

Social network analysis: de x-ray van de organisatie

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Definitions & cautionary note

Reserves: Our use of the term “reserves” in this presentation means SEC proved oil and gas reserves.

Resources: Our use of the term “resources” in this presentation includes quantities of oil and gas not yet classified as SEC proved oil and gas reserves. Resources are consistent with the Society of Petroleum Engineers (SPE) 2P + 2C definitions.

Discovered and prospective resources: Our use of the term “discovered and prospective resources” are consistent with SPE 2P + 2C + 2U definitions.

Organic: Our use of the term Organic includes SEC proved oil and gas reserves excluding changes resulting from acquisitions, divestments and year-average pricing impact.

Shales: Our use of the term ‘shales’ refers to tight, shale and coal bed methane oil and gas acreage.

Underlying operating cost is defined as operating cost less identified items. A reconciliation can be found in the quarterly results announcement.

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate legal entities. In this presentation “Shell”, “Shell group” and “Royal Dutch Shell” are sometimes used for convenience where references are made to Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words “we”, “us” and “our” are also used to refer to subsidiaries in general or to those who work for them. These expressions are also used where no useful purpose is served by identifying the particular company or companies. “Subsidiaries”, “Shell subsidiaries” and “Shell companies” as used in this presentation refer to companies over which Royal Dutch Shell plc either directly or indirectly has control. Entities and unincorporated arrangements over which Shell has joint control are generally referred to “joint ventures” and “joint operations” respectively. Entities over which Shell has significant influence but neither control nor joint control are referred to as “associates”. The term “Shell interest” is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in a venture, partnership or company, after exclusion of all third-party interest.

This presentation contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements.

Forward-looking statements are statements of future expectations that are based on management’s current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management’s expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as “anticipate”, “believe”, “could”, “estimate”, “expect”, “goals”, “intend”, “may”, “objectives”, “outlook”, “plan”, “probably”, “project”, “risks”, “schedule”, “seek”, “should”, “target”, “will” and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this [report], including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell’s products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this presentation are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

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About Shell



83,000

Average number of people we employ



\$42.2 billion

Cash flow from operating activities



30 million customers

served every day through 45,000 shell-branded retail stations



70+

number of countries in which we operated



3%

Share of world's gas supply provided by Shell



180,000

electric vehicle charging points across 35 countries



10,000 mw

electricity managed in 30+ countries



10 million

barrels of crude oil traded a day



74.45million

tonnes of LNG sold



7

of the 51 large-scale CCS projects globally, listed by the Global CCS Institute



\$1 billion

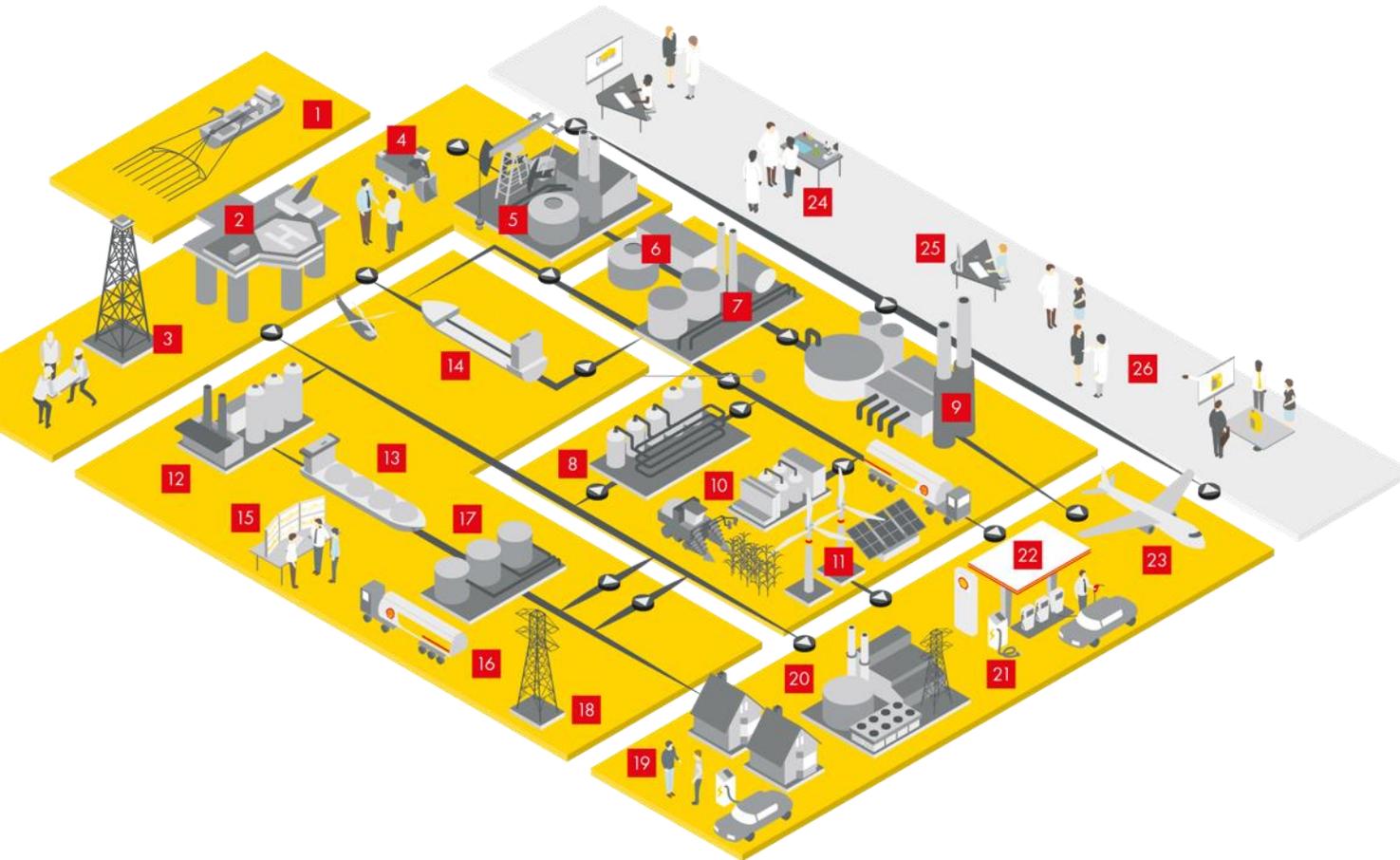
spent on research and development



\$116 million

spent on voluntary social investment worldwide

Shell business overview



Exploration

1. Exploring for oil and gas onshore and offshore

Development and extraction

2. Developing onshore and offshore fields
3. Producing conventional, deep-water and shale oil and gas
4. Capturing carbon dioxide and storing it safely underground
5. Extracting bitumen

Manufacturing and energy production

6. Upgrading bitumen
7. Refining oil into fuels and lubricants
8. Producing gas-to-liquids (GTL) products
9. Producing petrochemicals
10. Producing biofuels
11. Generating renewable power
12. Producing liquefied natural gas (LNG)

Transport and trading

13. Shipping gas to where it is needed
14. Shipping oil to where it is needed
15. Trading oil and gas
16. Supply and distribution of LNG for transport applications
17. Regasifying LNG
18. Trading power

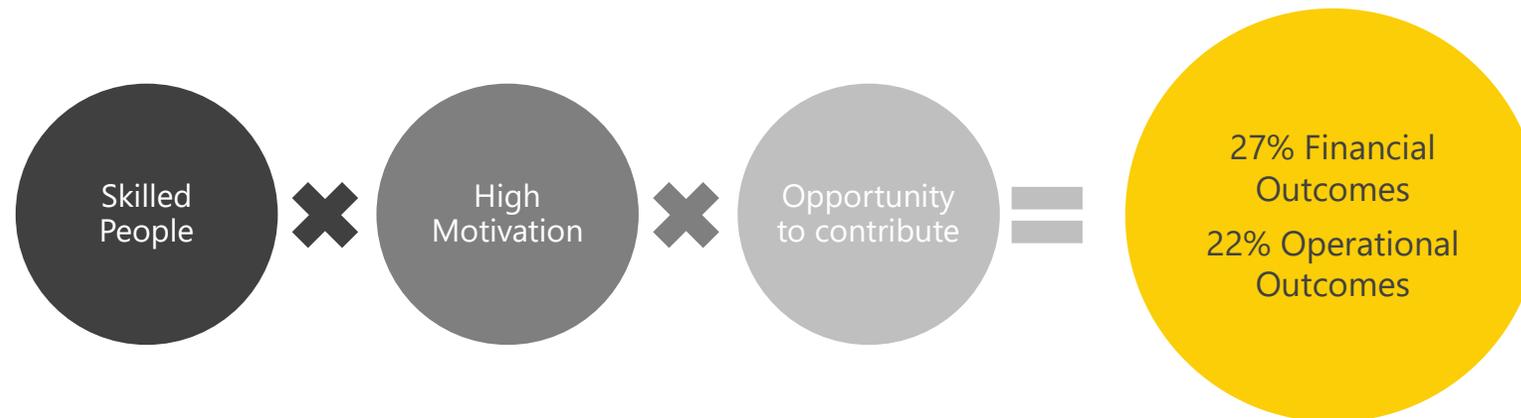
Sales and marketing

19. Supplying domestic electricity
20. Supplying products to businesses,
21. Progressing electric vehicle and hydrogen refuelling
22. Providing mobility solutions for customers
23. Supplying aviation fuel

Technical and business services

24. Researching and developing new technology solutions
25. Managing the delivery of major projects
26. Providing technical and supporting services

THE BUSINESS CASE FOR HR AND HR ANALYTICS



**HOW DOES HUMAN RESOURCE MANAGEMENT INFLUENCE ORGANIZATIONAL OUTCOMES?
A META-ANALYTIC INVESTIGATION OF MEDIATING MECHANISMS**

Academy of Management Journal, 2012, Vol. 55, No. 6, 1264–1294.

HR ANALYTICS

THE TRANSITION FROM BELIEFS TO EVIDENCE

Many HR practices are currently based on experience, intuition, and beliefs.

Analytics supports a transition towards evidence-based HR.

Evidence does not replace but supplements intuition, experience, and beliefs.

Evidence strengthens but puts boundaries on the narrative.

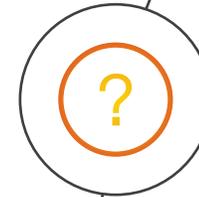


WITHOUT A STORY, ANALYTICS IS NO EVIDENCE

In relation to Human Resources, HR Analytics aims to answer the questions: Why? and So What?

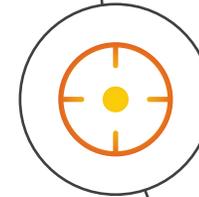
WHY?

Understand drivers of employee performance, and derive actionable insights



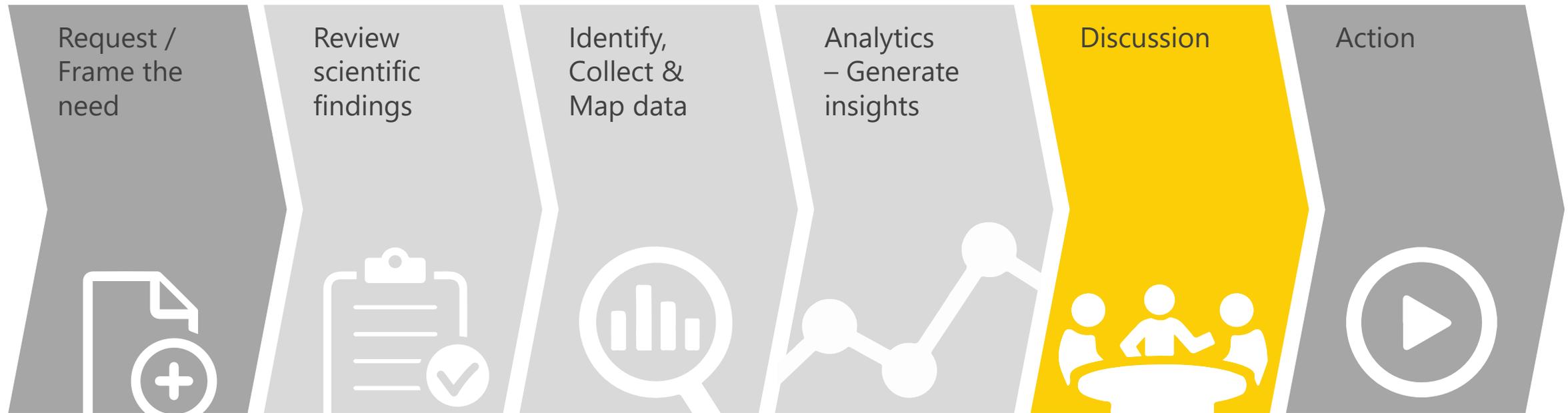
SO WHAT?

Understand impact of employees on business performance, and (help) prioritize actions accordingly



Approach analytics

Which questions? What data? Which rules? What insights? Which actions?

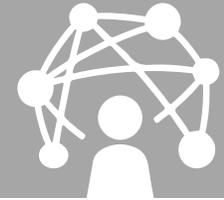


HR data & analytics

Analytics



Management Information & Reporting



Systems



Primary Data

- Demographics



Secondary Data

- Surveys
- Assessments



HR Policies, Practices & Procedures



People analytics & data privacy

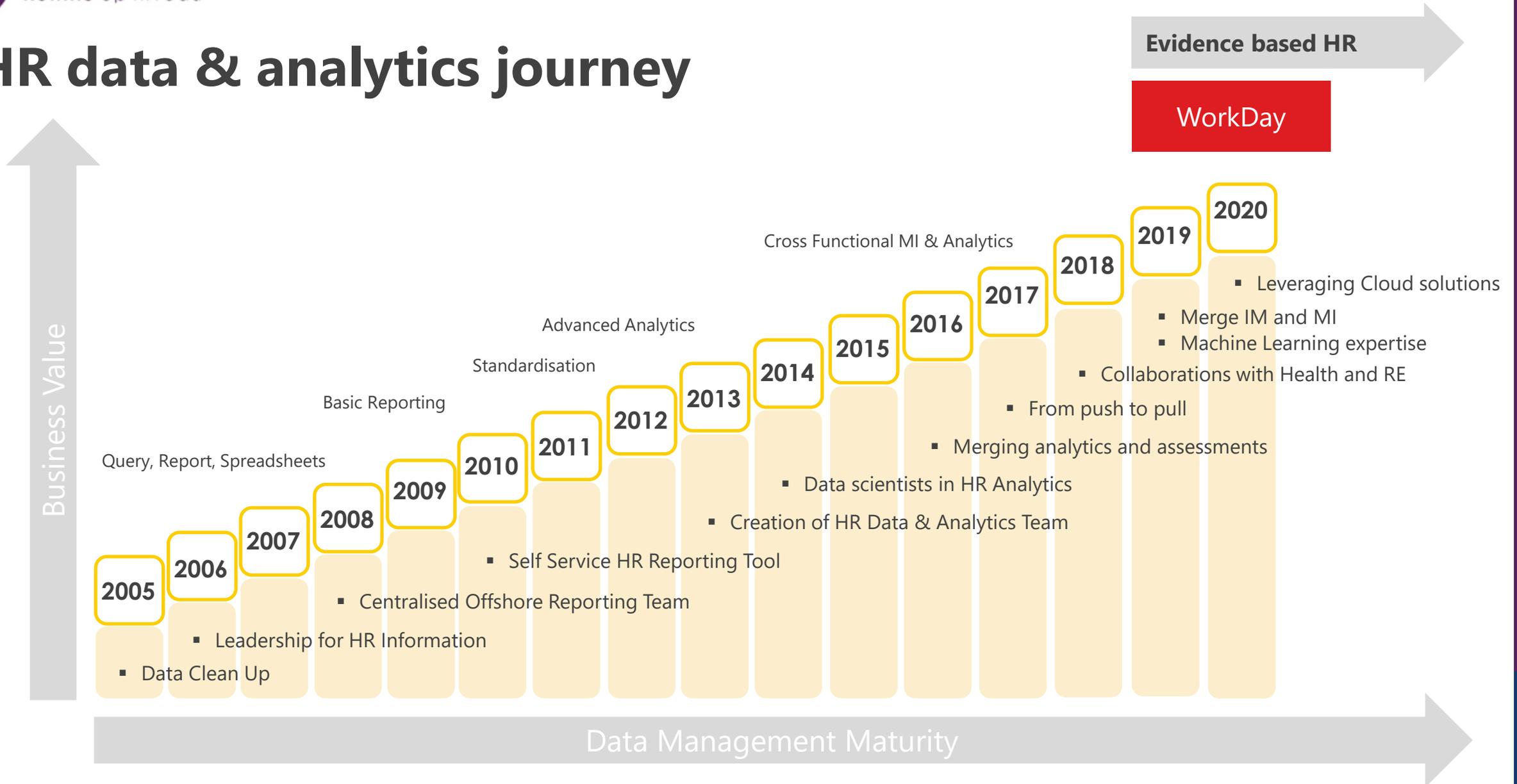


- Always comply with GDPR
- and internal data privacy standards

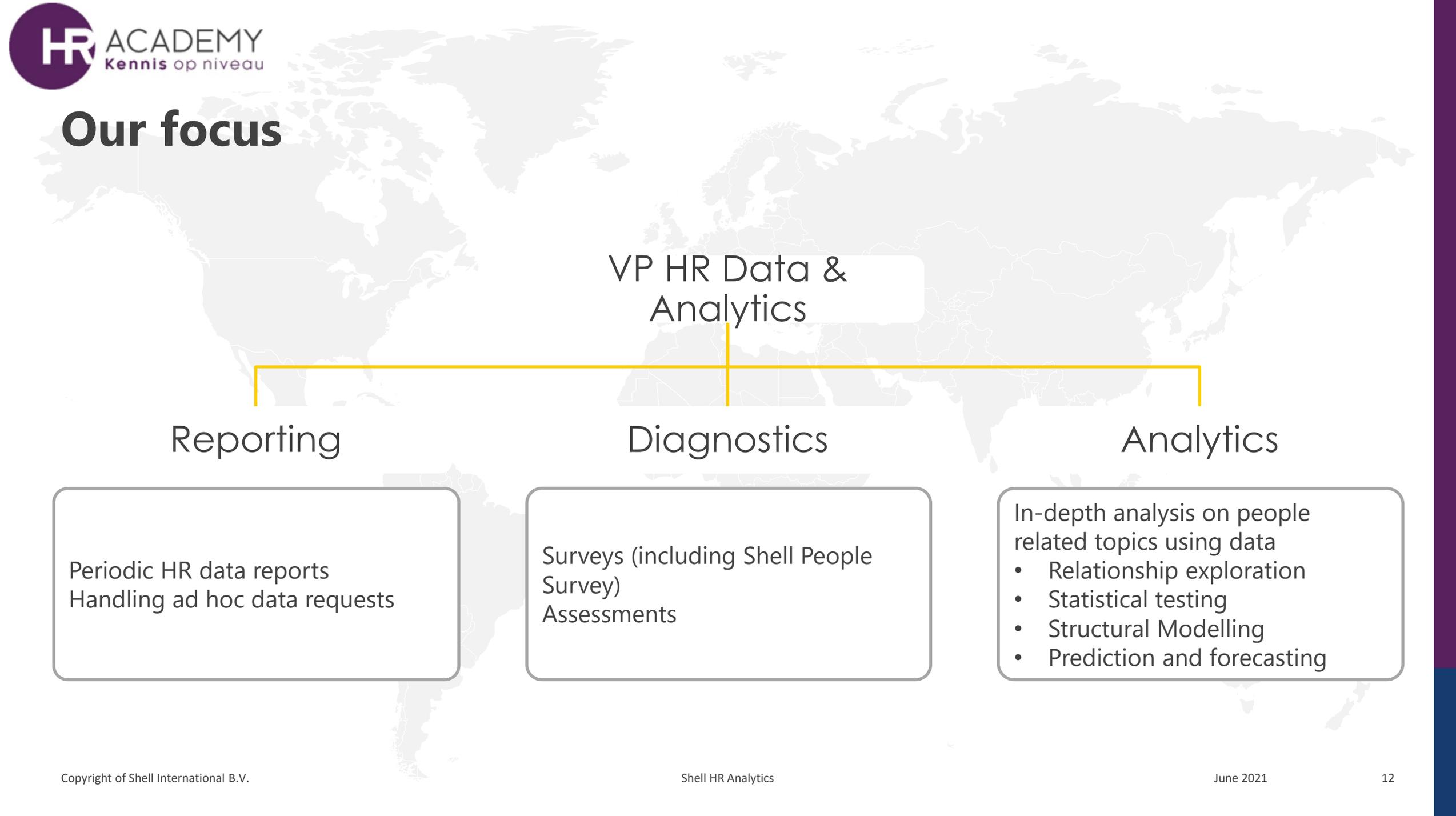
- Requires valid business case
- Subject to Data Privacy approval

- Aggregated reporting
- Never on individual level

HR data & analytics journey



Our focus



VP HR Data & Analytics

Reporting

Periodic HR data reports
Handling ad hoc data requests

Diagnostics

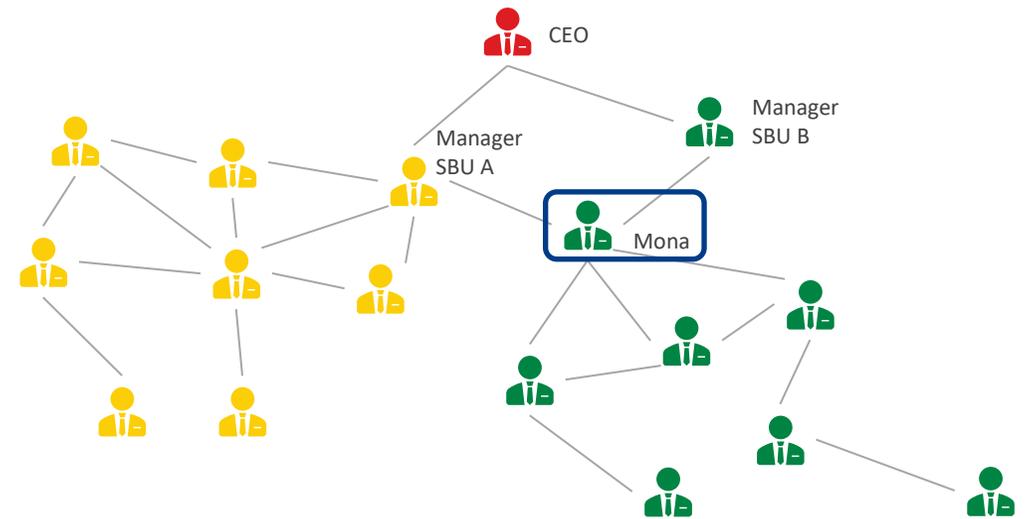
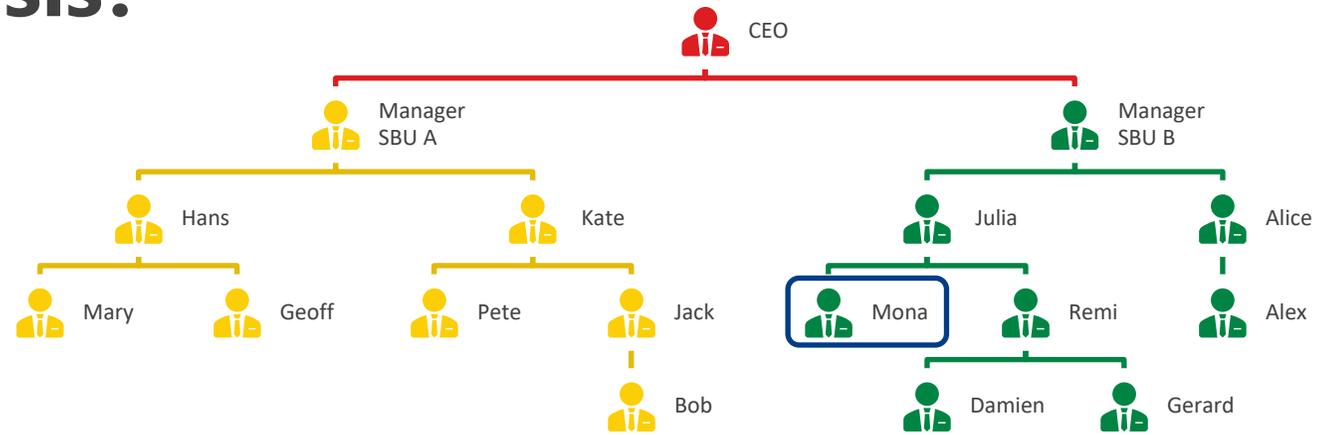
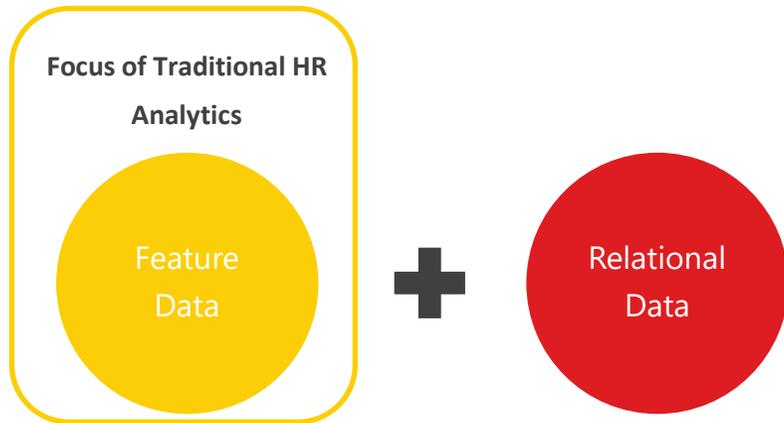
Surveys (including Shell People Survey)
Assessments

Analytics

In-depth analysis on people related topics using data

- Relationship exploration
- Statistical testing
- Structural Modelling
- Prediction and forecasting

Why Social Network Analysis?



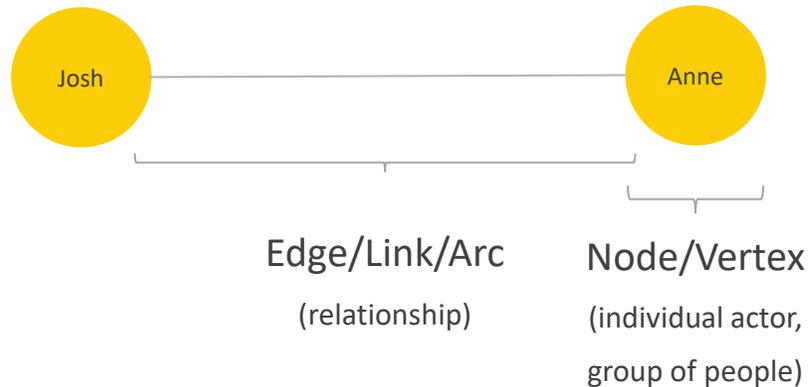
“ONA can provide an X-ray into the inner workings of an organisation — a powerful means of making invisible patterns of information flow and collaboration in strategically important groups visible”

(Prof. Rob Cross)

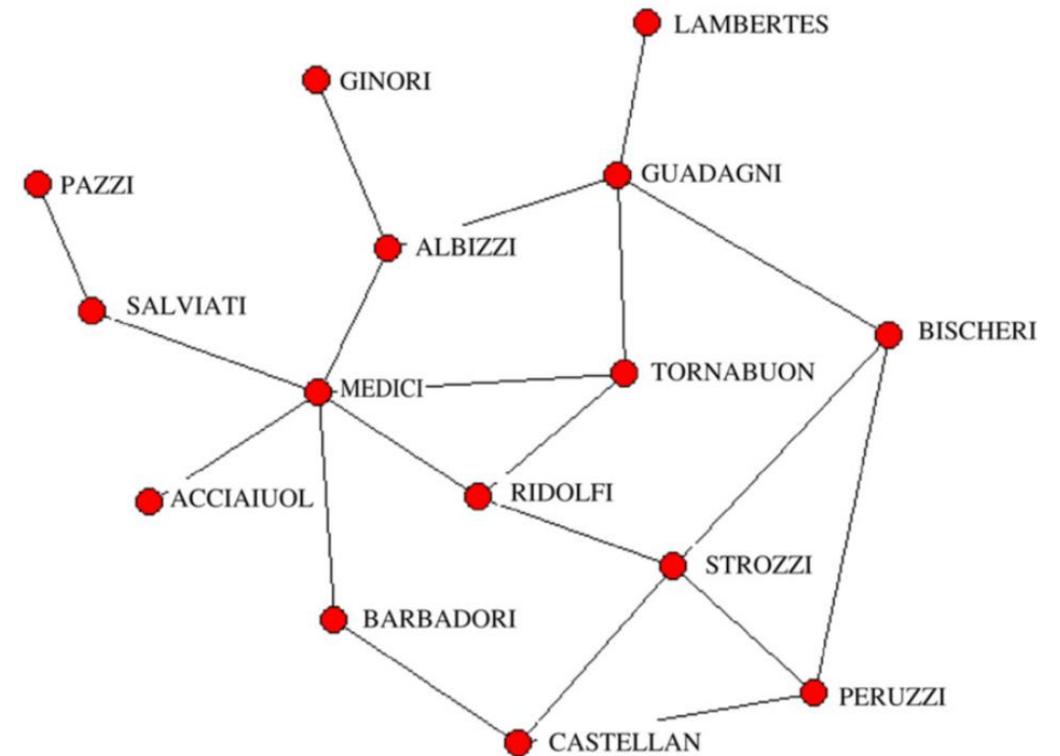
Quick intro into Social Network Analysis

1

- **Social networks:** groups of people linked by social ties
- **Social Network Analysis (SNA):** analysis of the social structures within a social network
- Goal of SNA:
 - Insight into the network structure
 - Spread of ideas, innovations, knowledge
 - Improve communication flow in organization



2



Collecting Data

Active

“Who do you collaborate with?”

(Self-reported, Survey, ...)

Type of social interaction

Passive

Organisational Meta-Data

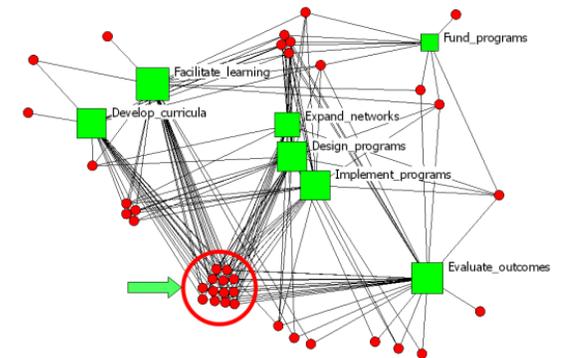
(Email, Calendar, Slack, ...)

Frequency, Duration

Structural Equivalence

“What are your goals/main activities?”

Two vertices of a network are structurally equivalent if they share many of the same neighbors.



Important considerations

- Data Privacy
- Anonymity

Can we measure Influence?

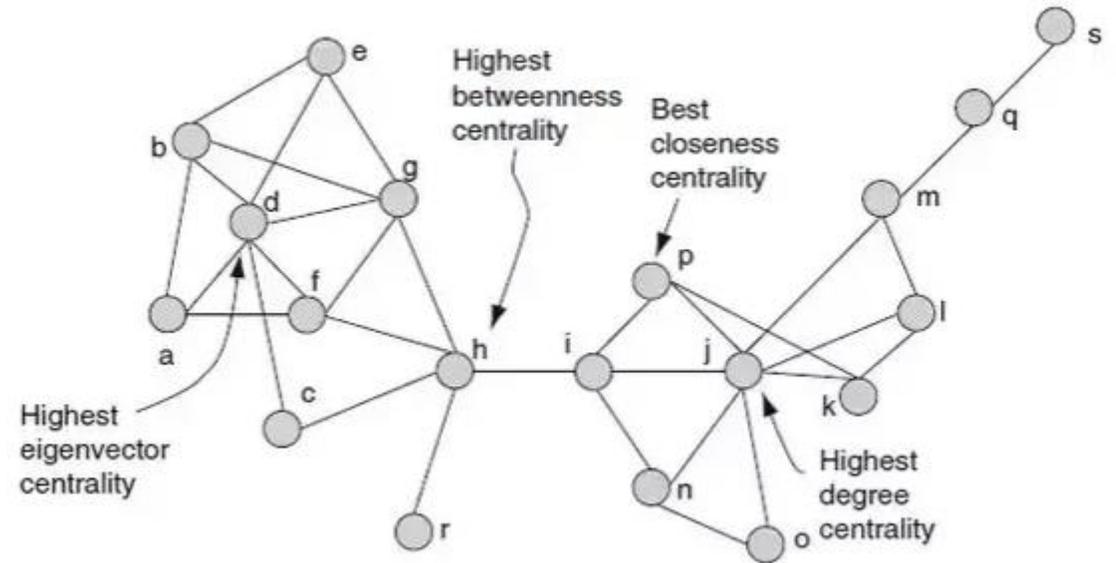
Centrality Metrics

Degree – How many people can this person reach directly?

Betweenness – How likely is this person to be on the most direct route between 2 people in the network?

Closeness – How fast can this person reach everyone in the network?

Eigenvector – How well is this person connected to other well-connected people?



Is a leader's network position related to positive leadership outcomes?

- Leaders with higher **Closeness Centrality** had teams with higher Employee Engagement, and were rated higher on Team Leadership by their teams.
- Leaders with higher **PageRank Centrality** were rated higher on 360 Assessment of leadership qualities

Who are the important nodes in a network?

Central Nodes



- Well connected within own area

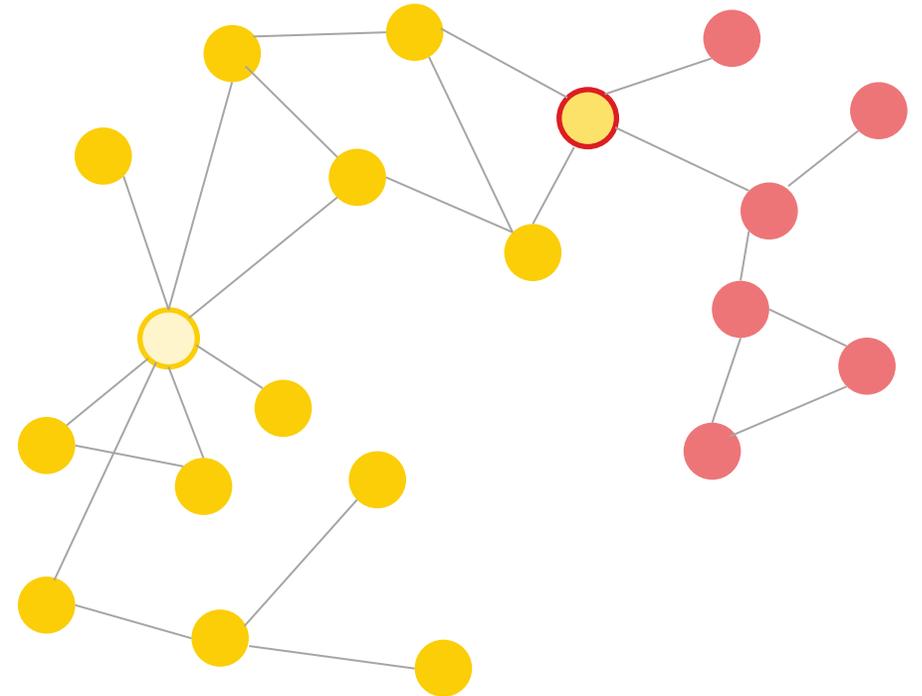
By identifying and managing central nodes properly, change can be adopted more quickly and pervasively, helping limit costly disruption while the organization is aligned with business strategy.

Knowledge brokers

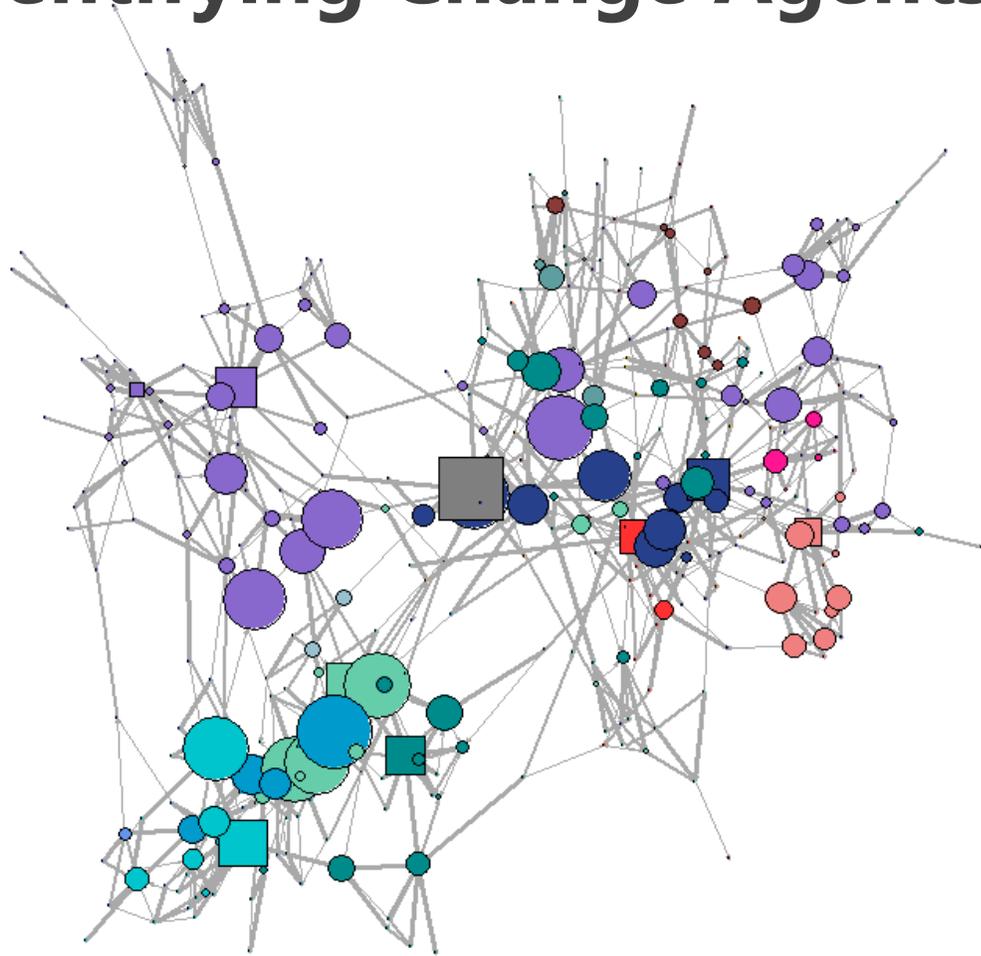


- Proportionally more cross-business connections

These people create bridges between groups. Without knowledge brokers, information and idea sharing grinds to a halt.



Identifying Change Agents



*Size of the node is dependent on the centrality in the entire network

Useful for change management initiatives

- Rolling out the changes and using key influencers to adopt them first and encourage others to take them on as well.

Data Collection - Survey

- “Who are the three people, in rank order, you most rely on to do your job”

Get in touch!



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