Marknaden för BI

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Background

- This presentation is based on **Gartner Group's report "Magic Quadrant for Analytics and Business Intelligence Platforms" (2019)** written by Howson, C., Richardson, J., Sallam, R., Kronz, A.

Traditional vs modern BI platforms

- Gartner's report makes a difference between **traditional BI platforms** and **modern BI platforms,** called "**modern analytics and BI platforms**" in the Gartner's report

- **The traditional BI platforms** - require a significant support from IT staff, for example, to predefine data models, store och prepare data for analysis, etc

- **Modern analytic and BI platforms** – are instead emphasing **self-service** for business users interested in data analysis (called **citizen data scientist** by Gartner), and support **agility** in the analytic work

Modern analytics and BI platforms

- Gartner claims that **modern analytics and BI platforms are already today mainstream purchases**

- **Modern analytics and BI platforms** – are "charaterized by **easy-to-use tools** that support the **full analytic workflow** — from **data preparation** and ingestion to **visual exploration and insight generation**"

Modern analytics and BI platforms

- **To summarize**: Modern analytics and BI platforms aims to:

  – support user's self-service

  – support agility in the analytic work

  – provide easy-to-use tools in a single platform

  – provide visual exploration and insight generation

  – support the full analytic workflow,

  and

  – provide "augumented analytics"

Important trend: Augumented analytics (AA)

- **Augmented analytics (AA)** can be seen as a **umbrella term for several analytics and BI capabilities that support – and partly automate - the different parts of the analytic workflow,** that is, the workflow from data preparation, via data analysis, to the presentation of the result of the analysis

- AA make use of, for example, machine learning (ML) and natural language processing (NLP) techniques

- AA will **support business users and citizen data scientist in their BI work**, and make them less dependent on IT staff and IT experts

- Gartner predicts that **AA will be the main driver of purchases of BI and data science platforms**

AA makes use of NLP/NLQ

- **Natural language processing (NLP) makes it possible for BI users to generate queries in plain language via text or voice** –without writing queries in SQL or a script language. Also called **Natural language query (NLQ)**

- An example of a question to ask in plain language: "Which are our ten most profitable customers?"

- Gartner claims that **NLP/NLQ will by 2021 boost the analytics and BI software adoptions to new groups of users in organizations**, for example, the front-office workers

AA makes use of Data Discovery, Visualisation and Narration

- **Augumented Data Discovery** – support the user to identify pattern and exceptions in data in order to achieve new insights

- **Augumented Visualization** – innovative and smart visualizations support the user in analyzing data

- **Narration** – means that techniques, using ML, provide the user with written analysis of data sets or graphs. This helps the user to interpret the data

AA support Self Service Data Preparation

- **Self Service Data Preparation techniques** using ML can support the user in carrying out data prepations without the need to writing code. It can help the user to better understand how different datasets are related but also warn the user to not connect certain data sets

- Data preparation and data modelling are complex and time consuming task which requires expert knowledge

Magic Quadrant

Gartner's Sources:

- Survey of vendor's reference customers, 1639 respondents

- Vendors' completed questionnairs, briefings and video demos of BI products

- Gartner's testing of analytic and BI-platforms

- Evaluation of use cases and critical capabilities

- Ability to execute
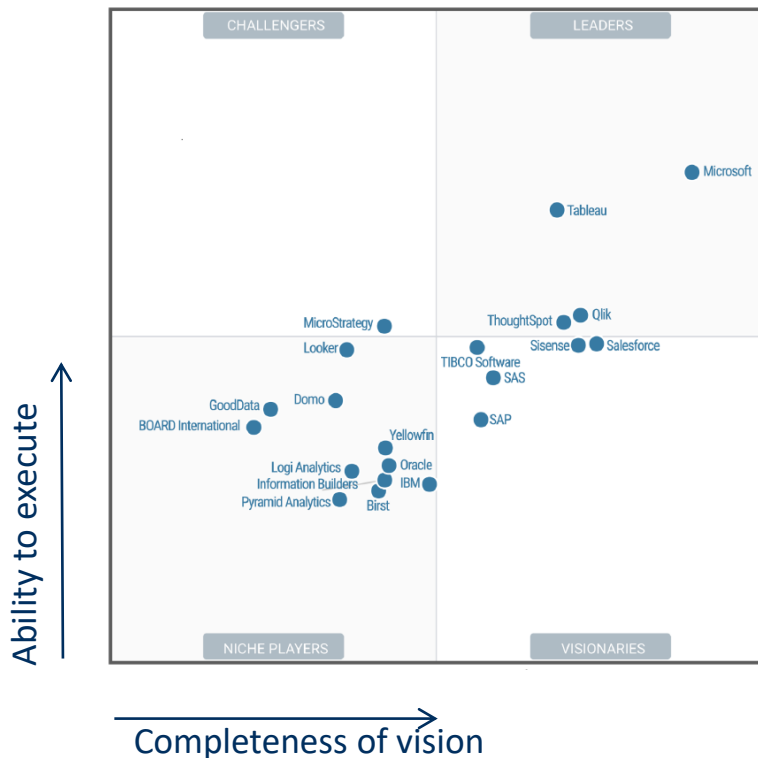
- Completeness of vision

Magic Quadrant

- **Ability to execute** – vendors ability to makes their vision a market reality, to provide products/services that customers are prepared to buy, and to deliver a positive customer experience

- The criteria used:
  - Product/Services – how well the vendors provide competitive and successful products given 15 specified product capabilities
  - Customer experience – how the vendors enable and support customers to use their products/services
  - Overall viability – financial health of vendors and their future investments
  - Market responsiveness – vendors' momentum and success in the current market
  - Sales execution/pricing – vendors' presale activities, deal management, pricing
  - Operations – trouble-free software for customers, how easy it is to migrate to new versions

Magic Quadrant

- **Completeness of vision** – vendors understanding of how market forces can be exploited to create value for customers, such as support key trends and meet the needs of current and future requirements

- The criteria used:
    - Market understanding – how well the vendors understand buyers needs
    - Marketing strategy– how well the vendors communicate value and product/service differentiation to the market
    - Sales strategy – innovative partner strategy, attractive pricing and flexible product packaging
    - Offering(product) strategy – how well the vendors meet the needs of current and future requirements
    - Vertical/industry strategy– how well the vendors meet the needs of different type of industies
    - Innovation – how large investments are in unique and in-demand capbilities
    - Geographic strategy – how the vendors meet the needs of locations outside native country, directly or via partners

Magic Quadrant
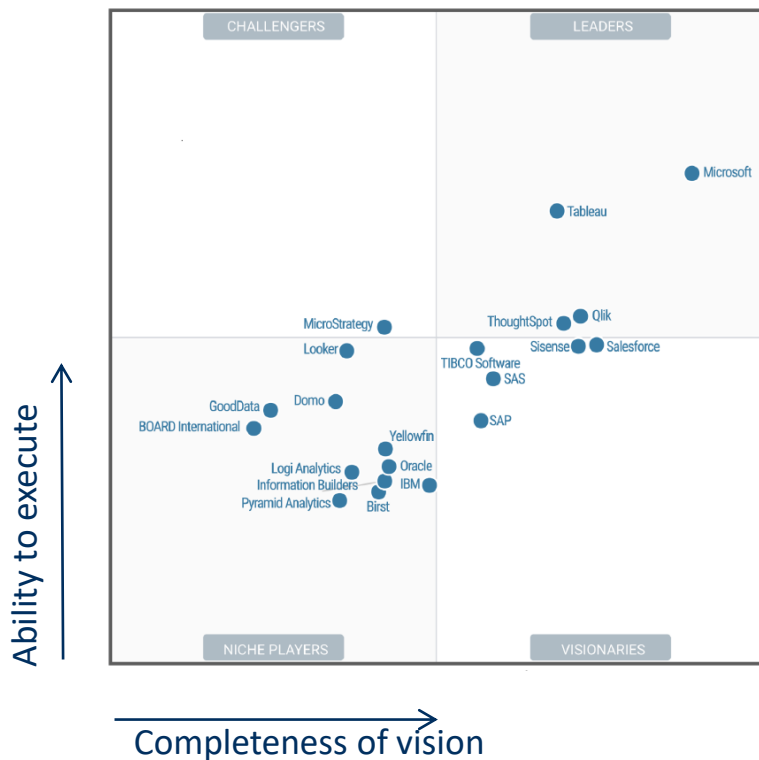
- **Leaders** – have a solid understanding of necessary product capabilities as-is and to-be, provide needed commitment to customers, and have a robust roadmap for keeping the position as market leaders

- **Visionaries** – have a strong vision for delivering modern products/services, but have gaps to fulfilling broader functionality requirements or lower scores for customer experiences, operations and sales execution, etc

Magic Quadrant
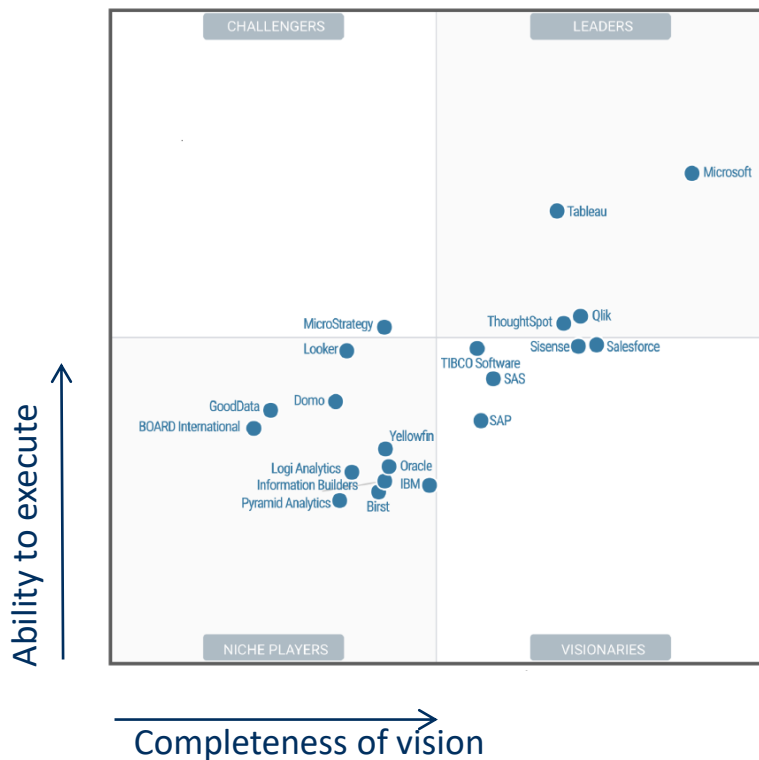
- **Challengers** – are well-positioned to succeed in the market. However, they may be limited to specific technical environments, application domains or use cases (see next slide)

- **Nisch players** – may focus on, and do well, in a specific domain or aspect of BI, but lack depth of functionality elsewhere

15 capabilities using 5 use cases

- Gartner assesses 15 product capabilities for BI producs using 5 use cases

Use cases

- **Agile, centralized BI provisioning** – a use case where the analytic workflow is agile – and where the *analytic content is centrally managed and delivered*

- **Decentralized analytic** – a use case where the analytic workflow supports *self-service analytics for individual business units and users*

- **Governed data discovery** – a use case where the analytic workflow supports *self-service analytics of user-generated content, certified and analytic content as well as other forms of content*

Use cases

- **Embedded analytics** – a use case where the analytic workflow support the *embedding of content into processes and applications*

- **Extranet deployment** – a use case where the analytic workflow is similar to the *agile, centralized BI provisioning – but for the external customer* (or citizens in the public sector)

Capability of BI products

Infrastructure capabilities:

- **BI platform administration, security and achitecture** – capabilities that provide administration of users, auditing of access and utilization, and disaster recovery

- **Cloud BI** – capabilities of building, deploying and managing BI in the cloud

- **Data source connectivity and ingestion** – capabilities to connect to both structured and un-structured data contained within different platforms

Capability of BI products

Data management capabilities:

- **Metadata management** – capabilities that makes it possible to search, capture, store, reuse and publish metadata, such as dimensions, hierachies and measures/KPIs

- **Data storing and loading options** – capabilites to load, access, integrating, transform, refresh store and load data

Capability of BI products

Data management capabilities:

- **Data preparation** – capabilities to combine data from different sources and create analytical models, including defining measures, groups and hierarchies for analysis

- **Scalability and data model complexity** – capabilities of in-memory engines or in-database architeture to handle high voiumes of data and complex data models

Capability of BI products

Analysis and content creation capabilities:

- **Advanced Analytics for Citizen Data Scientist** – capabilities that provide users to easy access advanced analytics capabilities using menu driven options and/or through the import of externally developed models

- **Analytic Dashboards** – capabilities to develop interactive dashboards, with visual exploration and embedded advanced analytics to be consumed by others

- **Interactive Visual Exploration** – capabilities to explore data via a number of visualization options that go beyond basic pie, bar and line charts, for example heat and tree maps, geographic maps, and scatter plots

Capability of BI products

Analysis and content creation capabilities:

- **Augmented Data Discovery** – capabilities that automatically visualizes important findings such as correlations, links, predictions, and exceptions in data that are relevant to users without requiring the users to build models or write algorithms

- **Mobile Exploration and Authoring** – capabilities for developing and delivering content to mobile devices

Capability of BI products

Sharing of findings:

- **Embedding Analytic Content** – capabilities, such as software developer kit, for

  embedding analytic content into a business process and/or an application or portal

- **Publish, Share and Collaborate on Analytic Content** – capabilities that allow users to

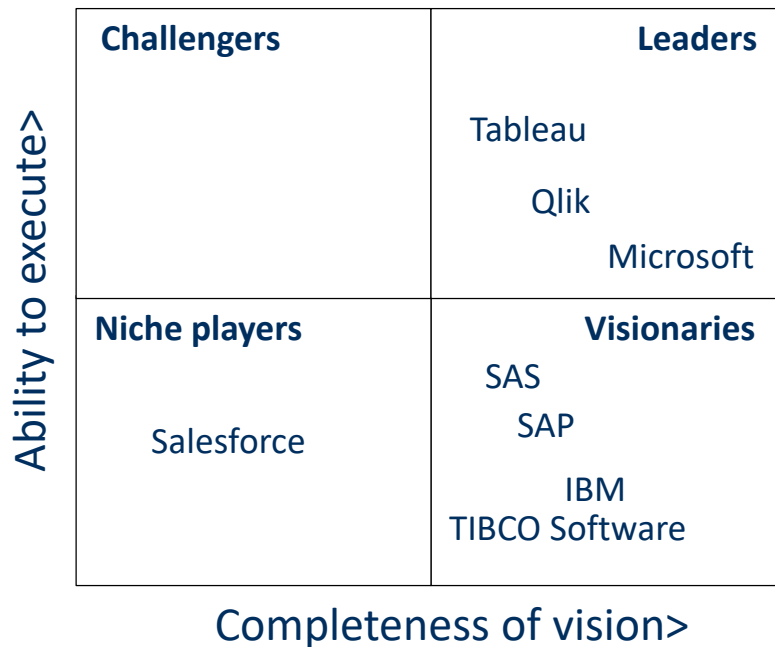 publish, share and collaborate analytic content

Capability of BI products
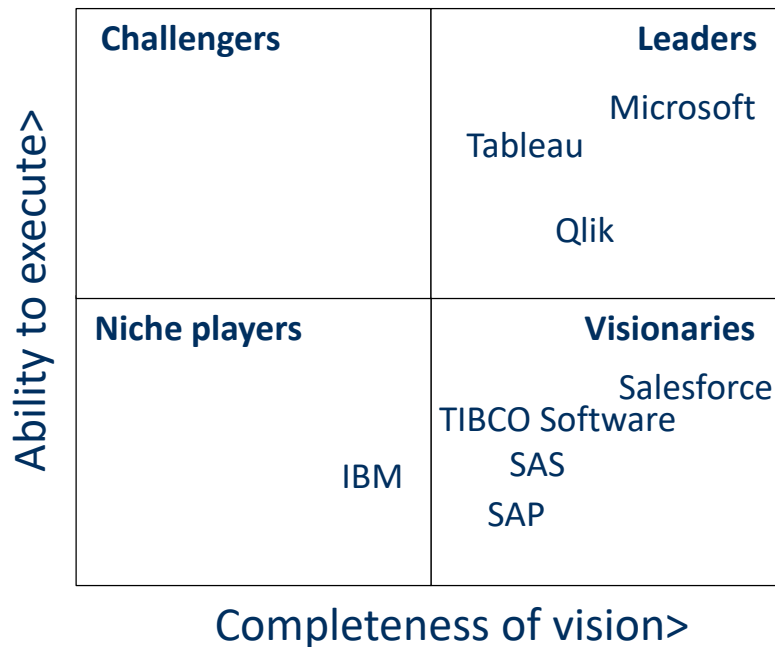
Overall platform capabilities:

- **Ease of Use, Visual Appeal and Workflow Integration** – capabilities that makes it easy to administer the BI platform, makes the content visually appealing, and support analytical workflow integration

Magic Quadrant 2017

Challengers	**Leaders**
	Tableau
	Qlik
	Microsoft
Niche players	**Visionaries**
	SAS
	SAP
Salesforce	IBM
	TIBCO Software

Ability to execute>

Completeness of vision>

Magic Quadrant 2019

Microsoft

- Microsoft's major BI product is Power BI

- Power BI offers data preparation, visual based data discovery, interactive dashboards and augumented analytics

- Power BI can be used for all analytics use cases (presented by Gartner)

- Power BI is an easy-to-use product with high levels of customer satisfaction

- Power BI is low priced and have a strong global adoption

- A drawback is that the cloud version on Power BI cannot be used on any IaaS, it can only run in the Azure Cloud

Tableau

- Tableau's major BI product is named Tableau

- The product Tableau enables the users to access, prepare, analyse and in data without technical skills or coding

- The product is popular due to its easy-to-use visual exploration and data manipulation

- Tableau has a large active user community that acts like fans

- Some drawbacks are Tableau's decline in customer support and that customers report about performance issues

Qlik

- Qlik's major product is QlikSense, built on Qlik Analytics Platform. However, Qlik's original product, QlikView, still have a large customer base.

- The products QlikSense and QlikView provide data discovery, agile analytics and BI

- Qlik continues working on its augumented analytics roadmap, including an improved data preparation and a support for embedded analytics

- The Qlik Analytics Platform also provides possibilties to build customized applications

- Qlik has a large and active user community

- Qlik BI-plattform supports the use of multiple cloud data sources

- A drawback is that both QlikSence and QlikView still require additional products for providing a full analytical workflow

Salesforce

- Salesforce's major products are Einstein Analytics Platform (formerly Wave), Einstein Discovery (augmented analytics), and Einstein Data Insights (AI-automated insights for Salesforce reports).

- Salesforce's Einstain products are strong in augumented analytics

- Einstein Analytics Platform is integrated with Salesforce business applications

- Salesforce also have a robust collaboration with different software vendors

- Drawbacks are the high cost of the Einstein products and that a majority of the customers do not use Einstein as their enterprise analytics and BI platform

TIBCO Software

- TIBCO Software Spotfire is a product that provide visual-based data discovery, analytics dashboards, interactive visualization and data preparation in a single design tool and workflow.

- The latest release, Spotfire X, also adds automated insight generation.

- Sportfire is a strong product for all use cases, and its customer experience score high

- Drawbacks are high cost for the product, which is a barrier to wider deployment

SAP

- SAP's lead product for modern analytics and BI is SAP Analytics Cloud

- A majority of users of SAP Analytics Cloud already use other SAP applications

- SAP Analytics Cloud is one of the highest rated platforms for augumented data discovery capability

- Drawbacks are lack of quality and poor performance for the product

SAS

- SAS is a global vendors due to its different analytical applications used all over the world

- SAS's product for modern analytics and BI is Visual Analytics (on SAS Viya).

- Visual Analytics combines reporting, data preparation, visual exploration and dashboards in a single product.

- Visual Analytics is also a component in the companies data science product, SAS Visual Data Mining and Machine Learning

- Drawbacks are that Visual Analytics is not assessed as a easy-to-use product, and that sales experience is low

IBM

- IBM's modern analytics and BI platform is Cognos Analytics

- Cognos Analytics is newly enhanched with augumented analytics capabilities that previously only existed in IBM Watson Analytics (which was removed from IBM's price list in 2018)

- Drawbacks are that Cognos Analytics is an immature product with basic gaps across in the analytic workflow