Armstrong Wolfe Event

Measure, Predict and Improve
Organisational Performance
with next Generation
Behavioural AI

Presented By

GALAXY
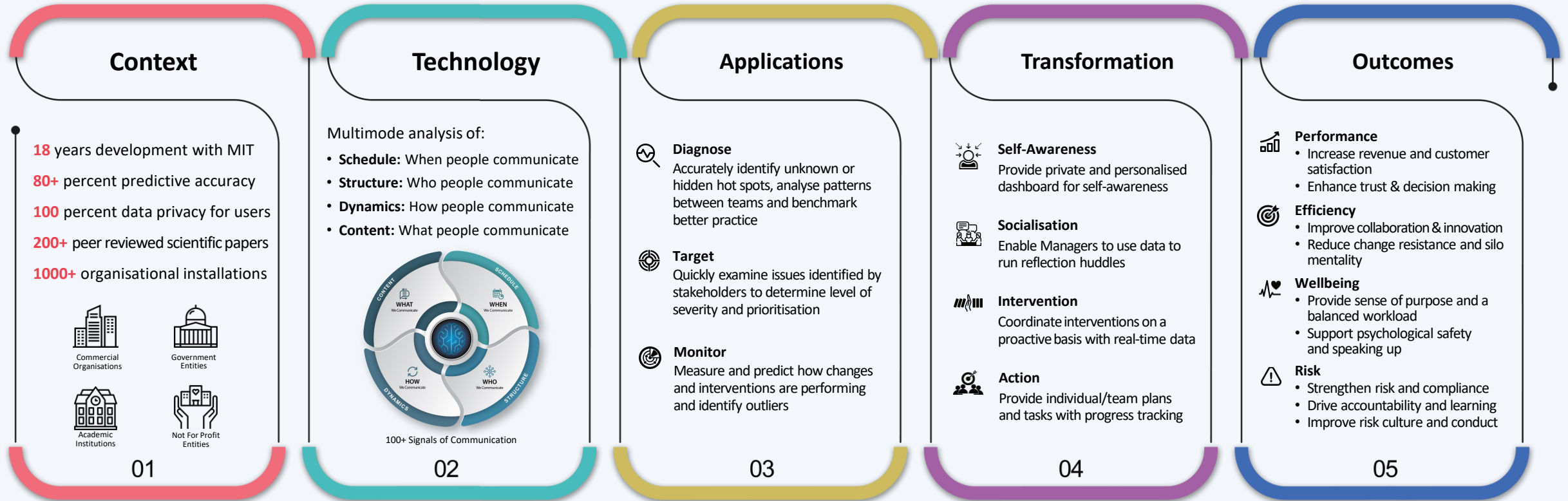SCIENCES

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OVERVIEW OF TECHNOLOGY

The infographic below illustrates the context, nature, application and outcomes from the use of the GalaxyLens Behavioural AI technology:

Context

18 years development with MIT

80+ percent predictive accuracy

100 percent data privacy for users

200+ peer reviewed scientific papers

1000+ organisational installations

Commercial Organisations

Government Entities

Academic Institutions

Not For Profit Entities

01

Technology

Multimode analysis of:

- **Schedule:** When people communicate
- **Structure:** Who people communicate
- **Dynamics:** How people communicate
- **Content:** What people communicate

WHAT We Communicate — CONTENT
WHEN We Communicate — SCHEDULE
HOW We Communicate — DYNAMICS
WHO We Communicate — STRUCTURE

100+ Signals of Communication

02

Applications

Diagnose
Accurately identify unknown or hidden hot spots, analyse patterns between teams and benchmark better practice

Target
Quickly examine issues identified by stakeholders to determine level of severity and prioritisation

Monitor
Measure and predict how changes and interventions are performing and identify outliers

03

Transformation

Self-Awareness
Provide private and personalised dashboard for self-awareness

Socialisation
Enable Managers to use data to run reflection huddles

Intervention
Coordinate interventions on a proactive basis with real-time data

Action
Provide individual/team plans and tasks with progress tracking

04

Outcomes

Performance
- Increase revenue and customer satisfaction
- Enhance trust & decision making

Efficiency
- Improve collaboration & innovation
- Reduce change resistance and silo mentality

Wellbeing
- Provide sense of purpose and a balanced workload
- Support psychological safety and speaking up

Risk
- Strengthen risk and compliance
- Drive accountability and learning
- Improve risk culture and conduct

05

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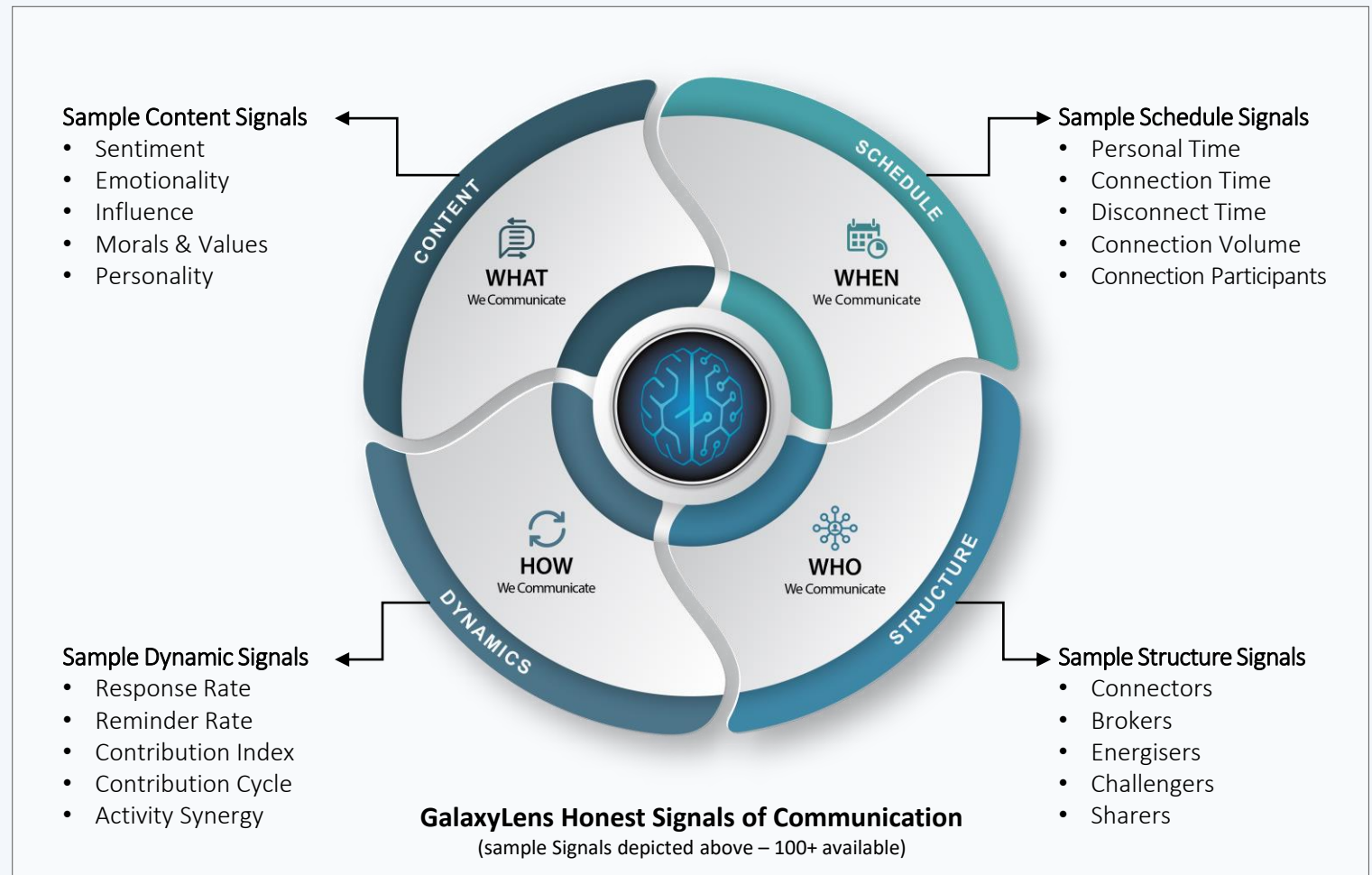
GALAXYLENS MULTIMODE TECHNOLOGY

GalaxyLens has a unique multimode technology which captures a combination of communication:

- **Schedule:** When people communicate.

- **Structure:** Who people communicate with.

- **Dynamics:** How people communicate.

- **Content:** What people communicate.

The above represents a high level categorisation of the GalaxyLens Honest Signals of Communication, which currently comprise 100+ individual Signals.

Each Signal has been tested and proven over a number of years in numerous commercial applications.

Typically, a combination of only 3 – 4 Signals are required to accurately measure a chosen behavioural or culture factor.

Sample Content Signals
- Sentiment
- Emotionality
- Influence
- Morals & Values
- Personality

Sample Schedule Signals
- Personal Time
- Connection Time
- Disconnect Time
- Connection Volume
- Connection Participants

CONTENT
WHAT
We Communicate

SCHEDULE
WHEN
We Communicate

DYNAMICS
HOW
We Communicate

STRUCTURE
WHO
We Communicate

Sample Dynamic Signals
- Response Rate
- Reminder Rate
- Contribution Index
- Contribution Cycle
- Activity Synergy

Sample Structure Signals
- Connectors
- Brokers
- Energisers
- Challengers
- Sharers

GalaxyLens Honest Signals of Communication
(sample Signals depicted above – 100+ available)

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GALAXYLENS MULTIMODE TECHNOLOGY

Multimode Technology

GalaxyLens is the only system that provides a holistic and all-encompassing analysis of communication data through its unique Multimode technology. This involves the combined measurement of communication Schedule, Structure, Dynamics and Content, which significantly increases the insight and certainty of the analysis process.

100+ Signals of Communication

The combined modes of Schedule, Structure, Dynamics and Content comprise over 100 Signals of Communication. When a number of independent Signals coalesce and display consistent results, the predictive accuracy can reach up to 80%. Predictive accuracy relates to whether the behaviour being analysed is present and whether the interventions being applied to improve that behaviour are effective.

Data Tools & Sources

Our technology can capture and analyse any text or voice data stored by an organisation on its servers, whether on premises or in the cloud. This includes email, calendar and collaboration apps (e.g. Slack, Yammer, Teams, etc.), video conferencing apps and instant messaging apps (e.g. Bloomberg, Symphony, etc.). The data sources can include virtually any form of data captured by the organisation.

Installation and Data Hosting

GalaxyLens can be installed on the client's premises, on the client's cloud server or Software as a Service (SaaS), where Galaxy Sciences provides and maintains the service.

Benefits

Multimode technology enables GalaxyLens to provide:

- **Holistic Measurement:** GalaxyLens is the only behavioural analytics tool that captures the full scope of communication Schedule (when), Structure (who), Dynamics (how) and Content (what).

- **Wider Applicability:** This enables the analysis of a much wider range of behavioural factors including Performance, Productivity, Wellbeing and Risk objectives.

- **Higher Accuracy:** The combination of communication Schedule, Structure, Dynamics and Content provides the most reliable prediction of behaviour with up to 90% accuracy.

GALAXYLENS CALIBRATION

The calibration process for GalaxyLens involves a systematic process of identifying the cultural and behavioural goals to be achieves, defining the causal drivers of each goal and assigning the appropriate combination of Signals to measure each causal driver. In this way, the GalaxyLens Signals are a measure of the root cause of the behaviour. Whilst there are over 100 Signals to choose from, typically a combination of only 2 – 4 Signals are required to accurately measure a behavioural driver.

Below is an example of the calibration process for measuring accountability for risk management.

Steps

1 Goals

2 Drivers

3 Signals

4 Outcomes

Criteria

Identify Goals

Identify the key issues and set goals to be achieved. Diagnosis can also be conducted by GalaxyLens if issues unclear.

Define Drivers

Drivers are the behavioural root causes of the behavioural goals. Define the drivers that pertain to the Goal in question.

Assign Signals

AI Signals automatically measure and predict the drivers. Set the appropriate combination of AI Signals for each Driver.

Link Outcomes

Link the process to the desired Outcomes, which will also serve to validate the effect of GalaxyLens on Key Result Areas.

Example Use-Case

Example Goal

Increase accountability for risk management.

Example Drivers

Increase Accountability through:

- Responsiveness
- Proactiveness
- Speaking Up
- Advocacy
- Collaboration

Example Signals

Measure & Predict Accountability with:

- Communication Dynamics (Responsiveness, Proactiveness)
- Communication Content (Speaking Up)
- Communication Structure (Advocacy, Collaboration)

Example Outcomes

- Reduce unresolved risk issues by 70%
- Reduce level of non-compliance by 80%
- Reduce number of customer onboarding fails by 25%
- Improve collaboration between 3LOD by 80%

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Transforming Behaviour

The behavioural change created by GalaxyLens stems from Virtual Mirroring. This enables individuals and/or teams to reflect on their own communication styles, look at their own areas of improvement and perceive themselves from new viewpoints. This leads to increased self-awareness and self-reflection, which creates the conditions for behavioural change.

Self-awareness also requires socialisation and continuous dialog on the impact that our words and behaviors have on others. To this end, the insights and recommendations produced by GalaxyLens are discussed in monthly Virtual Mirroring sessions with team leaders, where the communication characteristics of teams can be shared and debated and interventions planned and tracked.

Every employee is able to access his/her data on a private and confidential basis through their personalised Virtual Mirror dashboard. This dashboard has individual, team and company results.

Steps to Transforming Behaviour:

Self-Awareness
Provide private and personalised data for self-reflection and self-awareness

Socialisation
Enable Managers to run reflection huddles to discuss results & insights

Intervention
Coordinate interventions on a proactive basis with real-time data

Action
Provide individual/team plans and tasks with continual progress tracking

Habits
Provide timely and personalised nudges to turn new skills into ingrained habits

Sample Virtual Mirror screens
The Virtual Mirror can also be adapted for specific client requirements.

1. Quickly Overview Status
2. Measure Behavioural Drivers
3. Measure Network Patterns
4. Deliver Learning & Alerts
5. Instigate Actions & Improvement
6. Track & Achieve Goals

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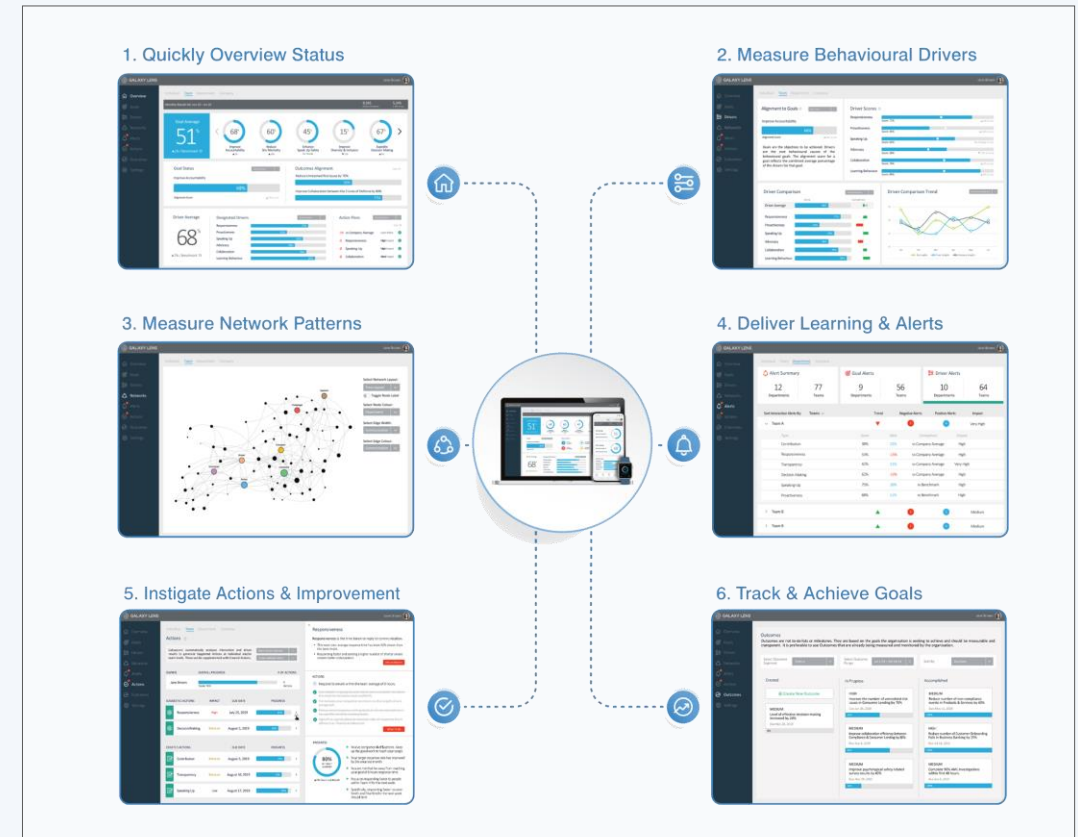
BEHAVIOURAL OUTCOMES

GalaxyLens can be used to analyse, predict and improve a wide range of outcomes including Performance, Efficiency, Wellbeing and Risk objectives.

Examples of relevant applications are provided under each category with many more variations available depending on the context and needs of each client environment.

Energise
Performance
1

- Improve leadership and communication.
- Stimulate effective decision making.
- Increase revenue and customer satisfaction.
- Drive employee morale and retention.
- Foster innovation and creativity.

Drive
Efficiency
2

- Improve engagement and collaboration.
- Reduce change resistance.
- Mitigate silo mentality and layering.
- Enhance adaptability and agility.
- Embed better practices and efficiencies.

Sustain
Wellbeing
3

- Improve psychological safety and trust.
- Drive respect and diversity and inclusion.
- Reduce isolation, loneliness and stress.
- Create stronger team flow & synchronisation.
- Enrich working from home fulfilment.

Strengthen
Risk
4

- Improve alignment with the tone from the top.
- Engender ownership and accountability.
- Enhance transparency and openness.
- Reinforce speaking up and listen up behaviour.
- Proactively detect unethical conduct.

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CASE STUDIES

Conduct & Behavioural Risk

Organisational Development
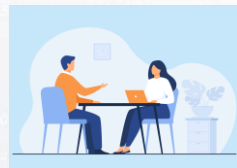
Client Engagement

Responsiveness to Risk Issues

Timely and Effective Resolution of Risk Issues

Sales Team "A"
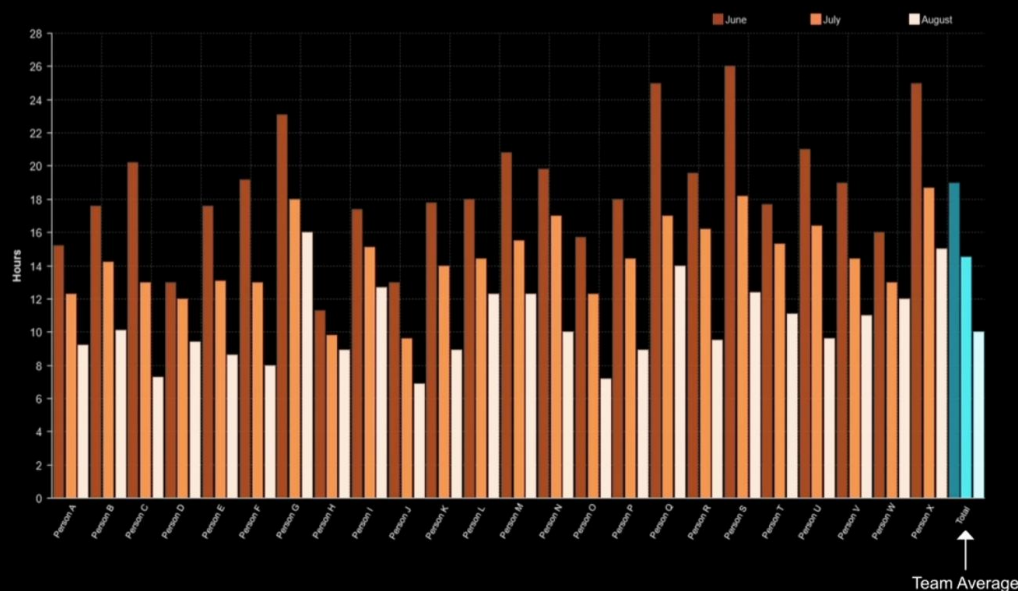
How to read this graph:
This measures the speed of response to the resolution of risk issues.

1. **Analysis**

   - Established team benchmark for the appropriate average response time for Team A.
   - The analysis identified slower than average response time on the part of Team A to risk teams.

2. **Intervention**

   - Team A Leader socialised and discussed monthly results with team.
   - Team A agreed to focus on better response time to risk teams and monitor progress of same.

3. **Action**

   - Team A achieved 48% faster response time to risk teams over 3 month period. This brought Team A's response time to risk teams in line with its response time to other teams it interacts with. The objective is not to simply increase response time (this can create stress) – the goal is to achieve an average response time benchmark appropriate for each team.

4. **Outcome**

   - 64% faster resolution of outstanding risk issues over a 3 month period.

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Proactiveness for Risk Issues

Engaged and Proactive Approach to Risk Issues

Sales Team "A"

June   July   August

Balance: 0.0

Team Average

How to read this graph:
This measures the sending and receiving ratio of communication.
The optimum result is a balance in sending/receiving (i.e. 0.0 in the graph above).
A high negative score means the team/person is mainly receiving communication. A higher positive score means they are mainly sending communication. Too high in either direction is not good – particularly when a team/person has a good balance and gradually moves too low or too high.

1. **Analysis**

   - Established team benchmark for the appropriate balance for Team A.

   - The analysis identified low proactive communications from Team A to risk teams.

2. **Intervention**

   - Team A Leader socialised and discussed monthly results with team.

   - Team A agreed to be more proactive in comms with risk teams and monitor progress of same.

3. **Action**

   - Team A gradually contributed more proactive and meaningful communication with the risk teams.

4. **Outcome**

   - 75% improvement in communication balance over 3 month period.

Speaking Up

Challenging and Escalating Risk Issues

Sales Team "A"

How to read this word cloud:
This measures "Honest Language" – the balance of positive and negative sentiment in communication. The more balanced the sentiment, the more "honest" the language. In the case of Speaking Up, it is desirable to see a degree of negative sentiment as this would reflect language associated with challenging, concerns and awareness.

1. **Analysis**

   - As can be seen from the word cloud on the left, most of the sentiment is positive. If the objective is to understand the level of honesty and transparency, an absence of any negative sentiment can also indicate a fear mentality or an aversion to speaking up and sharing bad news.

2. **Intervention**

   - Team A Leader socialised and discussed monthly results with team.

   - Team A Leader reinforced safety to speak up and led by example. Other senior leaders also endorsed this and led by example.

3. **Action**

   - Better use of honest language with leaders setting the example over time.

4. **Outcome**

   - 15% improvement of honest language across the team.

Speaking Up
Challenging and Escalating Risk Issues

The previous slide illustrated a simple sentiment analysis on communication language. This level of analysis can be significantly enhanced through the measurement of personality traits and emotions. To illustrate such an analysis, GalaxyLens was applied to the Enron dataset to test the ability to identify the occurrence of proven misconduct. The analysis below is on Richard Causey.

Richard Causey. Chief Accounting Officer. Guilty of securities fraud. Served 5.5 years in jail. Dutiful and quite man described as religious, obedient and family oriented was a key support to the convicted CFO Andrew Fastow. He was largely unknown within Enron but had regular and detailed dialogue with the CEO and CFO and the treatment of accounting issues that underpinned the market deceptions.

Personality Traits

Comparative Scores:

Trait	Score
Openness	5%
Conscientiousness	90%
Extraversion	2%
Agreeableness	75%
Neuroticism	40%

Time-Series Scores:

Proportional Scores: 16%, 16%, 50%, 5%, 5%, 11%, 0%, 38%

Emotions

Comparative Scores:

Emotion	Score
Admiration	38%
Trust	9%
Fear	36%
Sad	11%
Loathing	6%
Disgust	14%
Rage	13%
Anger	26%
Vigilance	51%
Interest	25%

Time-Series Scores:

Proportional Scores: 38%, 26%, 14%, 36%, 25%, 5%, 13%, 11%, 9%, 51%
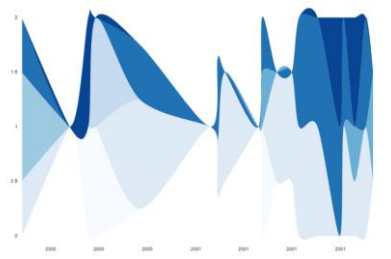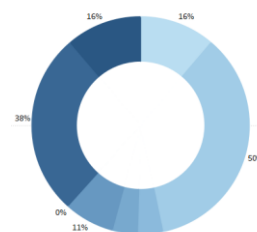
Behavioural Influence:

Low ———————————————— High

Insights:

Public Evidence:

- Richard Causey was one of a large number of key individuals who chose to be quiet and complicit as a facilitator of fraud rather than speak up.

GalaxyLens Analysis:

- The analysis shows strong Conscientiousness and Agreeableness indicating that he would actively support the status quo, which is consistent with the reported evidence.

- Combined with his lower levels of Aggression, Interest and Rage he was highly unlikely to escalate and challenge.

Influence:

- Whilst central to accounting treatments, Richard had low network influence within Enron. This means he was not highly influential in shaping other people's behaviour. However, as the Chief Accounting Officer he had an important role in calling out financial irregularities.
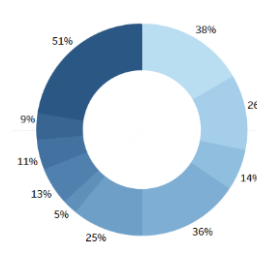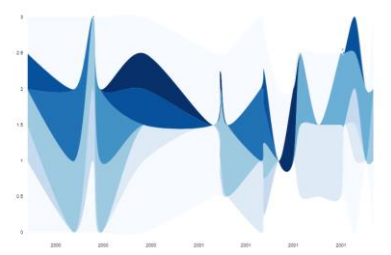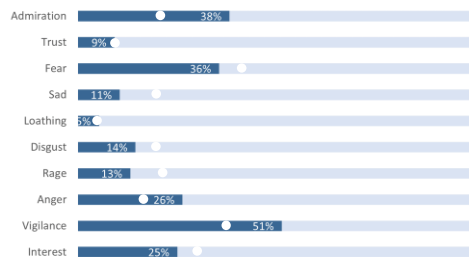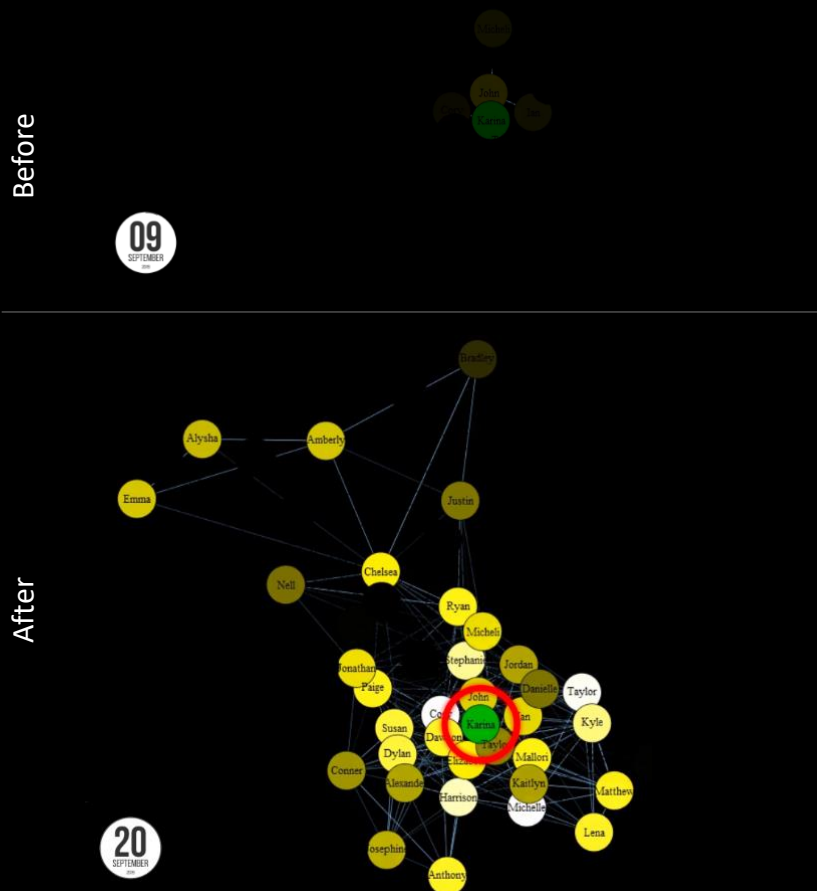
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Before

After

1. **Analysis**

   - This analysis focused on "Diffusion" – the degree to which the tone at the top and direction from senior leaders penetrates the many layers and boundaries of an organisation.

   - In this case, we measured the diffusion of Anti Money Laundering directions from the CRO of a Bank.

   - As can be seen from the illustration on the left, these AML directions were essentially unheeded by this particular team, reflected in the lack of interaction on this topic by the members of the team. The "Before" image shows most of the team members not taking part in any discussions or collaboration on the AML directions (their nodes or circles are dark in the network).

2. **Intervention**

   - Identified key influencer or "Culture Carrier" in the network (Karina) and engaged her to champion and advocate on AML and other risk issues. Her influence is not based on seniority, but the level of trust and likeability others in the team have towards her.

3. **Action**

   - Once the Culture Carrier started to prompt discussion, the level of interaction and collaboration on AML increased significantly. This is shown in the "After" image by the number of members from this team "active" on this topic.

4. **Outcome**

   - 85% increase in communication diffusion on AML for this team.

Communication & Collaboration

Cooperation and Teamwork on Key Issues
Collaboration Across the 3 Lines of Defence

Before

10 JUN 19

After

16 JUL 19
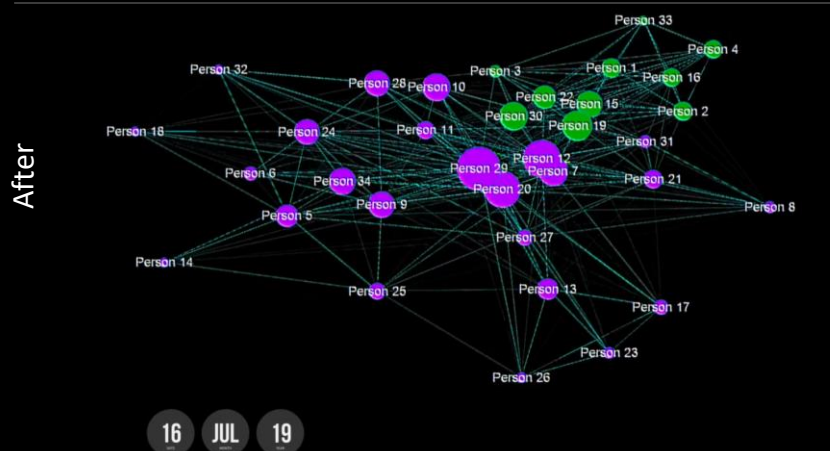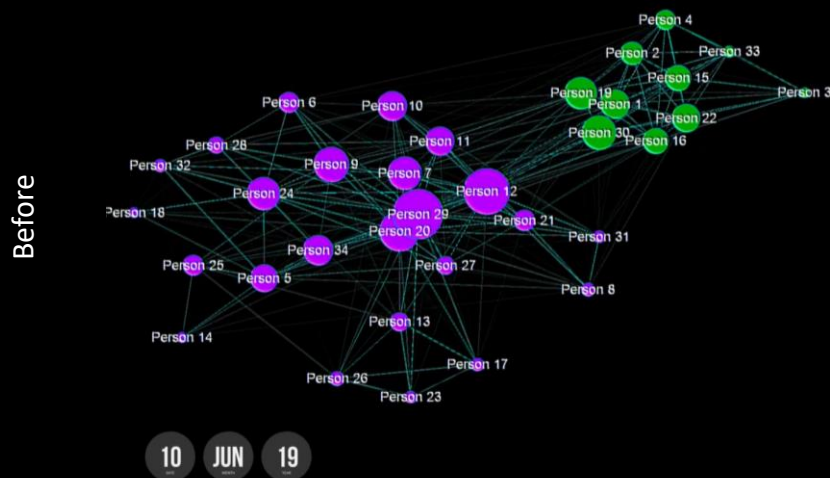
1. Analysis

- This analysis focused on "Betweenness Centrality". This counts the number of shortest paths that go through a person in a network. A path is a connection between two people. The higher the number of paths that go through a person, the more that person facilitates the flow of information between people. In other words, they are a connector between people. For this reason, they are often called "Brokers" (a type of Culture Carrier).

- Initially, we demonstrated that there was a silo between these two teams, as per the "before" network above left. The fact the silo situation was able to be measured and proven was in itself a key development because the purple team disputed the suggestion there should have been more interaction between itself and the green team.

2. Intervention

- Identified the key "Brokers" between the two teams (not necessarily the team leaders) and ensured they were willing and able to facilitate better communication flow.

3. Action

- Team Leaders of both teams focused their teams on improving the response time, reducing the number of reminders and improving the contribution ratio (sending/receiving ratio).

4. Outcome

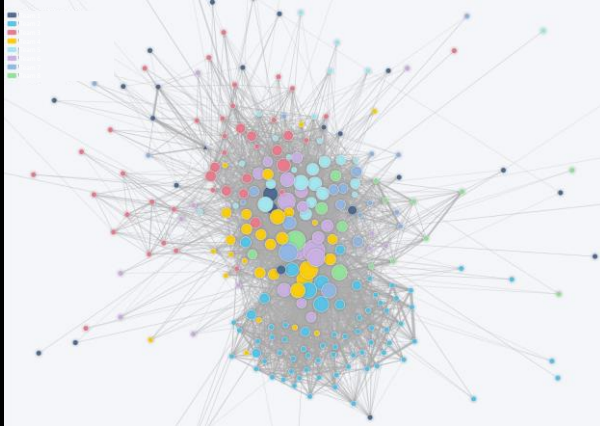- 87% increase in the Collaboration Efficiency score between both teams.

Measuring and Improving Team Collaboration Pre-Post Restructure

Pre-Restructure

Post-Restructure

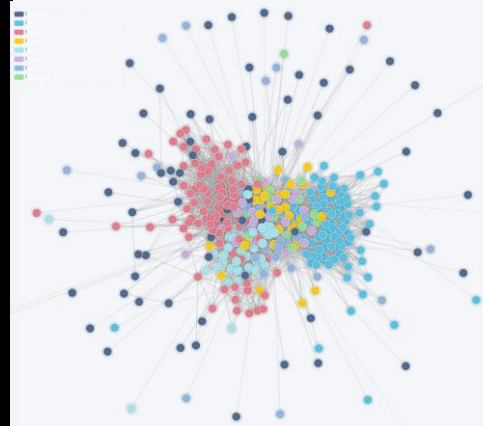**March 2020**

April 2020

June 2020

August 2020

- **Situation**: The network graph above shows a group of teams pre-restructure.

- **Objective:** Measure pre-restructure collaboration with post-restructure collaboration to ensure maximum synergy and effectiveness from restructure.
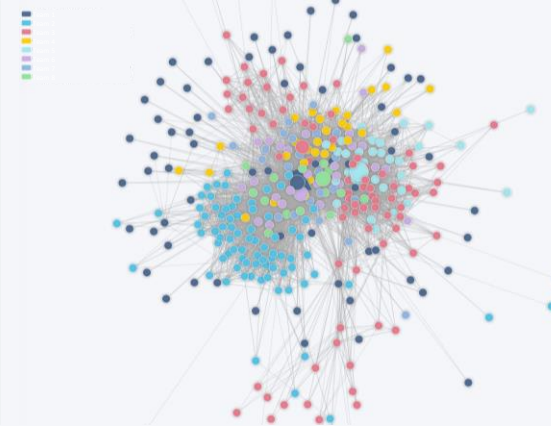
- Fragmented collaboration with some teams following the restructure.

- Improvement in collaboration amongst most teams with certain teams not improving as fast as others

- Significant overall improvement with only a small number of individuals unable or unwilling to engage following the restructure.

- **Outcome:** 87% increase in collaboration effectiveness and communication efficiency across all team layers post-restructure.

Client Engagement
Improve Client Satisfaction Ratings

GalaxyLens Improves Client Satisfaction at Genpact

Scope
- Comprised 176 teams working with key client accounts
- 26 teams used GalaxyLens | 150 teams did not use GL
- Measured change in external Net Promoter Score (NPS)

A

Analysis
- Level of leadership engagement in customer service provision
- Speed of response and initiative around customer queries
- Client dealing with same employee rather than a rotating cast
- Use of clear and simple language in customer communication

B

Actions
- Analysed 4.5 million emails once a month over two year period
- Analysis was benchmarked to six-monthly NPS survey
- Team Leaders socialised data with their teams once a month for 30 minutes to review results and agree action plans

C

Results
- **17%** >>
  - Teams using GalaxyLens increased their NPS by 17%
  - Teams not using GalaxyLens went backwards in NPS
- **5** Months in Advance >>
  - Identified staff who would leave 5 months in advance
- **10** Top % >>
 - Identified staff who became the top 10% performers

D

Context

- In this widely recognised case study we sought to improve the Customer Net Promotor Score (NPS) at Genpact . To prove the efficacy of GalaxyLens, the analysis was conducted as a scientific study comprising an experimental group (using GalaxyLens) and a control group (not using GalaxyLens). Both groups were aware of the analysis taking place.

- Genpact is a US professional services firm listed on the NYSE and spun out of GE with over 70,000 employees.

- The objective of this study was to increase the Net Promotor Score (NPS) for identified client facing teams. NPS measures the likelihood of a customer to recommend a company, a product or a service to a friend.

- A summary of the context, analysis and outcomes is provided on the left infographic.

- This has become a seminal study in the behavioural analytics industry and was published in the Harvard Business Review in the April 2019 issue.

Harvard Business Review

COMMUNICATION

A Novel Way to Boost Client Satisfaction
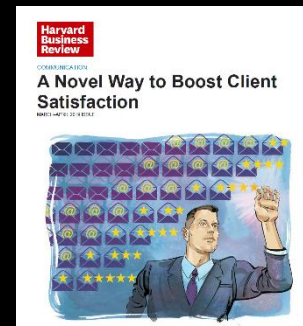
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