





ICT-TEX course on **Digital skills**

Topic 10: Business Analytics

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ICT IN TEXTILE AND CLOTHING HIGHER EDUCATION AND BUSINESS

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10.5. Popular Analytics Software Tools

10.5. Popular Analytics Software Tools ICT-TEX course on Digital skills







These slides are part of the topic on "Topic 10: Business Analytics" of the course on Digital skills in Textile and clothing industry.

Check also the other themes in this topic:

- 10.1. Analytics and Classification of Analytics
- 10.2. Business Analytics
- 10.3. Big Data and Analytics
- 10.4. Data Visualizations and Analytics







Contents

5. Popular Analytics Software tools

- Analytics Tools
- Popular Analytics Tools
- Popular Analytics Tools Examples







Analytics tools

- The importance of analytics is constantly growing in modern enterprises.
- The analytics provide various analytics capabilities to the users that help the management to make informed business decisions.
- The analytics is constantly developing thanks to the business users, researchers, and practitioners.







- There many different analytics tools and analytics platforms available to the global market.
- They provide different analytics capabilities to the users.
- Many of them require a payment or a membership /registration to use the full capabilities of that tool.







Popular Analytics Tools Examples

- Examples of popular analytics tools can be as follows:
 - Sisense
 - QlikView
 - RapidMiner
 - Tableau
 - KNIME
 - Talend
 - Splice Machine

- Chartio (joined in Atlassian)
- Domo
- Looker
- Mode
- Apache Spark
- Oracle Analytics Cloud
- And many others







Popular Analytics Tools Examples

- Examples of popular analytics tools can be as follows:
 - Alteryx Analytics (includes ClearStory Data)
 - Birst
 - Datameer
 - Pyramid Analytics
 - TIBCO Spotfire
 - Board

- Microstrategy
- Dataiku DSS
- SEMrush
- Smartlook
- BuzzBoard
- AgencyAnalytics
- And many others







Sisense

- Official Website https://www.sisense.com/
- "Sisense seeks to drive meaningful change in the world by making it easy for businesses to infuse analytics everywhere. Sisense goes beyond the dashboard by providing an AI-driven platform that any company can use to drive better, faster decisions, for their business and their customers."

(Source: https://www.sisense.com/company/)







QlikView

- Official Website https://www.qlik.com/us/
- "Qlik helps enterprises around the world move faster, work smarter, and lead the way forward with an end-to-end solution for getting value out of data. Our platform is the only one on the market that allows for open-ended, curiosity-driven exploration, giving everyone – at any skill level – the ability to make real discoveries that lead to real outcomes and transformative changes. And you get the freedom to use our cloud or any cloud you choose."

(Source: https://www.qlik.com/us/company)







RapidMiner

- Official Website https://rapidminer.com/
- "RapidMiner brings artificial intelligence to the enterprise through an open and extensible data science platform. Built for analytics teams, RapidMiner unifies the entire data science lifecycle from data prep to machine learning to predictive model deployment. More than 700,000 analytics professionals use RapidMiner products to drive revenue, reduce costs, and avoid risks."

(Source: https://rapidminer.com/us/)

10.5. Popular Analytics Software Tools







Tableau

- Official Website https://www.tableau.com/
- "Tableau helps people and organizations be more data-driven. As the marketleading choice for modern business intelligence, our analytics platform makes it easier for people to explore and manage data, and faster to discover and share insights that can change businesses and the world. Everything we do is driven by our mission to help people see and understand data, which is why our products are designed to put the user first—whether they're an analyst, data scientist, student, teacher, executive, or business user. From connection through collaboration, Tableau is the most powerful, secure, and flexible end-to-end analytics platform."

(Source: https://www.tableau.com/why-tableau/what-is-tableau)







KNIME

- Official Website https://www.knime.com/
- "One enterprise-grade software platform, two complementary tools. Open source KNIME Analytics Platform for creating data science and commercial KNIME Server for productionizing data science. KNIME Analytics Platform is the open source software for creating data science. Intuitive, open, and continuously integrating new developments, KNIME makes understanding data and designing data science workflows and reusable components accessible to everyone. KNIME Server is the enterprise software for team-based collaboration, automation, management, and deployment of data science workflows as analytical applications and services. Non experts are given access to data science via KNIME WebPortal or can use REST APIs."

(Source: https://www.knime.com/software-overview)







Talend

- Official Website https://www.talend.com/
- "Talend Data Fabric. The only platform that unites data integration and governance to deliver trusted data at your fingertips.
 - Data integration
 - Data integrity and governance
 - Application and API integration
 - Powered by Talend Trust Score
 - Built for cloud, multi-cloud, and hybrid environments" (Source: https://www.talend.com/)







Splice Machine

- Official Website https://splicemachine.com/
- "Splice Machine is the operational AI data platform to simplify digital transformation. Unlike other data platforms that require duct-taping separate systems together, the Splice Machine data platform is a scale-out SQL RDBMS, data warehouse and machine learning management solution in one. The Splice Machine platform powers intelligent, mission-critical applications that are woven into the operational fabric of companies in the financial services, healthcare, industrial and consumer verticals to improve operational efficiency, eliminate unnecessary costs and deliver superior service. The Splice Machine data platform can be deployed on-premise or as a fully-managed cloud service."

(Source: https://splicemachine.com/company/)







Domo

- Official Website https://www.domo.com/
- "Domo is the fully mobile, cloud-based operating system that unifies every component of your business and delivers it all, right on your phone. Domo brings together all your people, data, and systems into one place for a digitally-connected business. Data integration – Create data agility with an extensible data fabric for integration. BI and Analytics – Promote data literacy with real-time, self-service analytics. Intelligent Apps – enable intelligent action and automation through apps. Embedded and Extended Analytics – distribute data and analytics to customers and partners "

(Source: https://www.domo.com/ and https://www.domo.com/company)







Looker

- Official Website https://looker.com/
- "Reveal the true power of your data and bring clarity to every situation. Looker & Google Cloud's data analytics platform provides more options to help you deliver more through the use of strong, fresh insights. Modern BI & analytics - Serve up real-time dashboards for more in-depth, consistent analysis. Access to trustworthy data enables teams to collect fresh results for more precise reporting. Integrated insights -Enhance the tools you're already using by infusing new, relevant data. Unify and empower your teams to make more effective, data-informed decisions. Data-driven workflows - Invigorate your workflows with fresh, reliable data. Looker gives teams unified access to the answers they need to drive successful outcomes. Custom applications - Create custom apps that deliver data experiences as unique as your business. Looker's <u>embedded analytics</u> solutions, from retail to <u>healthcare</u>, give your customers the data they need to get the job done. "

(Source: https://looker.com/)







Mode

- Official Website https://mode.com/
- "Interactive data science meets modern BI for fast, exploratory analysis company-wide. **Mode** empowers one Stitch analyst to do the work of a full data team through speed, flexibility, and collaboration. Connect your database to Mode, start analyzing. Analyze- SQL Editor, Python & R Notebooks, Visualization builder. Explore - Filters, Parameters + Drilldowns, Code-free exploration, Calculated Fields. Automate - REST API, Webhooks, Scheduled refreshes. Share + Present - Send reports via URL and Slack, Embedded Analytics, Fully custom dashboards. Database - Amazon Redshift, Big Query, PostgreSQL, Databricks, MySQL, Snowflake. "

(Source: https://mode.com/)







Oracle Analytics Cloud

- Official Website https://www.oracle.com/business-analytics/analytics-cloud.html
- "Oracle Analytics Cloud Empower leaders, analysts, and IT to access data from wherever they are, including mobile devices. Oracle Analytics Cloud is embedded with machine learning, which helps organizations to discover unique insights faster with automation and intelligence. Oracle Analytics Cloud delivers powerful insights driven by machine learning for customers around the globe. Discover who uses Oracle Analytics Cloud and how their business has changed thanks to Oracle's technology. Access and analyze all data - Oracle Analytics streamlines data access and preparation from all data sources across the business. By analyzing all this data, you gain impactful insights to make informed, data-driven decisions. Improve productivity - Built-in capabilities, such as self-service data visualization, enterprise reporting, and mobile analytics, improve productivity and business agility. Oracle Analytics includes these capabilities and more, all in one software tool that delivers a comprehensive, unified analytics process. Faster time to insights - Augmented analytics includes embedded machine learning to accelerate data analysis and report creation. With Oracle Analytics, you can quickly forecast and predict, resulting in more impactful insights. Accuracy and trust - Create a unified view of data, metrics, and insights across the business. With Oracle Analytics, you achieve consistent and accurate reporting to drive more confident decisions."

(Source: https://www.oracle.com/business-analytics/analytics-cloud.html)







Alteryx Analytics

- Official Website https://www.alteryx.com/
- "Modern business is digital business, and digital business means analyzing a growing flood of data. Alteryx helps customers achieve outcomes from their data to create business-changing breakthroughs every day. From designing reliable forecasts in an unpredictable economy to developing fair and equitable compensation packages for employees, the daily business and societal challenges we face demand data-driven answers. Modern business is digital business, and digital business means analyzing a growing flood of data. Alteryx helps customers achieve outcomes from their data to create business-changing breakthroughs every day. From designing reliable forecasts in an unpredictable economy to developing fair and equitable compensation packages for employees, the daily business and societal challenges we face demand data-driven answers. Our human-centered, engaging analytics automation platform unifies analytics, data science, and process automation together in one solution to help you harness that flood of complex data to quickly solve real-world problems."

(Source: https://www.alteryx.com/company/about-us)







Birst

- Official Website https://www.infor.com/solutions/advanced-analytics/business-intelligence/birst
- "Infor industry analytics deliver relevant and meaningful insights for everybody from the boardroom to the shop floor. Infor Birst® makes business intelligence and analytics easy to consume with pre-built industry and role-specific content and metrics embedded wherever business users need information. Improve decision-making with Birst. Underpinning Birst's modern native cloud BI platform is Infor's modern data architecture. Focused on supporting any user to take their analysis in any direction, this flexible and business-centric approach to managing data is secure, scalable, and adaptable to changing business needs, while AI-powered automation reduces many manual tasks. Birst's Networked BI is a new approach to delivering data-as-a-service (DaaS) based on the idea that trusted and wellgoverned data is not at odds with speed and ease of use. Birst uses unique and patented capabilities that seamlessly combine the centralized and decentralized models of BI, providing the best aspects of both: agile end-user self-service without analytical silos and the overhead often associated with centralized BI. Birst provides an adaptive user experience, supporting all styles of business intelligence and analytics. Birst's user experience includes visual data discovery, interactive and responsive dashboards, pixel-perfect enterprise reporting, native and offline mobile, smart analytics, and self-service data preparation fully integrated with the centralized data provided by IT. Birst's native cloud architecture provides a low total cost of ownership (TCO), rapid deployment, automated zero-cost, zero-pain upgrades, programmatic life cycle management, and standards-based, completely open integration."

(Source: https://www.infor.com/solutions/advanced-analytics/business-intelligence/birst and https://www.birst.com/tutorials/)







Datameer

- Official Website https://www.datameer.com/
- "Datameer Spectrum provides Enterprise-Grade, Code-free ETL Data Pipelines On-premise Databases, Cloud Databases, Data Lakes, Files. Self-service discovery and access to ANY and ALL of the data you need for analytics WHEN you need it. Data collaboration and knowledge sharing for better business insights by analytics teams. Agile code-free creation of ETL data pipelines to begin analyzing data in minutes, not days or weeks. Reliable, scalable and easy operationalization of data pipelines, so you focus on analysis, not engineering. Datameer Spotlight delivers everything your analytics teams need – discovery, access, collaboration, knowledge sharing, and governance – in a single integrated platform across your hybrid data landscape to accelerate and take the risk out of your cloud analytics. Datameer Spotlight makes it easy for analysts to discover and explore data residing anywhere across your disparate data landscape, allowing them to find the best data to solve the analytical problem at hand. Datameer Spotlight provides some end-to-end security and governance features to eliminate functionality gaps between your on-premises and cloud environments and keeps your source data safe in-place. A rich array of collaboration and documentation features allow analytics teams to share their knowledge and gain re-use of assets. At the same time, built-in ML provides even more information to build trust. "

(Source: https://www.datameer.com/ https://www.datameer.com/ and https://www.datameer.com/ https://www.datameer.com/







Pyramid Analytics

- Official Website https://www.pyramidanalytics.com/
- "The analytics platform for data-driven people and products **Pyramid** adapts to users' needs. It provides different capabilities and experiences based on individual needs and skills, all while managing content as a shared resource. It is designed to support your organization's entire decision workflow. Data scientists typically use standalone software tools to conduct advanced analysis. With Pyramid, they can apply machine learning techniques to their data using the same platform as other analysts and professionals within the organization. When everyone is working in a shared analytic environment, there's more opportunity for collaboration—and insight—across the organization. Pyramid is a complete enterprise analytics platform that lets you use your existing data technology, infrastructure, and sources. It lets you apply machine learning, build models, explore business problems, present analytic content, and share data insights across the enterprise. And it lets you do it all, at scale, without losing vital oversight and control. Pyramid is recognized as an innovator in business analytics."

(Source: https://www.pyramidanalytics.com/)







24

Popular Analytics Tools

TIBCO Spotfire

- Official Website https://www.tibco.com/products/tibco-spotfire
- "TIBCO Spotfire" software is the most complete analytics solution on the market, enabling everyone to explore and visualize new discoveries in data through immersive dashboards and advanced analytics. Spotfire® analytics delivers capabilities at scale, including predictive analytics, geolocation analytics, and streaming analytics. And with Spotfire Mods, you can build tailored analytic apps rapidly, repeatedly, and to scale. With the Spotfire analytics platform, and the TIBCO Hyperconverged Analytics advantage, you get a seamless, single-pane-of-glass experience for visual analytics, data discovery, and point-and-click insights. Immerse yourself in both historic and real-time data, interactively: Drill down or across multi-layer, disparate data sources with fully brush-linked, responsive visualizations. Spotfire software is the smarter analytics platform. Its Recommendations engine automatically IDs the most interesting patterns in your data, providing guidance for deeper exploration in seconds. Spotfire embedded data science capabilities empower you with custom expressions and data functions. You can write and manage scripts all in one environment with native R and Python bundled engines. Your world, and your data, isn't static. When you need deep-dive, real-time analytics on live streaming data, Spotfire software brings it all together. Consume and analyze both historical and streaming data in one single analysis. With streaming analytics, embedded data science, and the Spotfire Mods framework, Spotfire redefines business intelligence to keep pace with your world. The long-time strength of Spotfire geoanalytics is well-known. Seamlessly, intuitively, drill down within and between multi-layered map charts for deeper insights and automatic context for location-based data. Recalculate models in real time between visualization layers with automatic marking scheme updates. Spotfire software speeds preparing data for analysis. Combine, clean, enrich, and transform data from a variety of sources, including big data sources—all directly within the analysis environment. Edit inline with an auto-recorded, editable, sharable lineage that supports audit needs. Smart machine learning workflows simplify data preparation, automating basic tasks like Al-powered smart joins."

(Source: https://www.tibco.com/products/tibco-spotfire)



10.5. Popular Analytics Software Tools





Popular Analytics Tools

Board

- Official Website https://www.board.com/en#gref
- "Board is an all-in-one Decision-Making Platform which combines Business Intelligence tools with Corporate Performance Management, Simulation, and Predictive Analytics capabilities. Its codingfree, drag-and-drop interface enables users to build self-service analytics and planning applications with ease to meet the ongoing decision-making requirements of their organization. Board allows the creation of dashboards, reports, and analyses which are fully integrated with enterprise planning and simulation processes, bringing together financial and operational data for complete visibility of the relationship between output, performance, and financial results. The platform is featured in three Gartner Magic Quadrants, is highly praised in numerous other analyst reports, and repeatedly comes out as the top solution in customer reviews of BI and CPM solutions."

(Source https://www.board.com/en/about-us)







Microstrategy

- Official Website https://www.microstrategy.com/en
- "The Best in Enterprise Analytics for Individuals, for teams, and for organizations. Amaze your team with HyperIntelligence. Build dossiers packed with dashboards and visualizations. Or pilot our entire platform in the cloud. Hyper. Now is a package exclusive to MicroStrategy's SaaS offering for HyperIntelligence, including access to all three client offerings (HyperIntelligence for Web, Mobile, and Office). Users can create, view, and share cards with their teams and make every application smarter and faster. Consumer User Bundle - A product bundle (consisting of Reporter, Reporter (Server), and Distribution) designed to meet the specific needs of data consumers: users who only want to view and interact with MicroStrategy Dossiers, reports, and documents. In addition to consuming data, these users can also share personalized content with other users. Power User Bundle - A product bundle (including Web, Intelligence, Analytics, and Distribution) designed to meet the specific needs of power users who create, design, analyze, share, and save MicroStrategy Dossiers, reports, and documents. In addition to creating, editing, and consuming content, users can also share personalized content via email, folders, or printers."

(Source https://www.microstrategy.com/en/company/product-listing)







Dataiku DSS

- Official Website https://www.dataiku.com/
- "Dataiku is the platform democratizing access to data and enabling enterprises to build their own path to AI in a human-centric way. Dataiku is for teams who want to deliver advanced analytics using the latest techniques at big data scale. Dataiku ingrains a culture of working with data throughout the enterprise by empowering: Tech experts, Business experts, Enterprise. The Dataiku visual flow allows coders and non-coders alike to easily build data pipelines with datasets, recipes to join and transform datasets, and the ability to build predictive models. The visual flow also has code and reusable plugin elements for customization and advanced functions. Dataiku saves time with quick visual analysis of columns, including the distribution of values, top values, outliers, invalids, and overall statistics. For categorical data, the visual analysis includes the distribution by value, including the count and % of values for each value. To aid in the feature engineering process, Dataiku AutoML automatically fills missing values and converts non-numeric data into numerical values using well-established encoding techniques. Users can also create new features using formulas, code, or built-in visual recipes to provide additional signals to improve model accuracy. Once created, Dataiku stores feature engineering steps in recipes for reuse in scoring and model retraining. Dataiku projects are the central place for all work and collaboration for users. Each Dataiku project has a visual flow, including the pipeline of datasets and recipes associated with the project. Users can view the project and associated assets (like dashboards), check the project's overall status, and view recent activity. The Dataiku unified deployer manages project files' movement between Dataiku design nodes and production nodes for batch and real-time scoring. Project bundles package everything a project needs from the design environment to run on the production environment. With Dataiku, data scientists can see all the deployed bundles, and data engineers of IT operations can quickly know when a new bundle requires testing and roll-out. Dataiku makes it easy to create project dashboards and share them with business users. Scheduling updates for dashboards or triggering updates is easy and ensures the latest information is available. With dashboards as part of a Dataiku project, business users and project stakeholders can easily see the outputs of AI projects and track KPIs and value. Real advanced analytics projects require a series of steps that transform data from one state to the next, resulting in new datasets, features, metrics, charts, dashboards, predictive models, and applications. The Dataiku visual flow is the canvas where teams collaborate on data projects. With the visual flow, everyone on the team can use common objects and visual language to describe the step-by-step approach and document the entire data process for future users. "

(Source https://www.dataiku.com/ and https://www.dataiku.com/product/key-capabilities/)







Semrush

- Official Website https://www.semrush.com/
- "Semrush is an all-in-one tool suite for improving online visibility and discovering marketing insights. Our tools and reports are able to help marketers that work in the following services: SEO, PPC, SMM, Keyword Research, Competitive Research, PR, Content Marketing, Marketing Insights, Campaign Management. **Semrush Traffic Analytics** is a market intelligence and competitive research tool that provides estimations of any website's desktop and mobile traffic. It can help you benchmark, evaluate a new market or niche, and even build a successful media buying strategy. The tool will help you see where a website's traffic comes from; how their audience engages with their site; what devices visitors prefer to use; how multiple websites' audiences overlap and much more. The market intelligence insights found in Traffic Analytics makes it one of the most powerful tools on Semrush for market researchers, marketing managers, business development teams, and sales teams."

(Source https://www.semrush.com/kb/26-traffic-analytics)







Smartlook

- Official Website https://www.smartlook.com/
- "Smartlook records users on websites and in mobile apps. With features that allow you to find useful information even in thousands of recordings in no time. Provides Web Analytics – to find where people struggle on your website and how to increase conversation, and Mobile app analytics – to see how your users interact with your app, and make it even better"

(Source https://www.smartlook.com/)







BuzzBoard

- Official Website https://www.buzzboard.com/
- "BuzzBoard is a complete SMB business intelligence engine for B2SMB companies. We provide data, insights and recommendations to B2SMB companies to help them deeply understand their customers and build trusted relationships. Our intelligence toolkit enables them to acquire, retain and grow customers through highly personalized interactions." (Source https://www.buzzboard.com/about-us/)







AgencyAnalytics

- Official Website https://agencyanalytics.com/
- "AgencyAnalytics actually started under the name "My SEO Tool". The name (and only the name) was changed in 2015 to better reflect what we offer. The company was formed in 2009 by longtime friends Joe Kindness & Blake Acheson. They sensed a need for a tool that focused on the most important aspects of any internet marketing campaign, the client. The market was flooded with complicated and overly technical apps that completely ignored the significance of their client relationships. From the original office at the kitchen table to our now downtown Toronto location, AgencyAnalytics has serviced thousands of marketing consultants & agencies all over the world!"

(Source https://agencyanalytics.com/company/about)







References

- Evans, J.: Business Analytics: Methods, Models, and Decisions, (2nd ed.), Pearson Education, USA 2017, ISBN: 9781292095448 (2017)
- Schniederjans, M., Schniederjans, D. and Starkey, C.: Business Analytics Principles, Concepts and Applications: What, Why, and How. Pearson FT Press, USA 2014, ISBN: 978-0-13-355218-8 (2014)
- Bahga, A., Madisetti, V.: Big Data Science & Analytics: A Hands-On Approach. 1st Edition, Arshdeep Bahga & Vijay Madisetti 2019. ISBN: 978-1-949978-00-1 (2019)
- Davenport T H & Harris J G. Competing on Analytics: The New Science of Winning. Harvard Business School Press Boston, USA 2007. ISBN: 978-1-422-10332-6 (2007)
- Cooper, A.: CETIS Analytics Series: What is Analytics? Definition and Essential Characteristics, CETIS Analytics Series Vol 1, No 5., The University of Bolton, UK 2012, ISSN 2051-9214 (2012)

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