Full Speed Ahead
Navigating Industry Transformation Amid Volatility, Uncertainty, Complexity, and Ambiguity

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A General Motors Examination with Condor Network Analysis
The Pandemic Opportunity.

One Defense Production Act

One multi-national company with over a century of manufacturing, supply chain, and logistics expertise...and zero knowledge about ventilators.

One critical-care ventilator manufacturer with zero ability to scale.

Cultured transformed. Organizational hierarchies blurred. Silos disappeared.
Did all that good mojo on the inside translate to goodwill on the outside?
well, we still don’t know.

- #GeneralMotors search far too large to get desired data
- Web and Twitter account search verified GM’s integration to political, social, economic global networks
- Carefully crafted social media: Non-partisan, non-national, non-polarizing
- Ghemawat’s SPAN framework verifies GM’s future path is on point
- Weakness in organizational diversity and talent pipeline
Ghemawat’s SPAN Framework for Global Strategy

**STRATEGY**
- 6 Continents
- 22 Time Zones
- 70 Languages
- Adaptation
- Aggregation
- Arbitrage

**ARCHITECTURE**
- ✔ Regional Structure: Market Adaptation
- ✔ Centralized, Matrixed Core Functions: Aggregation
- ✗ Lack of Senior Leadership Global Representation
- ✗ Limited Leadership Diversification

**PRESENCE**
- Chopping Deadwood: Opel
- Riding the Big Shift: China
- Cherry-picking: India

**NON-MARKET STRATEGY**
- Rooted in Core Values
  - Corporate Political Activity
  - Corporate Social Responsibility
- NON-Partisan / -National / -Polarizing
- Condor Network Analysis Insights
Non-Market Strategy/Network Analysis

Condor Software Application
Query = GM, General Motors, Ventec, Ventilators (100, depth 2)
- 200 actors / 271 connections
- Colors by ‘community detection’
- Node sizes by sentiment
- Betweenness Centrality was roughly equal among all nodes
- Most nodes = news outlets
- Sentiment needs further review
  - Some negativity reflects coverage of Trump criticism – particularly earlier in time hits
  - Some negativity seems to pick up on ‘critical’ ventilators and ‘critical care’ patients as negative – later in time hits
GM Web Search

- Query = GM, General Motors, (100, depth 2)
- 307 actors / 348 connections
- Colors by ‘community detection’
- Node sizes by sentiment
- Betweenness Centrality was roughly equal among all nodes
- More mix of node type: news, sales, tech, financial
- More negative content than ventilator search

GM ignition switch fiasco. The positive node regards how much the lawyer won for the plaintiff.

CNN does not appear to be a fan!

The Detroit News does not appear to be a fan either

UAW range .22 - .96 covering labor negotiations
Invocation of Defense Production Act: The Business Insider hit has higher community than the orange government website.

Merged web search

Here, both color and size reflect community. Notice much higher community in ventilator search, potentially recognition that the ventilator search is a more specific topic than the general GM search.
General Motors Twitter Analysis

INTENT
Analyze #GeneralMotors over time to see if emotion and sentiment improved during ventilator production and was sustained.

APPROACH
- Condor twitter fetch with General Motors query and 250 results
- Resulted in tweets that spanned one hour – far too short for any trend analysis
- Increase to 10K, results spanned < 1 day
- Increase to 100,000 results
  - Spans 8 days of tweets, 90K actors
  - Too large for centrality analysis
  - Resulting network too clustered to analysis and too big for Condor to enable node/edge evaluation without freezing

Color-coded in Condor by Community; could not manipulate to understand community structure.
General Motors Twitter Analysis

- November 9 – 17, 2020
  - Too short to serve desired purpose but interesting

- Emotion and sentiment do not always trend together
  - 11/10 GM announced it will be hiring 3,000 more tech employees now through Q1 2021. Interesting to see sentiment down on that news and emotion high
  - 11/12 GM’s tiny China EV with top speed of 62 mph and $4,300 sales price zips past Tesla to become China’s best-selling EV…high emotion and positive sentiment
  - 11/14 Flurry of activity as GM recalls 69K 2017-19 Chevy Bolt due to fire risk…advisory to not park in garage if more than 90% charged. Low emotion. Mid-sentiment suggests news not consumer reaction.
Overall impression
The researcher needs more Condor expertise! Still, I learned what is not going to work and understand necessary next steps

Attempt to improve General Motors search
Geo-coding for #GeneralMotors did not improve search.

Merge @GM and @mtbarra Twitter accounts
Company-controlled accounts will not do as well to examine consumer sentiment, but may yield a directional insight
GM and CEO Mary Barra Merged Twitter Account Search

Edge color by sentiment
Node color by community
Node size by betweenness centrality

Ivanka Trump is the sole Trump in the entire network!

Joe Biden / Kamala Harris

@mtbarra

Challenge accepted, @JPMorganChase and @BizRoundtable. By 2050, all our facilities will be sourced by renewable energy – just one part of our commitment to #EmbracingSustainability at @GM. Tom Lineberger of @Cummins, tell us your Sustainability story. https://t.co/ks8hGkXZ2

@GM

Few shared nodes and actors represent corporate social priorities or significant awards: Cruise, NY Times, Fortune, Girls Who Code, etc
Top 40 Words / Merged Twitter accounts, @GM and @mtbarra

Two words. That’s it. I couldn’t make this up if I tried. New incoming administration. Full speed ahead.
Sentiment requires additional examination: critical, defense, etc.
High complexity / even low emotion = carefully crafted messaging
Fact-based / non-polarizing / non-partisan
@GM versus @mtbarra

- Emotionality is similar
- Sentiment is roughly equivalent: Barra’s slightly higher score makes sense with her frequent tweets of congratulations or promotion of non-profit support.
- Barra’s tweets are few but 22x more influential than the more frequent (13x) GM account tweets.
- General trends suggest the two corporate accounts clearly serve different, but complimentary purposes.

From Condor manual, p 129: “Influence is a diffusion measure of the usage of new words by message recipients, and how rapidly they use these words once exposed to them”.

GM
Ave Influence/Msg = 0.0016
2,056 Msg Sent
Ave Sentiment = 0.6509
Ave Emotionality = 0.271

CEO Mary Barra
Ave Influence/Msg = 0.0358
152 Msg Sent
Ave Sentiment = 0.7289
Ave Emotionality = 0.290
THANK YOU
Ghemewat, The New Global Roadmap
Figure 4.3: AAA Strategies and Industry Expenditure Benchmarks

- Median US data
- 90th Percentile US data

All data 2019. Labor cost approximated with Cost of Good Sold minus Depreciation and Amortization, and thus well above U.S. data for labor only.