

Analysis and Description of Design Options for the Establishment of a Sustainable Mobility Ecosystem

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1. Introduction, Motivation

2. Thesis

3. Current state

4. Next steps

Transportation has reached its limits



World population growth

Urbanization



Sources: <https://i.ytimg.com/vi/1qn15qtKqvY/maxresdefault.jpg>
http://cornerstonemag.net/wp-content/uploads/2015/06/shutterstock_151488392.jpg
<http://cdn2.spiegel.de/images/image-167959-galleryV9-epem-167959.jpg> (all 20.01.2016)



“If we do nothing, the sheer number of people and cars in urban areas will mean global gridlock.

Now is the time for all of us to be looking at vehicles the same way we look at smart phones, laptops and tablets: as pieces of a much bigger, richer network.”

Sources: Ford Motor Company (2012), Matthes (2015),
https://media.ford.com/content/fordmedia/fna/us/en/asset.download.image.original.html/content/dam/fordmedia/migrated/2007/09/07/BILL_FORD_3083.jpg (20.01.2016)

“The Age of Platforms“

Platform business models are everywhere

„Analog“ platforms



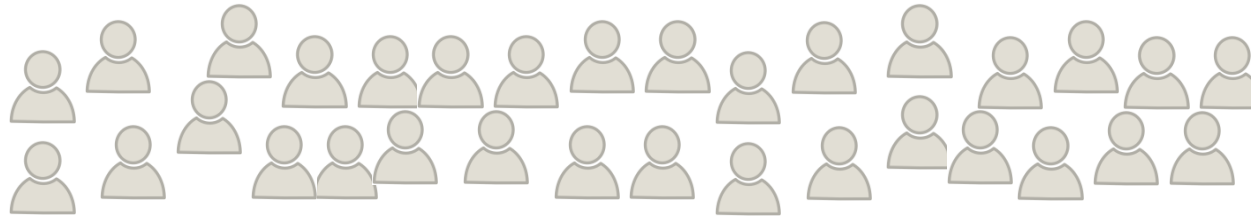
Software-based platforms



Sources: Suarez/Kirtley (2012), https://upload.wikimedia.org/wikipedia/commons/thumb/5/5e/Visa_Inc._logo.svg/2000px-Visa_Inc._logo.svg.png,
https://commons.wikimedia.org/wiki/File:Riem_Arcaden_Logo.svg, <http://media2.giga.de/2012/01/Android-logo.png>, http://www.freelargeimages.com/wp-content/uploads/2015/05/Facebook_Vector_Logo_Hd_02.png, <http://desktopsolution.org/wp-content/uploads/2015/12/iOS-logo.png>, <http://www.pnglogo.com/wp-content/uploads/2015/10/Amazon-Logo-PNG-02507.png> (all 20.01.2016)

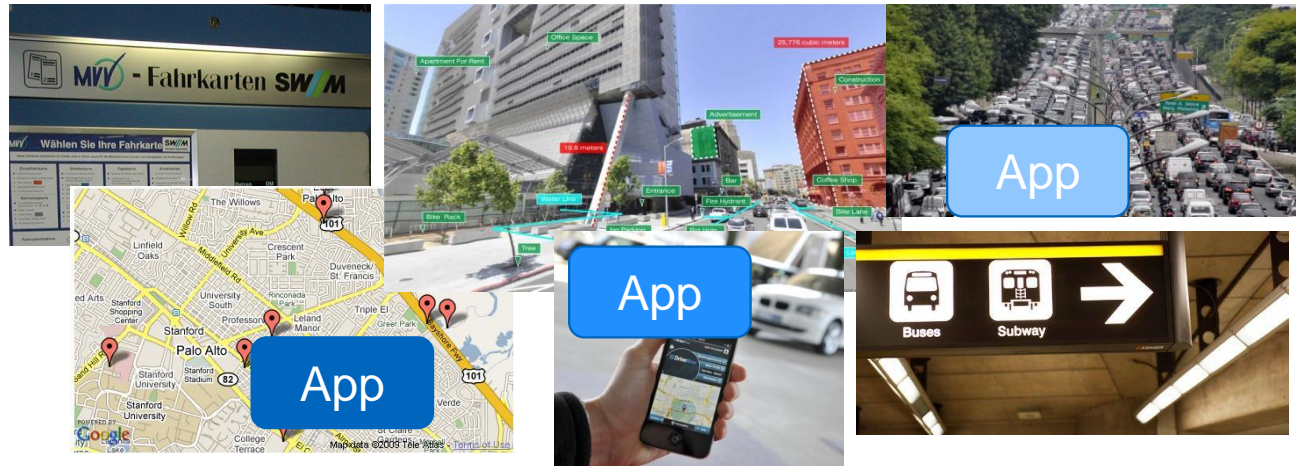
An Open Service Platform for digital mobility

The TUM Living Lab Connected Mobility

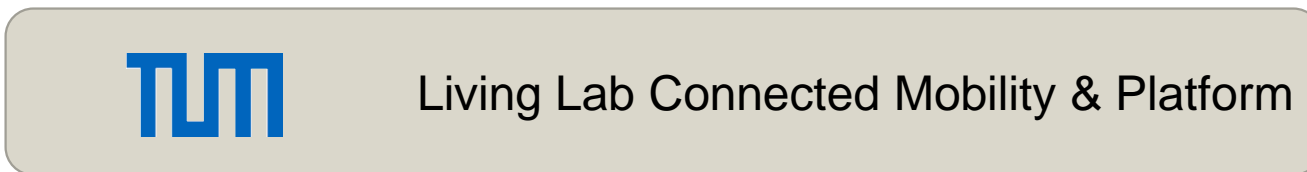


Customer-centered approach

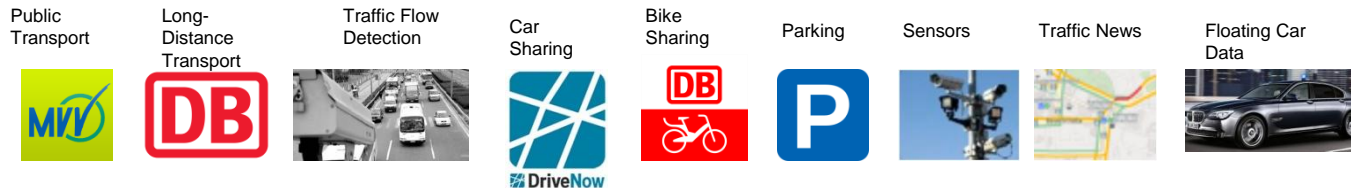
Use cases



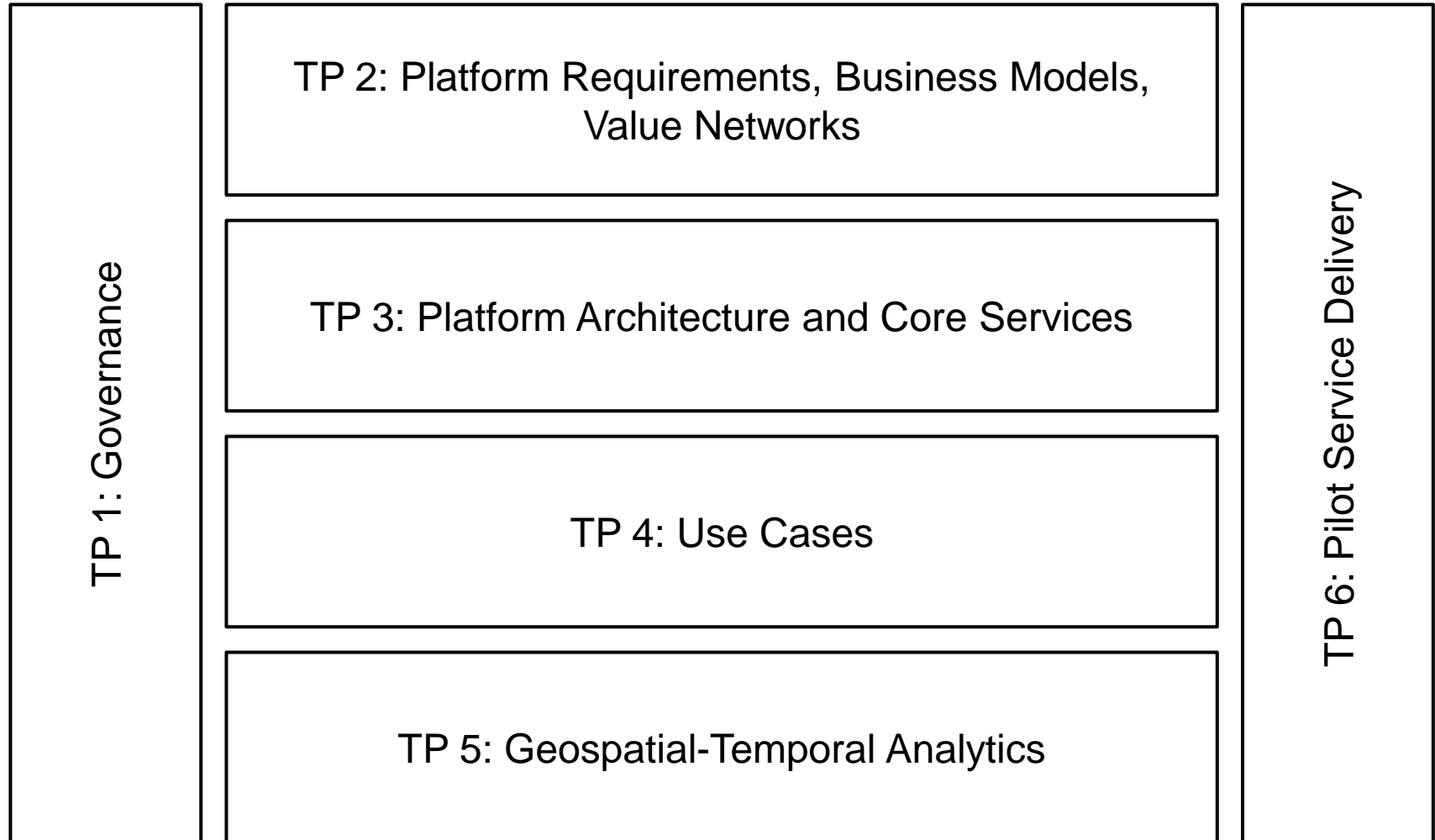
Innovative platform services



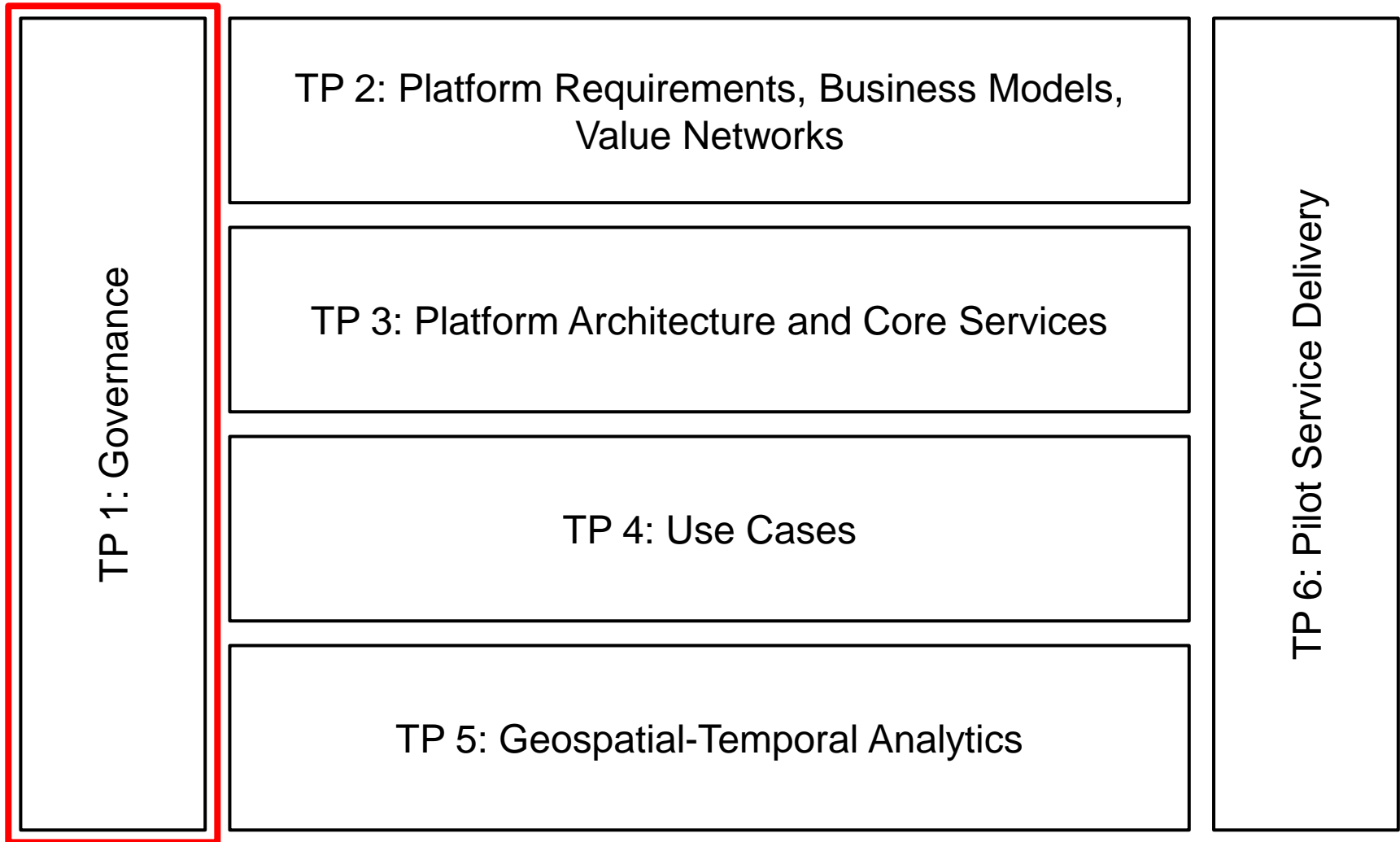
Evaluation of industrial application

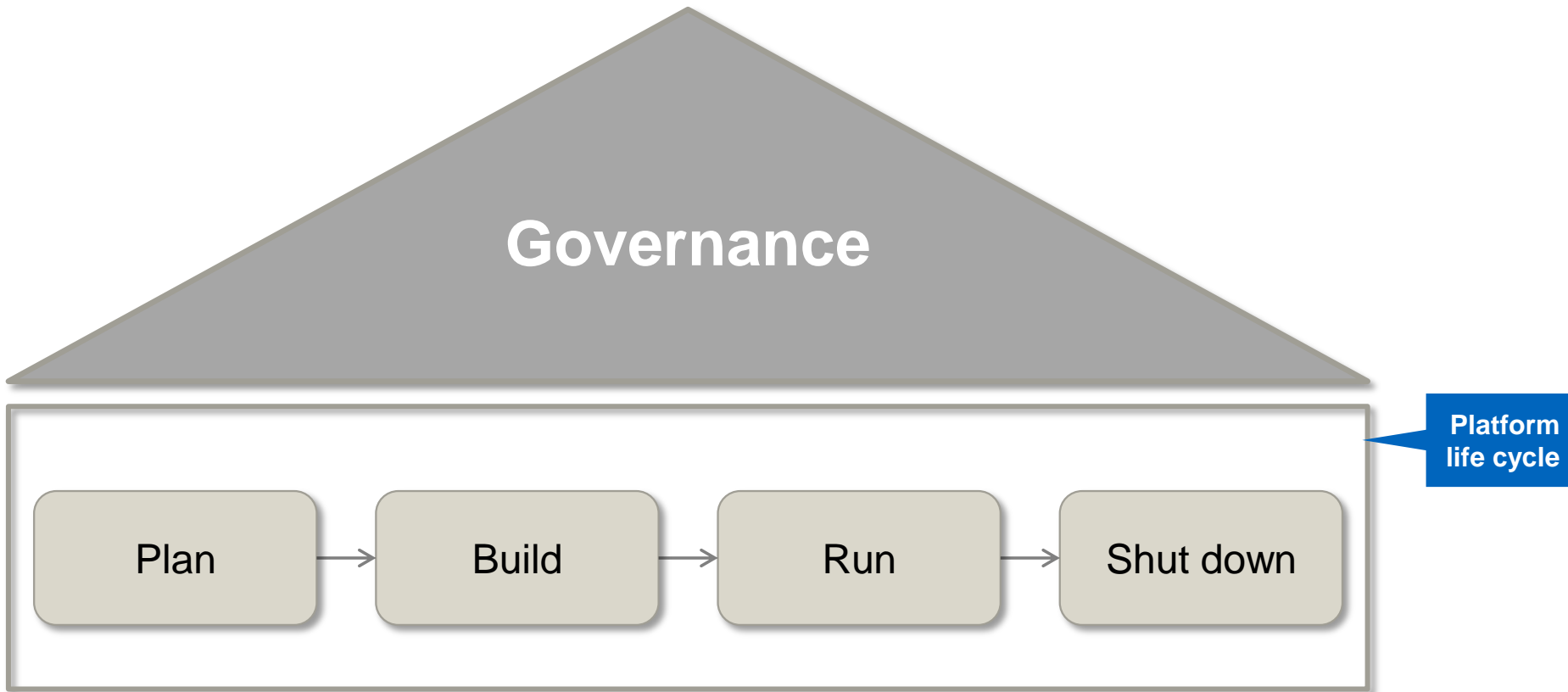


Sources: Technische Universität München (2016), adapted from Matthes (2015), <http://content.southuniversity.edu/assets/marketing/Insite/Public-Transportation-Main-jpg.jpg>, http://cdn1.abendzeitung-muenchen.de/media/media_d357c411-4e86-48b9-ac48-620e5e052373.normalized.jpeg, http://www.codeproject.com/KB/web-image/Google_map/sampleMap.JPG, <http://infospace.ischool.syr.edu/files/2012/02/aug1.jpg>, (all 20.01.2016)



Source: adapted from Matthes (2015)





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“Analysis and Description of Design Options for the Establishment of a Sustainable Mobility Ecosystem”



Research Question 1:

How can platforms, their players and interconnections be characterized according to existing literature?



Research Question 2:

What have been factors for the successful establishment of platform businesses in the past?



Research Question 3:

Which design and governance options do exist to successfully establish a mobility platform and ecosystem?

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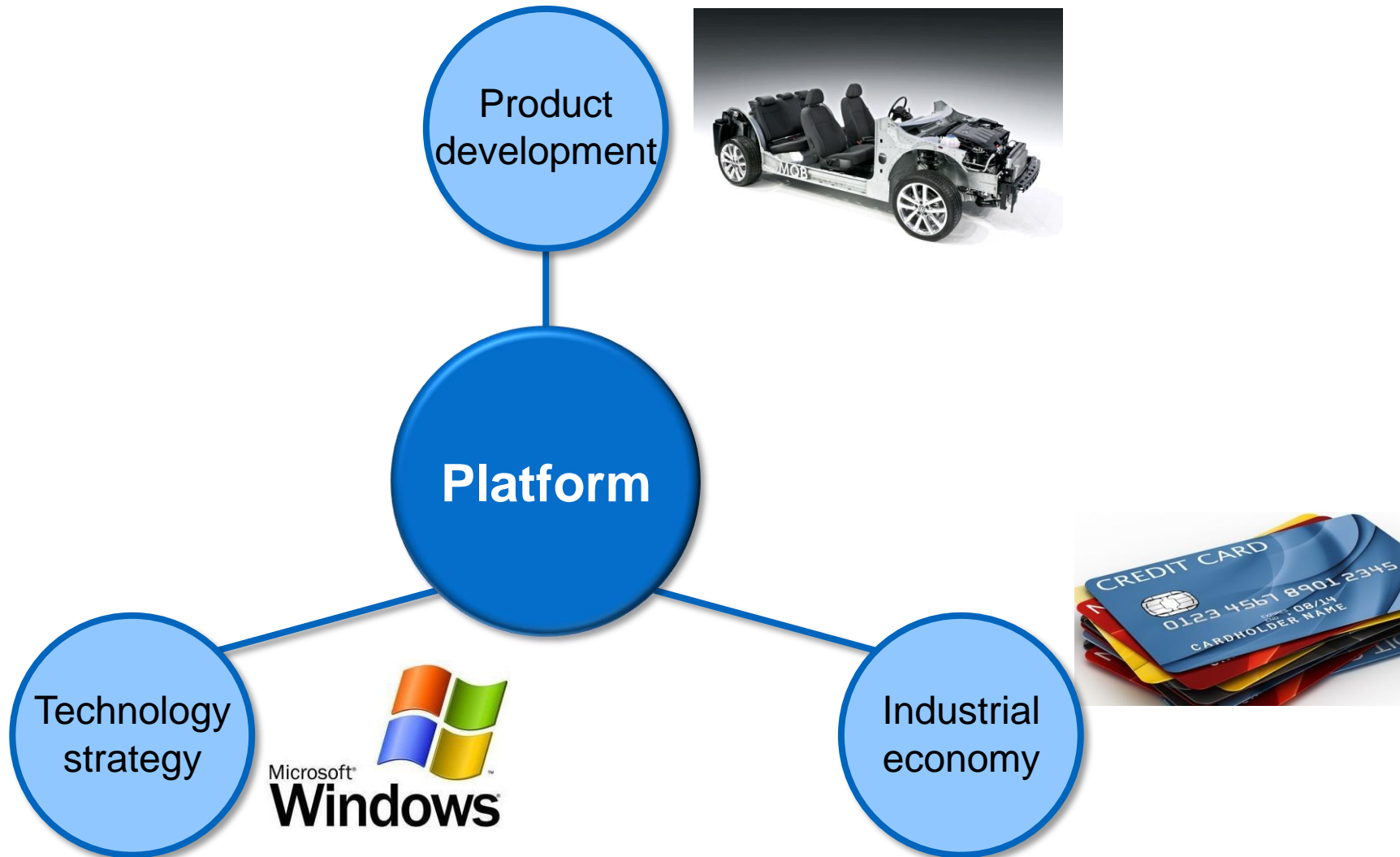
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Current state

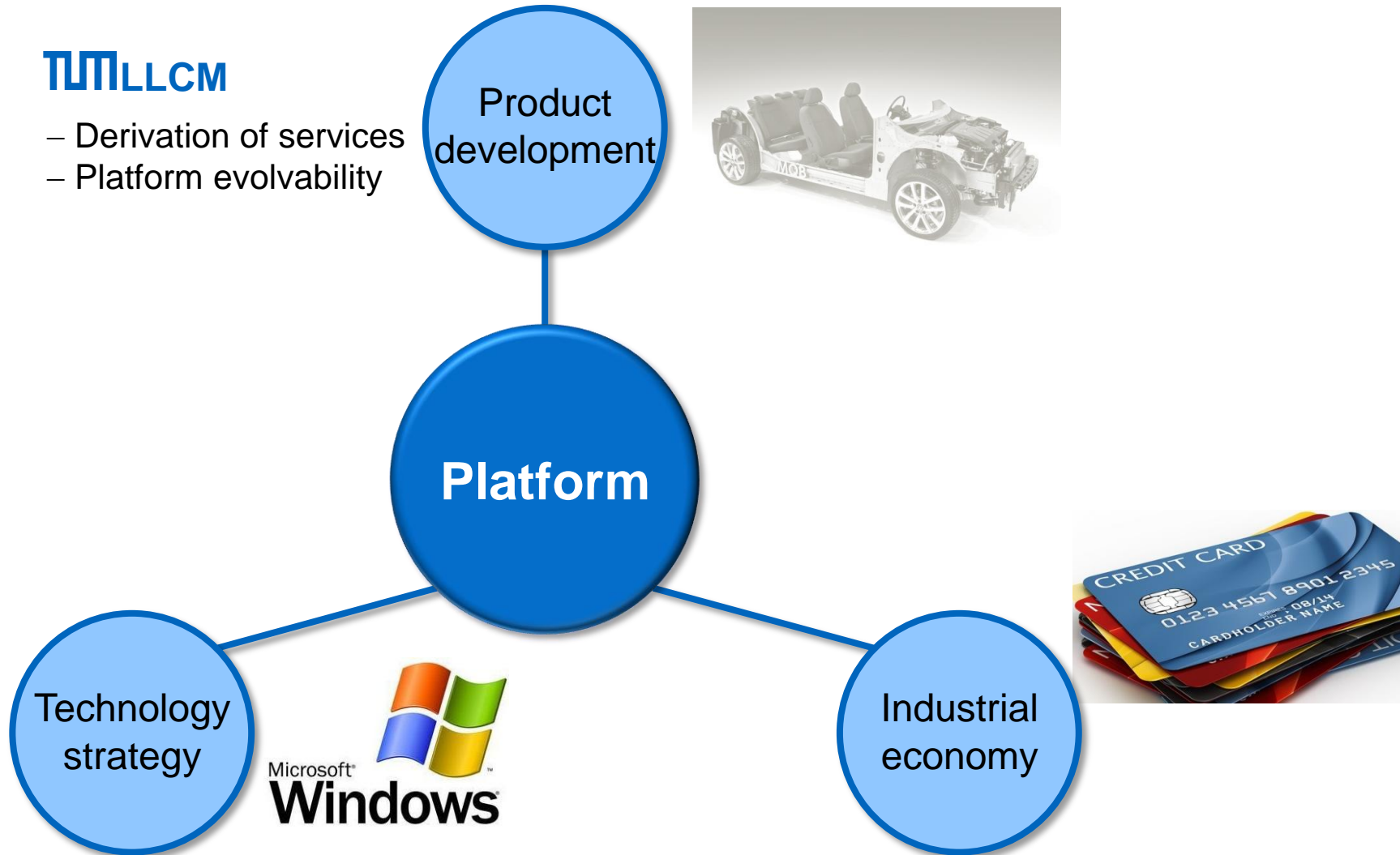
How can the term „platform“ be defined?



Sources: Baldwin/Woodard (2009), <http://www.autobild.de/bilder/vw-golf-vii-auf-mqb-plattform-2855187.html#bild2>, <http://www.smartchoice.pk/blog/wp-content/uploads/2015/08/credit-card-images1.jpg#>, http://praxistipps.s3.amazonaws.com/windows-xp-startet-nicht_28859987.jpg (all 20.01.2016)

Current state

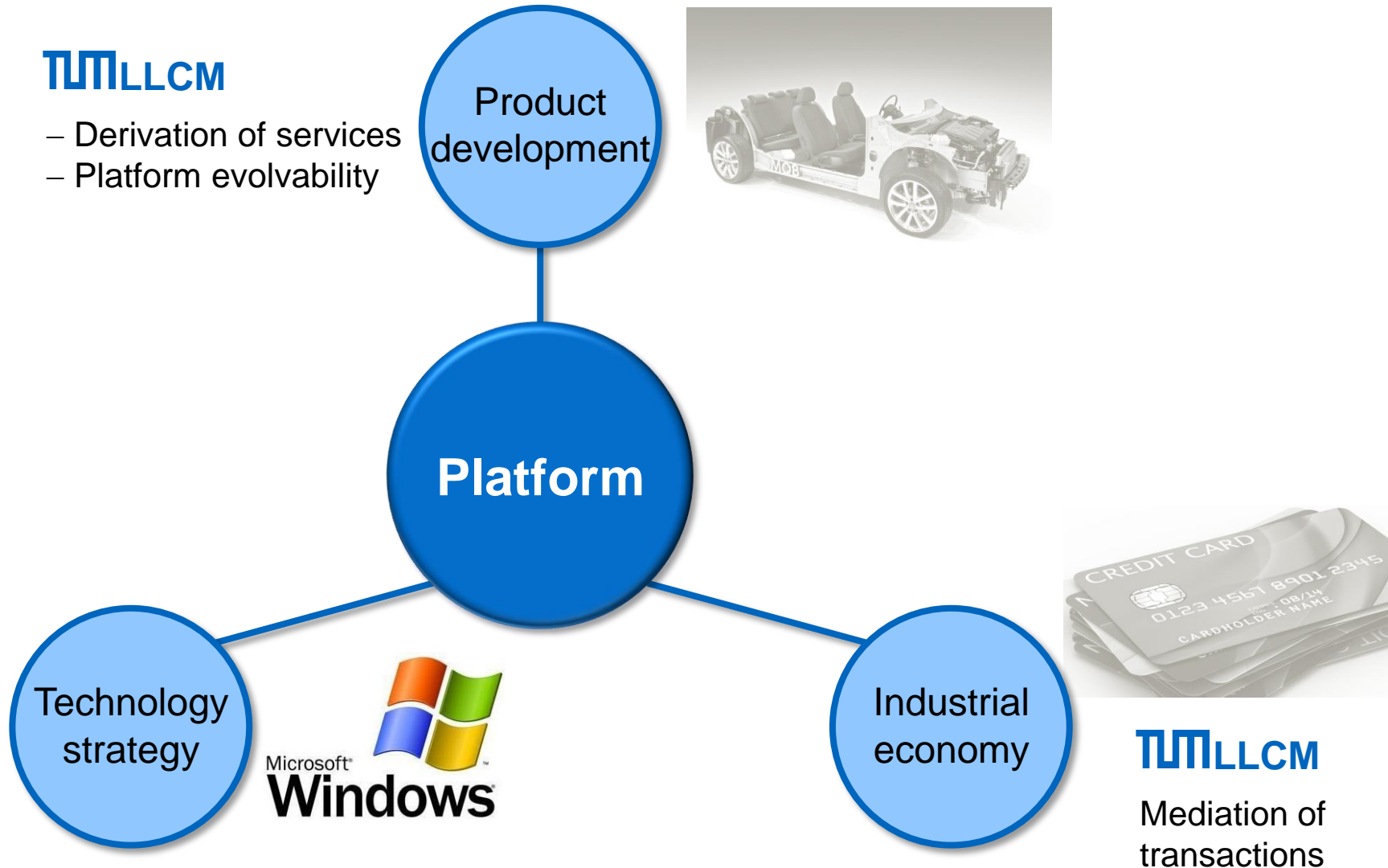
Definition of TUM LLCM has to combine all these definitions



Sources: Baldwin/Woodard (2009), <http://www.autobild.de/bilder/vw-golf-vii-auf-mqb-plattform-2855187.html#bild2>, <http://www.smartchoice.pk/blog/wp-content/uploads/2015/08/credit-card-images1.jpg#>, http://praxistipps.s3.amazonaws.com/windows-xp-startet-nicht_28859987.jpg (all 20.01.2016)

Current state

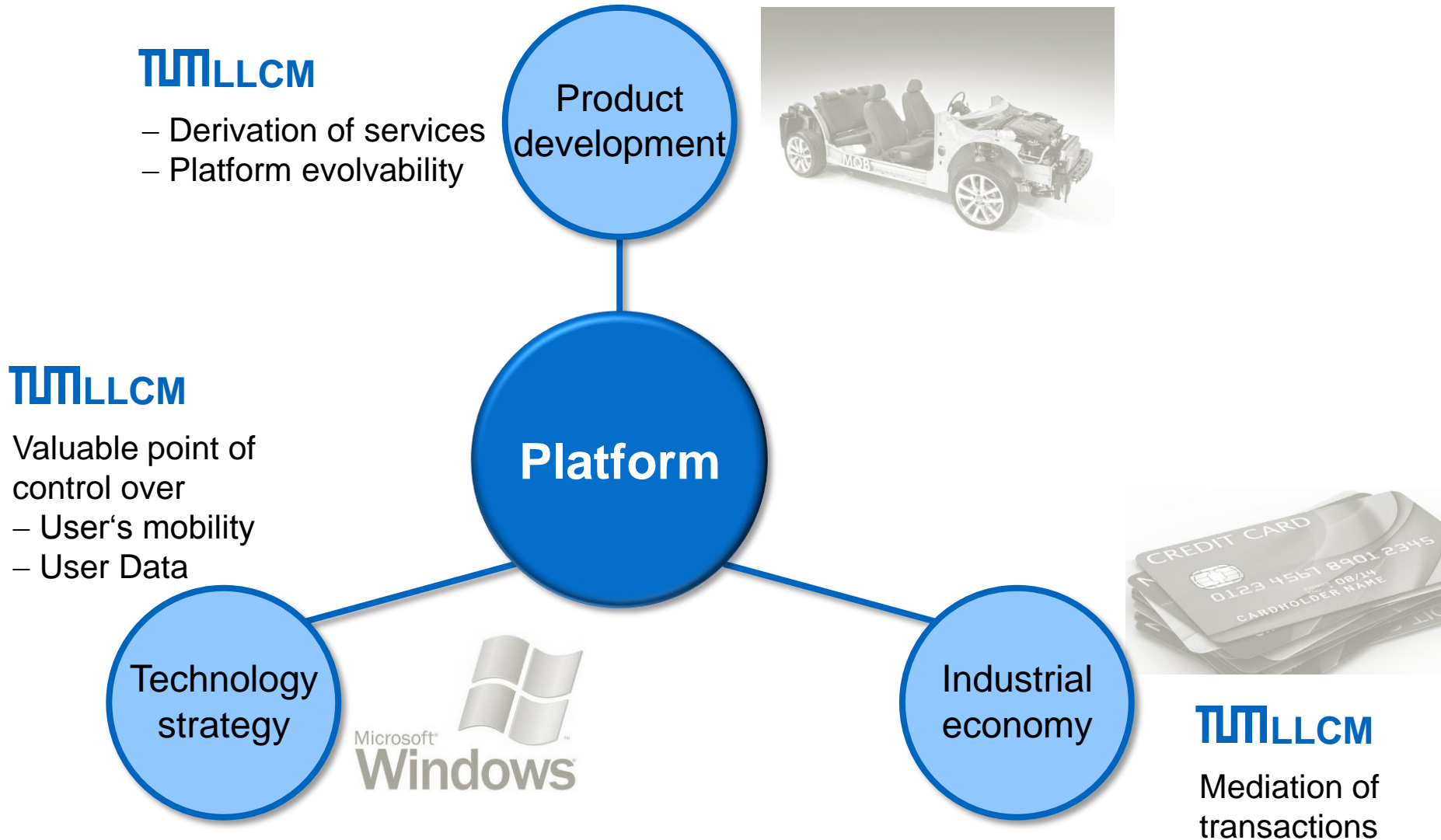
Definition of TUM LLCM has to combine all these definitions



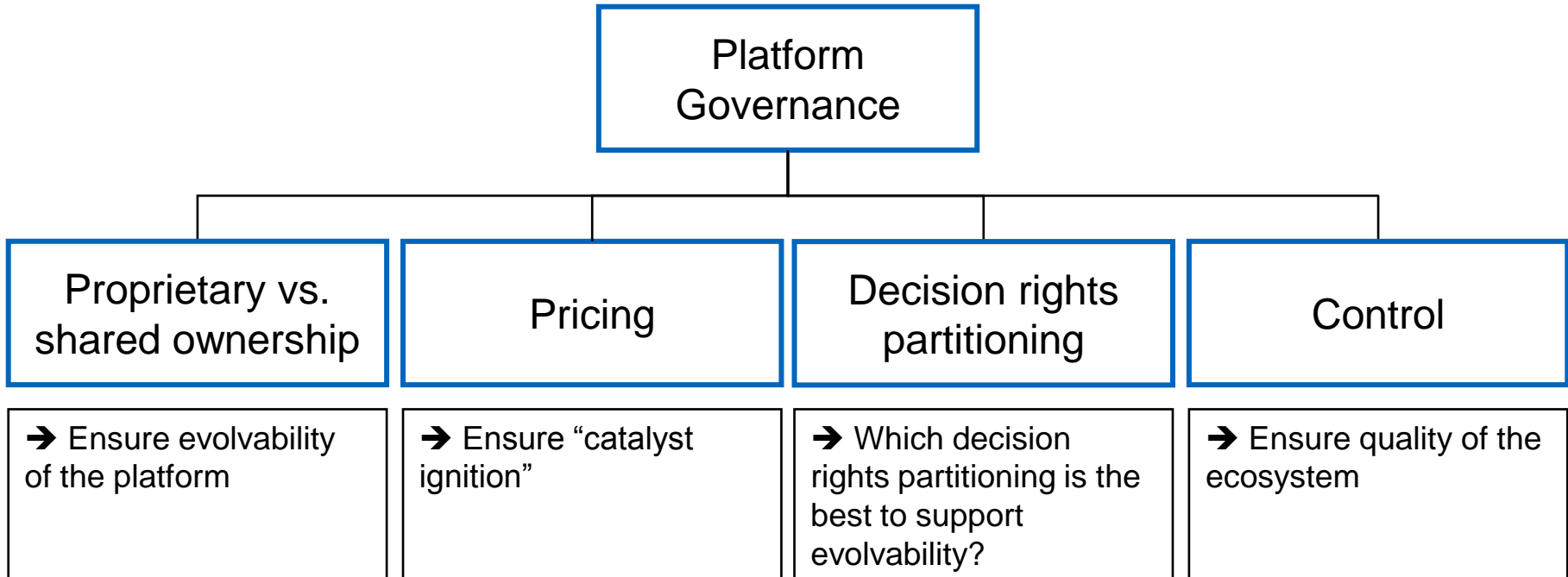
Sources: Baldwin/Woodard (2009), <http://www.autobild.de/bilder/vw-golf-vii-auf-mqb-plattform-2855187.html#bild2>, <http://www.smartchoice.pk/blog/wp-content/uploads/2015/08/credit-card-images1.jpg#>, http://praxistipps.s3.amazonaws.com/windows-xp-startet-nicht_28859987.jpg (all 20.01.2016)

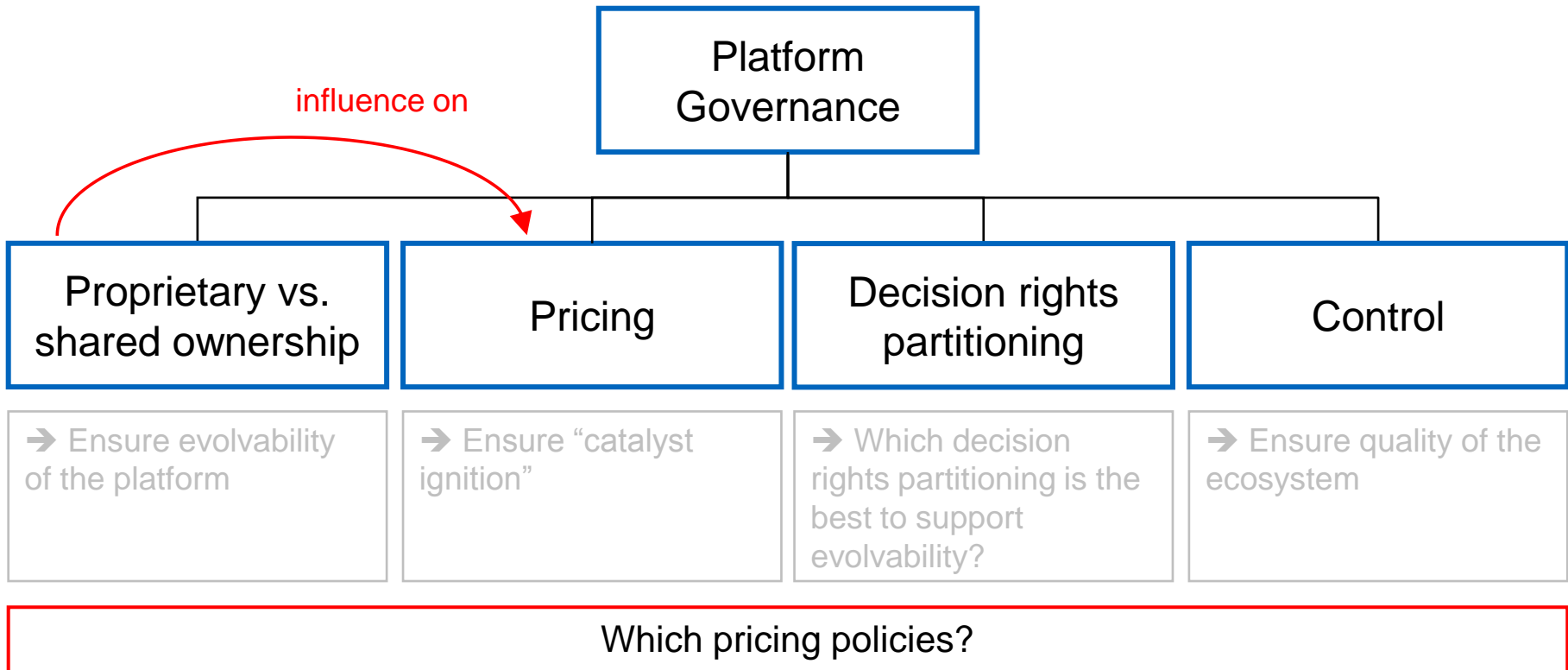
Current state

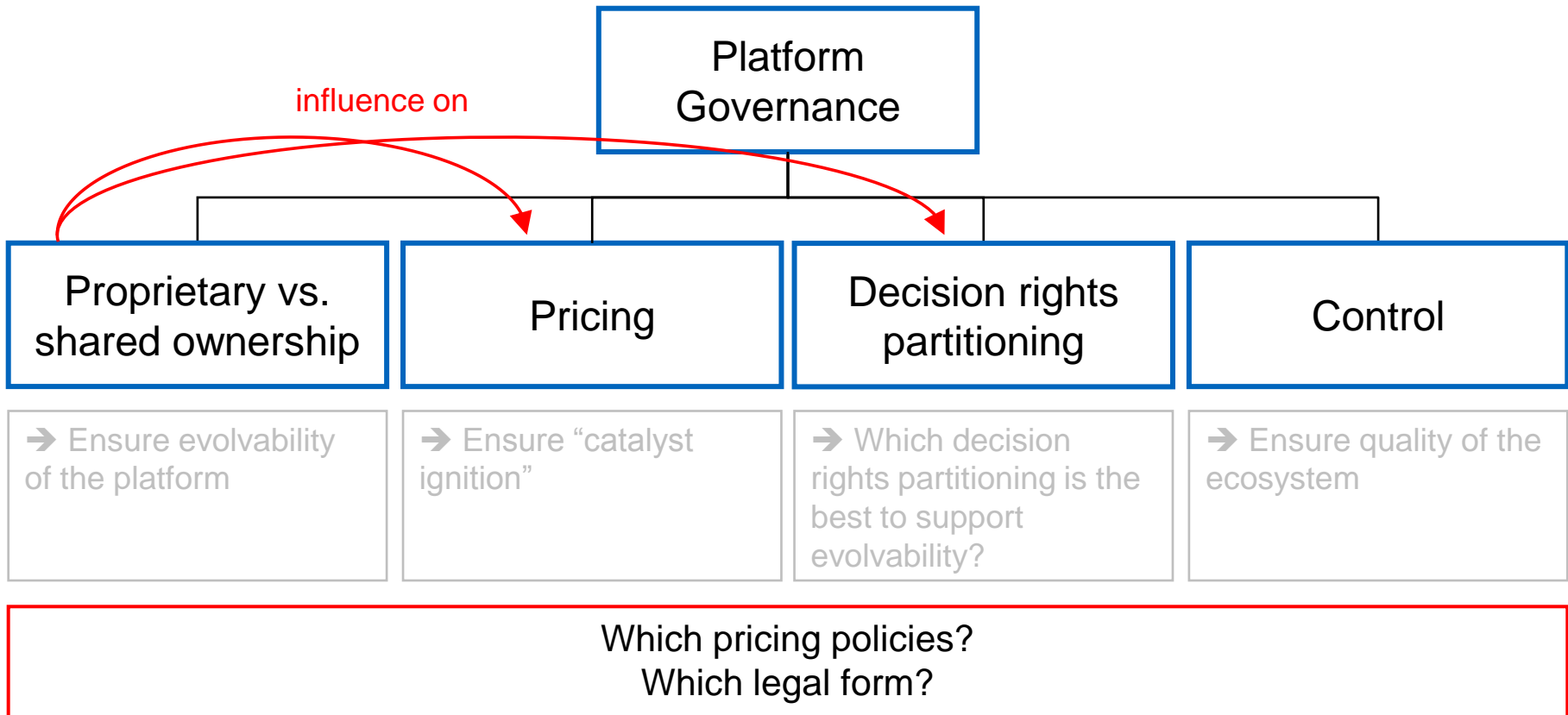
Definition of TUM LLCM has to combine all these definitions

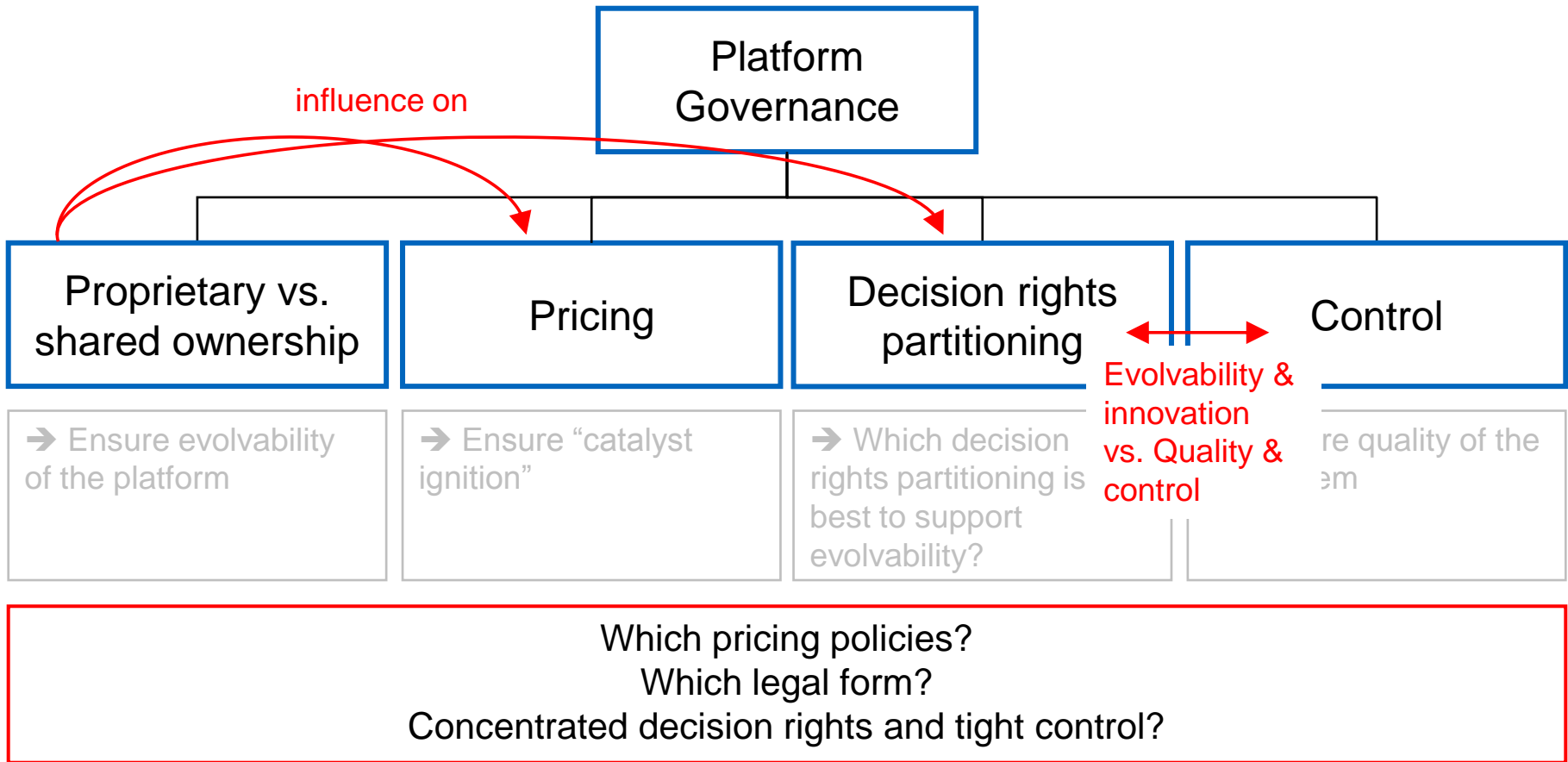


Sources: Baldwin/Woodard (2009), <http://www.autobild.de/bilder/vw-golf-vii-auf-mqb-plattform-2855187.html#bild2>, <http://www.smartchoice.pk/blog/wp-content/uploads/2015/08/credit-card-images1.jpg#>, http://praxistipps.s3.amazonaws.com/windows-xp-startet-nicht_28859987.jpg (all 20.01.2016)



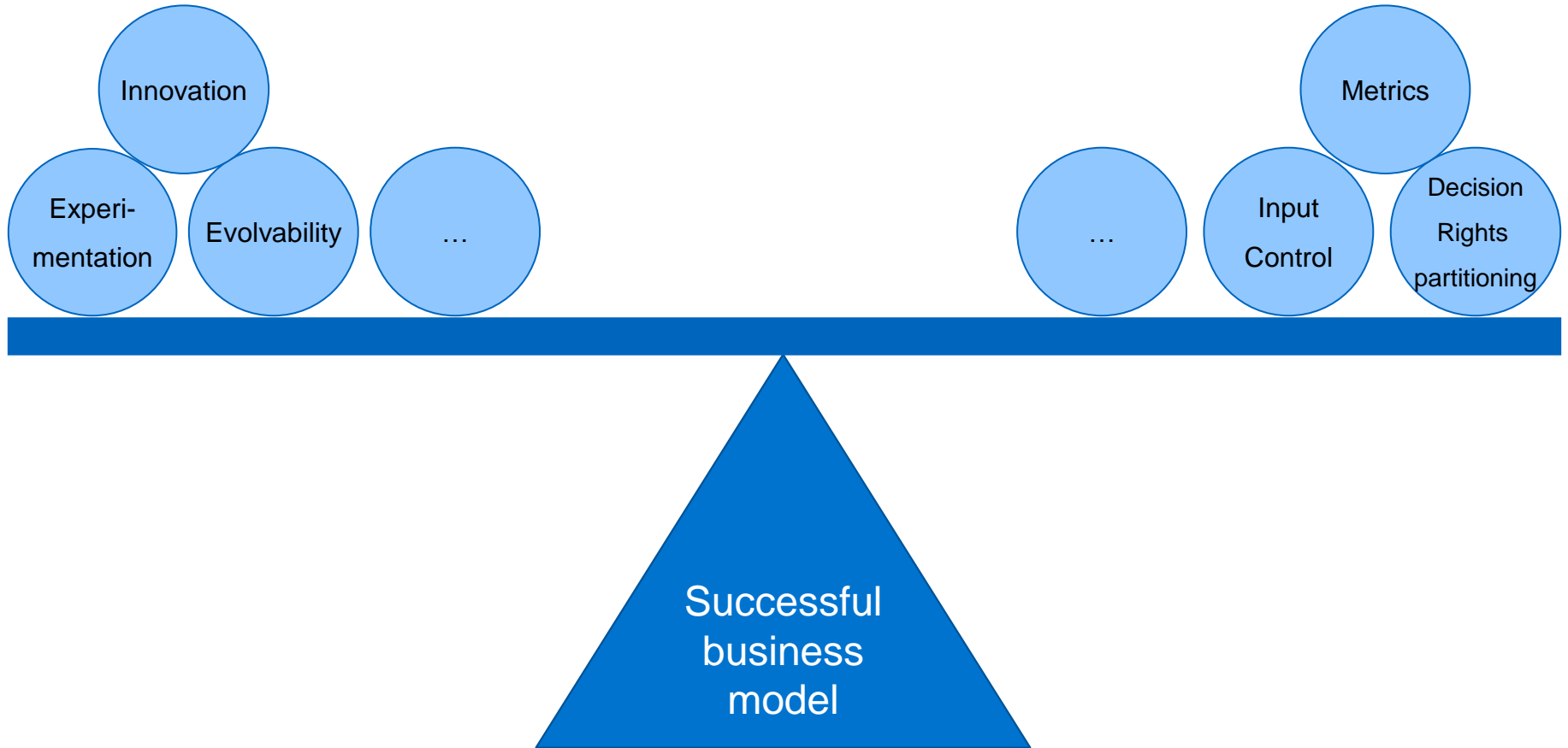






Current state

Successful business model requires balanced governance approach



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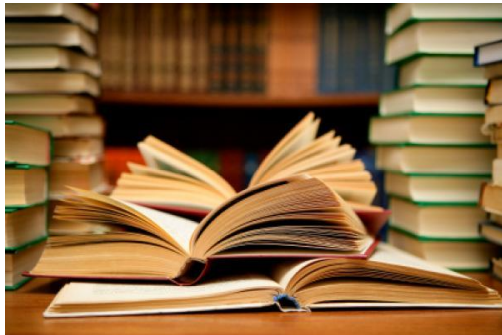
4. Next steps



Interviews?



How to recognize success factors?



Extend literature review



Thank you for your attention!
Any questions?



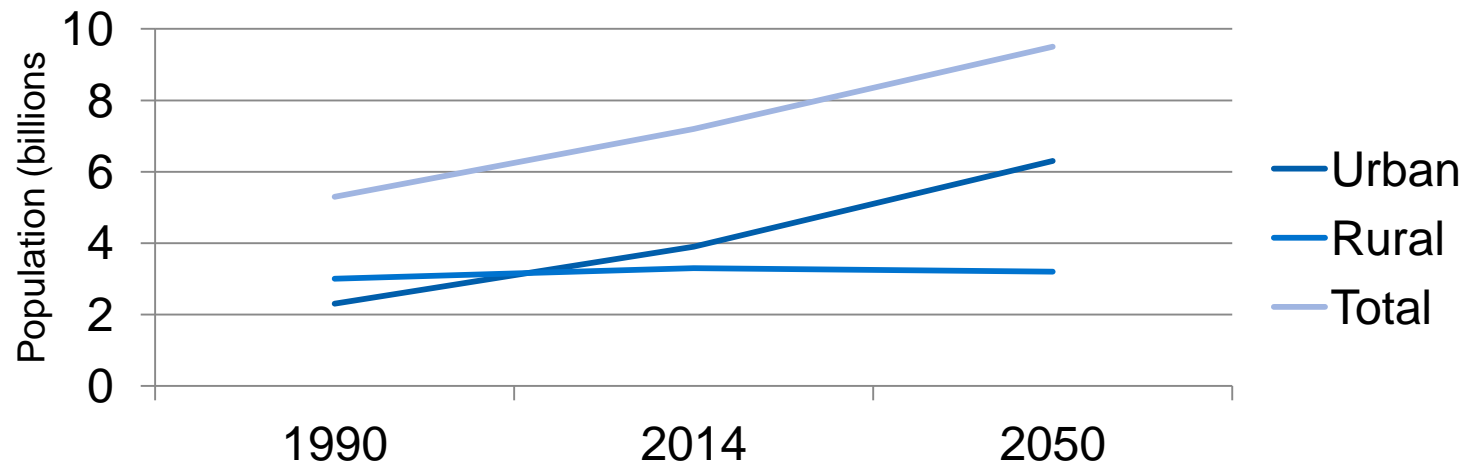
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Backup

World Population (2050)



World population development



Congestions spill resources, time, and money

Spilled resources per auto commuter in the US (2014)



19 gallons (~72 litres) of fuel



\$960 congestion cost



42 hours of delay

Sources: Schrank et al. (2015),

<http://www.thegreenage.co.uk/wp-content/uploads/2013/02/crude-oilbarrel.jpg>,

http://shirta.de/media/catalog/product/cache/1/small_image/295x295/9df78eab33525d08d6e5fb8d27136e95/s/a/sanduhr-d76216801.png, <https://www.colourbox.com/preview/4282123-dollar-banknotein-a-sack.jpg> (all 25.01.2016)

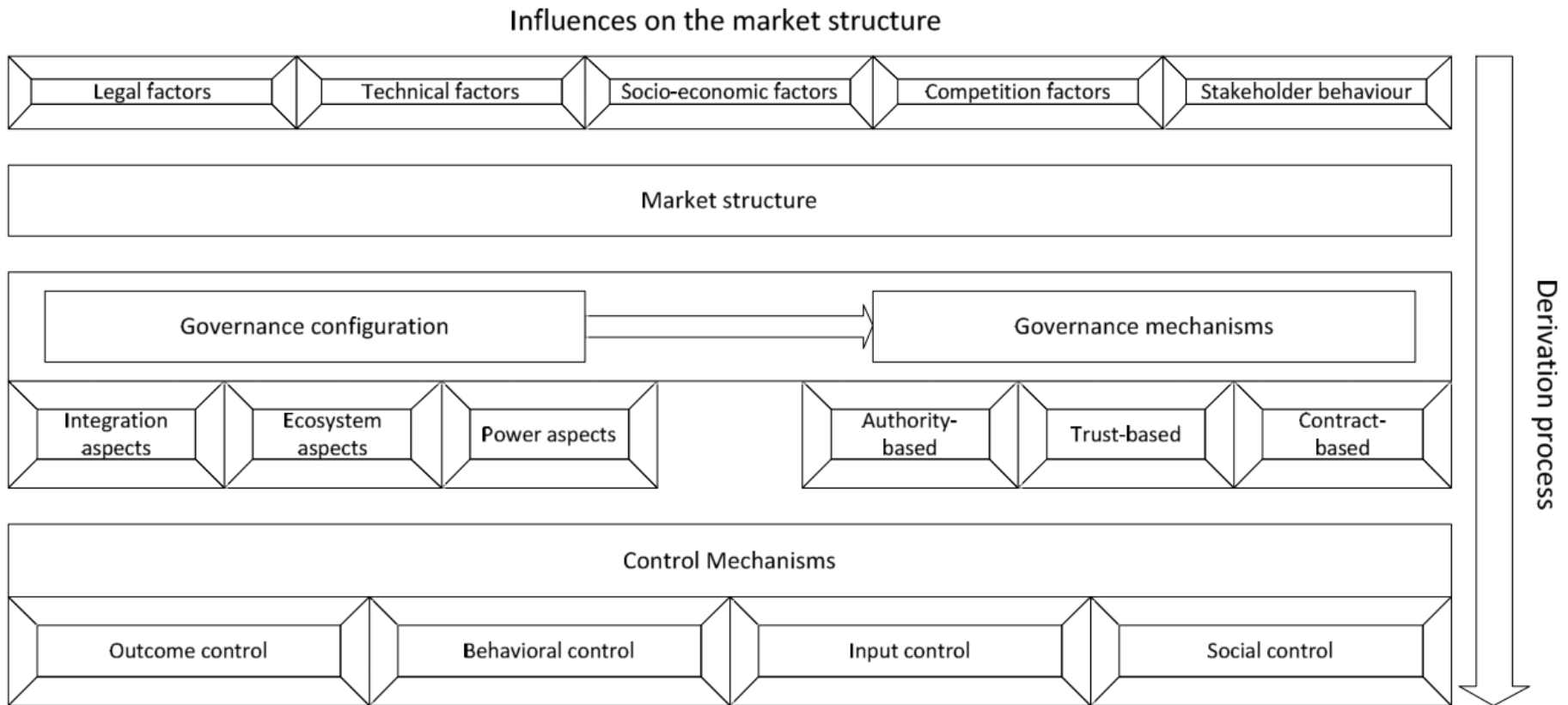
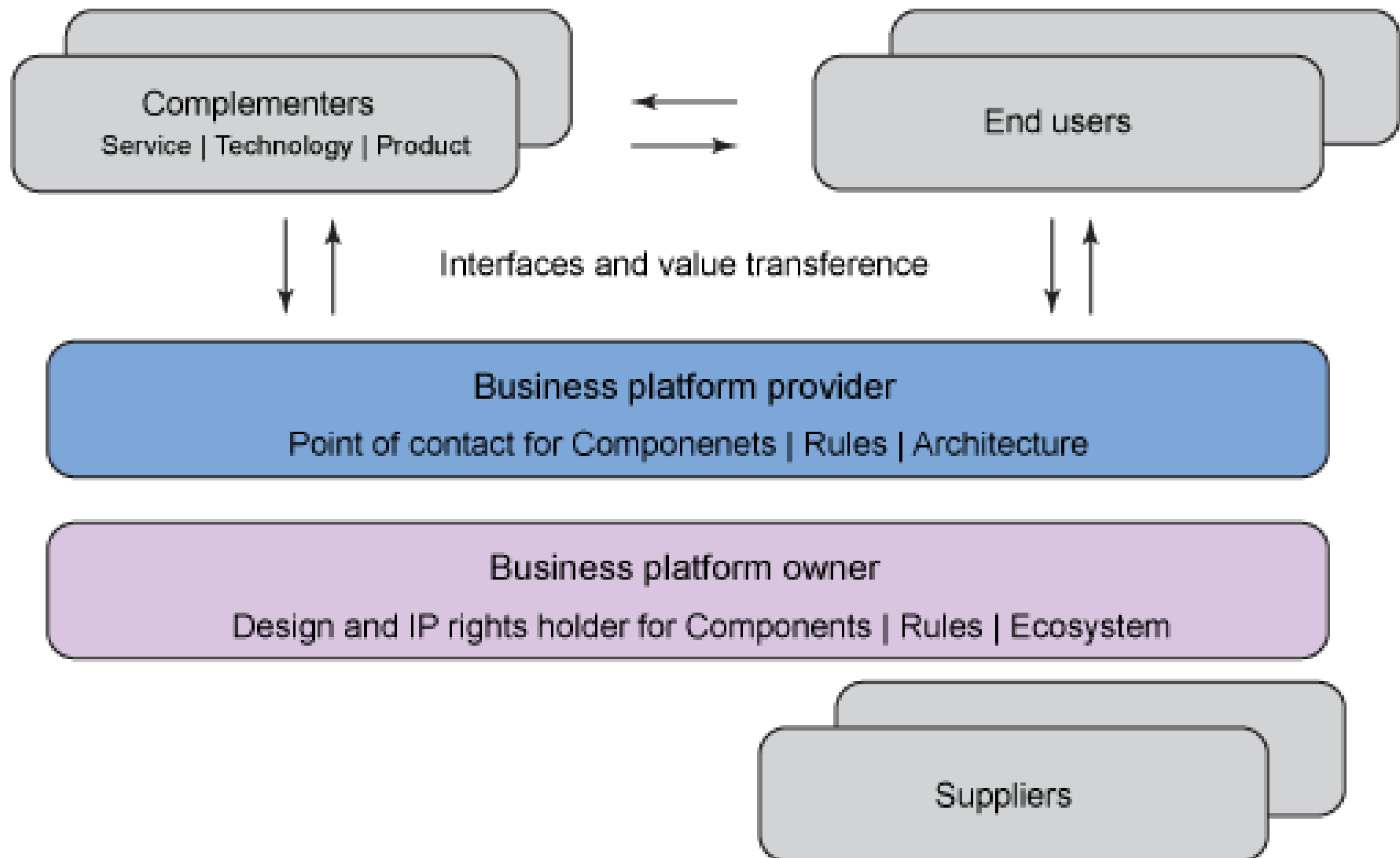


Figure 3. Framework for the analysis and implementation of platform governance

IBM's vision of a platform ecosystem



Source: <http://www.ibm.com/developerworks/cloud/library/cl-cloudecosystem/>