84,2%	6	31,6%	5	26,3%	2	10,5%	1	5,3%	19	100,0%
	Verschillende steden en dorpen	8	80,0%	7	70,0%	6	60,0%	1	10,0%	1	10,0%	10	100,0%
	Total	48	85,7%	25	44,6%	18	32,1%	5	8,9%	4	7,1%	56	100,0%

Q22

Q22

		Fysieke handel		Online webshop		Social media		Anders:		Online marktplaats		Total	
		Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %	Count	Row Total N %
In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice	Kleding, mode en textiel	13	86,7%	6	40,0%	7	46,7%	1	6,7%	1	6,7%	15	100,0%
	Anders:	11	78,6%	7	50,0%	4	28,6%	2	14,3%	1	7,1%	14	100,0%
	Voedings- en genotsmiddelen	11	100,0%	4	36,4%	2	18,2%	0	0,0%	0	0,0%	11	100,0%
	Wonen en inrichting	5	100,0%	1	20,0%	2	40,0%	0	0,0%	1	20,0%	5	100,0%
	Persoonlijke verzorging	3	100,0%	1	33,3%	0	0,0%	0	0,0%	0	0,0%	3	100,0%
	Consumentenelektronica	1	50,0%	2	100,0%	0	0,0%	0	0,0%	0	0,0%	2	100,0%
	Auto, motor en rijwielen	2	100,0%	2	100,0%	2	100,0%	0	0,0%	0	0,0%	2	100,0%
	Dienstverlening	0	0,0%	0	0,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Educatie en vrije tijd	0	0,0%	1	100,0%	0	0,0%	1	100,0%	0	0,0%	1	100,0%
	Doe-het-zelf, Tuin en Dier	1	100,0%	1	100,0%	1	100,0%	0	0,0%	1	100,0%	1	100,0%
	Huishoudelijke artikelen	1	100,0%	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	100,0%
	Total	48	85,7%	25	44,6%	18	32,1%	5	8,9%	4	7,1%	56	100,0%

Appendix VIII

Ik vind data-analyse en statistiek: * Mijn bedrijf is gevestigd in een: Crosstabulation

			Mijn bedrijf is gevestigd in een:			
			Stad	Dorp	Verschillende steden en dorpen	Total
Ik vind data-analyse en statistiek:	Very interesting	Count	6	6	1	13
		Expected Count	6,3	4,4	2,3	13,0
	Interesting	Count	10	7	5	22
		Expected Count	10,6	7,5	3,9	22,0
	Moderate interesting	Count	11	5	4	20
		Expected Count	9,6	6,8	3,6	20,0
	Not interesting	Count	0	1	0	1
		Expected Count	,5	,3	,2	1,0
Total	Count	27	19	10	56	
	Expected Count	27,0	19,0	10,0	56,0	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4,352 ^a	6	,629
Likelihood Ratio	4,729	6	,579
Linear-by-Linear Association	,026	1	,872
N of Valid Cases	56		

a. 7 cells (58,3%) have expected count less than 5. The minimum expected count is ,18.

Ik zou meer training willen krijgen om data te analyseren en vervolgens te gebruiken in de bedrijfsvoering * Mijn bedrijf is gevestigd in een: Crosstabulation

			Mijn bedrijf is gevestigd in een:			Total
			Stad	Dorp	Verschillende steden en dorpen	
Ik zou meer training willen krijgen om data te analyseren en vervolgens te gebruiken in de bedrijfsvoering	Agree	Count	14	10	3	27
		Expected Count	13,0	9,2	4,8	27,0
	Disagree	Count	13	9	7	29
		Expected Count	14,0	9,8	5,2	29,0
Total	Count		27	19	10	56
	Expected Count		27,0	19,0	10,0	56,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1,620 ^a	2	,445
Likelihood Ratio	1,664	2	,435
Linear-by-Linear Association	,971	1	,324
N of Valid Cases	56		

a. 1 cells (16,7%) have expected count less than 5. The minimum expected count is 4,82.

Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken. * Hoeveel werknemers heeft uw bedrijf? Crosstabulation

			Hoeveel werknemers heeft uw bedrijf?											Total
			1	1 tot 5	6 tot 10	11 tot 15	16 tot 20	21 tot 25	26 tot 50	51 tot 100	101 tot 150	151 tot 200	201 tot 250	
Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken.	Ja, dit doe ik	Count	0	8	0	0	1	2	4	1	1	2	2	21
		Expected Count	2,3	7,6	2,3	,8	,8	1,1	2,7	,8	,4	1,1	1,1	21,0
	Nee, dit doe ik niet	Count	6	12	6	2	1	1	3	1	0	1	1	34
		Expected Count	3,7	12,4	3,7	1,2	1,2	1,9	4,3	1,2	,6	1,9	1,9	34,0
Total	Count		6	20	6	2	2	3	7	2	1	3	3	55
	Expected Count		6,0	20,0	6,0	2,0	2,0	3,0	7,0	2,0	1,0	3,0	3,0	55,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14,691 ^a	10	,144
Likelihood Ratio	19,661	10	,033
Linear-by-Linear Association	6,916	1	,009
N of Valid Cases	55		

a. 20 cells (90,9%) have expected count less than 5. The minimum expected count is ,38.

Ik

vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken. * Mijn bedrijf is gevestigd in een: Crosstabulation

			Mijn bedrijf is gevestigd in een:			
			Stad	Dorp	Verschillende steden en dorpen	Total
Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken.	Ja, dit doe ik	Count	9	8	4	21
		Expected Count	9,9	7,3	3,8	21,0
	Nee, dit doe ik niet	Count	17	11	6	34
		Expected Count	16,1	11,7	6,2	34,0
Total		Count	26	19	10	55
		Expected Count	26,0	19,0	10,0	55,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	,278 ^a	2	,870
Likelihood Ratio	,278	2	,870
Linear-by-Linear Association	,163	1	,686
N of Valid Cases	55		

a. 1 cells (16,7%) have expected count less than 5. The minimum expected count is 3,82.

Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken. * In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice
Crosstabulation

			In welke detailhandel branche bevindt uw bedrijf zich? - Selected Choice											
			Auto, motor en rijwielen	Consumente nelektronica	Persoonlijke verzorging	Huishoudelij e artikelen	Kleding, mode en textiel	Doe-het-zelf, Tuin en Dier	Educatie en vrije tijd	Wonen en inrichting	Voedings- en genotsmiddel en	Dienstverleni ng	Anders:	Total
Ik vind het belangrijk dat onze medewerkers kennis hebben van data-analyse en statistiek en op basis hiervan keuzes maken.	Ja, dit doe ik	Count	0	1	2	0	7	1	1	2	2	1	4	21
		Expected Count	,8	,8	1,1	,4	5,7	,4	,4	1,9	3,8	,4	5,3	21,0
	Nee, dit doe ik niet	Count	2	1	1	1	8	0	0	3	8	0	10	34
		Expected Count	1,2	1,2	1,9	,6	9,3	,6	,6	3,1	6,2	,6	8,7	34,0
Total		Count	2	2	3	1	15	1	1	5	10	1	14	55
		Expected Count	2,0	2,0	3,0	1,0	15,0	1,0	1,0	5,0	10,0	1,0	14,0	55,0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10,273 ^a	10	,417
Likelihood Ratio	12,335	10	,263
Linear-by-Linear Association	,672	1	,412
N of Valid Cases	55		

a. 17 cells (77,3%) have expected count less than 5. The minimum expected count is ,38.