



"Modelling for Efficiency or Understanding : Is The Rise of Automation Creating a Bigger Chasm Between The Two?"

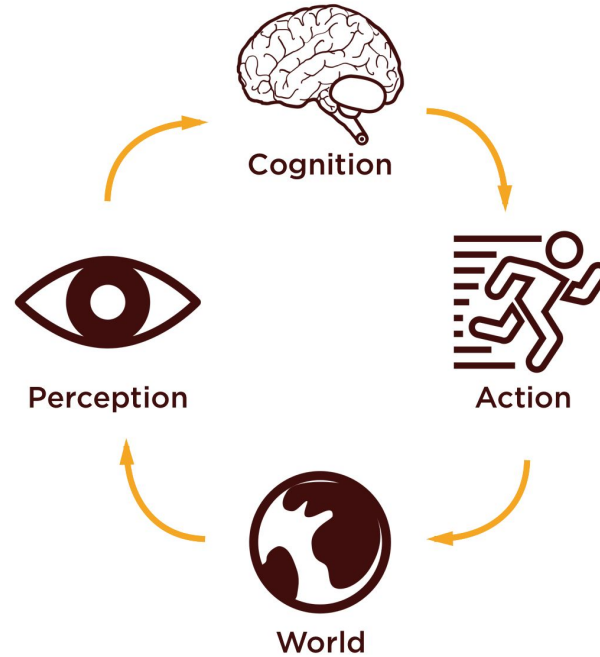
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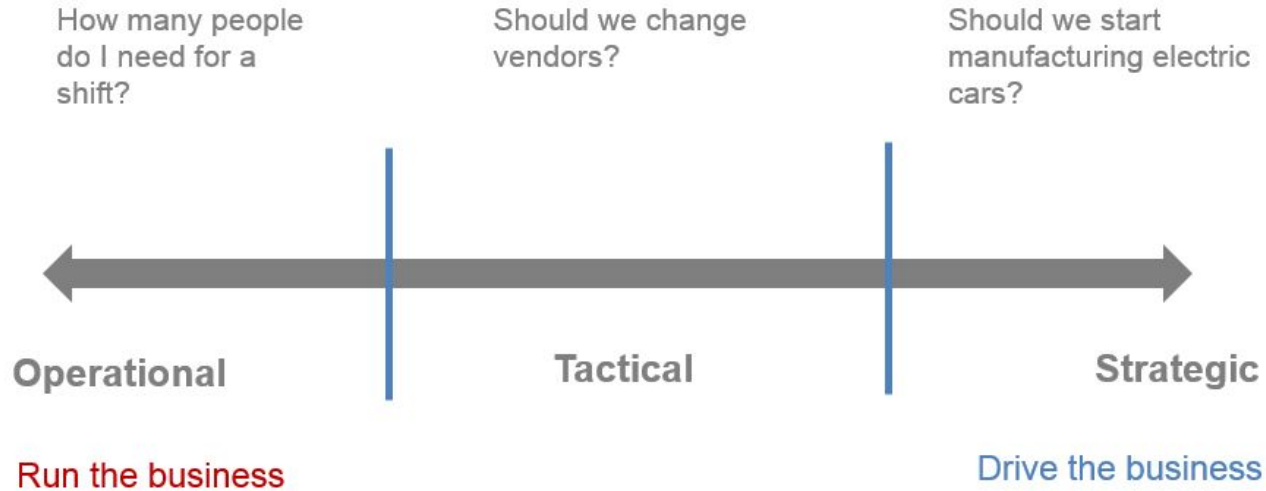
Robotic Process Automation



<https://medium.com/@avimair/cognition-and-perception-in-hci-e134e3b4401f>

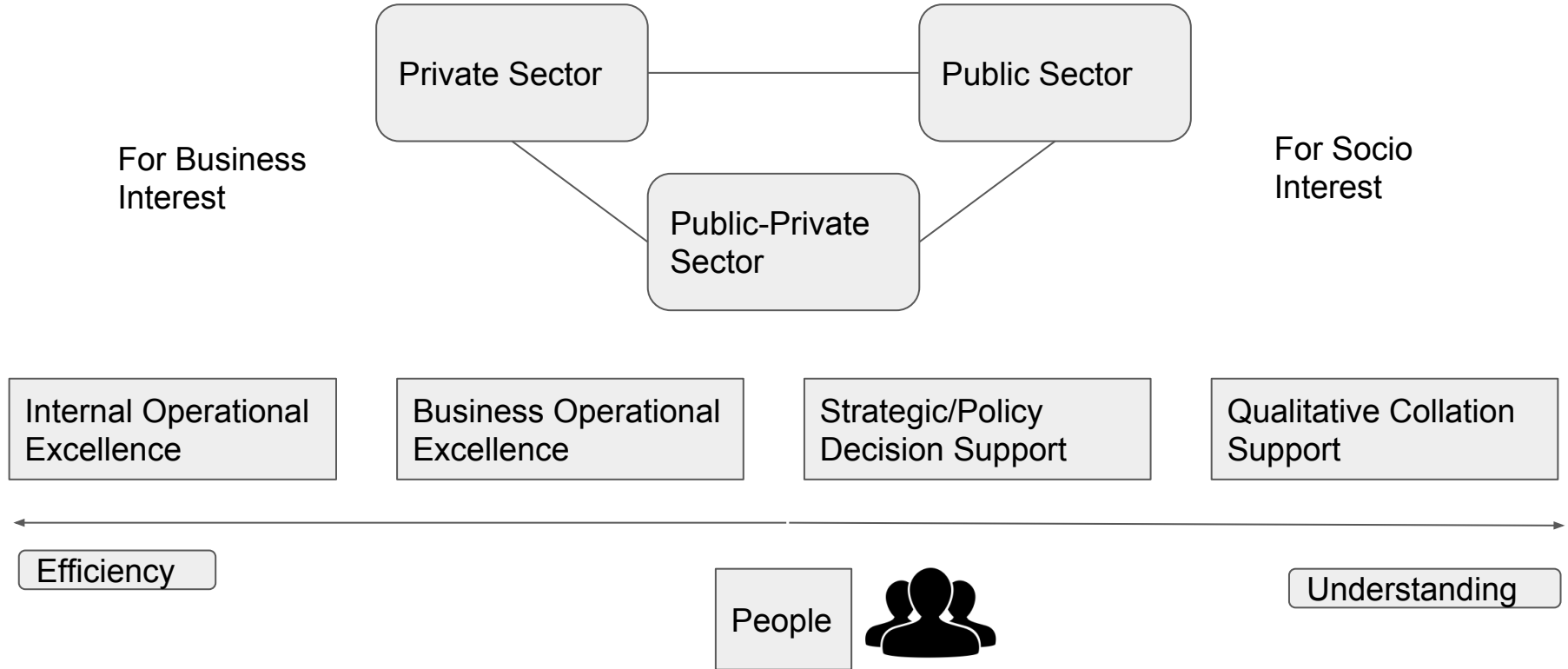


Strategic Intelligence , Business Intelligence:





Socio-Business Dynamics and How it affects Analytics:



Nuanced Analytics



Stability

From the perspective of algorithmic-performance

Data:

Dataset shift ^{1,2}

Imbalanced data sets ^{1,2}

Small disjuncts/rare data sets

Density: Lack of data³

Noise in data

Algorithm:

Sparsity

Bias v Variance ²

Adversarial Learning ^{2,3}

Ethical hacking of Algos

¹ related to bias

² related to algorithmic bias

³ "seek blind spots"

Nuanced Analytics



Interpretability (& Accountability)

From the perspective of algorithmic-transparency

Motivation:

Trust

no bias present ¹

Causality

Transferability

adversarial environment ^{2,3}

new & less familiar environment

Informativeness

Fair and ethical decision making

Requires:

Decomposability

Intelligibility, different parts of algo , have its own descriptors

Post hoc interpretability

natural language explanations, visualizations

¹ related to bias

² related to algorithmic bias

³ "seek blind spots"



Thank You

Questions?

Ref:

Cassimatis, Nicholas L., J. Gregory Trafton, Magdalena D. Bugajska, and Alan C. Schultz. "Integrating cognition, perception and action through mental simulation in robots." *Robotics and Autonomous Systems* 49, no. 1-2 (2004): 13-23.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.556.7266&rep=rep1&type=pdf>

Cognition and Perception in HCI

<https://medium.com/@avimair/cognition-and-perception-in-hci-e134e3b4401f>

Operational BI: How to do it right

<https://www.mariner-usa.com/blog/operational-bi-how-to-do-it-right/>