Quantitative VCA with MNE-specific Case Studies

The quantitative version of your value chain analysis (data from MNE)

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Transforming the World of Tax

Agenda

01 Definition of VCA 2.0

02 Regulatory Anchor

03 Industry Anchor

04 Case Studies

Value Chain Analysis: Definition

- The **entire performance process of a company**, from R&D to delivery to end consumers.
- There is no **100 % objective method** to conduct a value chain analysis.
- Each VCA should start with **identifying the value chain within the industry.**
- Mapping the “value creation” requires identifying and separating **the value-creating activities of an MNE**.
- Value chain linkages should **contain evidence in the relevant context**. E.g., prices, cost premiums, margins, etc., are considered reasonable.

VCA 1.0 – The qualitative version of your value chain analysis

VCA 2.0 – The quantitative version of your value chain analysis (data from MNE)

VCA 3.0 – The quantitative version of your value chain analysis (data from the industry)

What is VCA 2.0 and where to use it?

VALUE CHAIN ANALYSIS

WEBINAR SERIES

What is VCA 2.0 and where to use it?

VCA 2.0 is a quantitative value chain analysis, which is presented as a corroborative method for transactional transfer pricing using the available data of the Group, and should not be confused with the profit split method.

In order to make the quantitative VCA more objective, TPA uses the following anchors:

- Regulatory and OECD anchor – country's regulations requirements;
- Industry anchor – variables/value drivers that have an economically significant impact on your EBIT.

VCA 2.0 has been used by TPA for our clients in the following aspects:

- Design of Tax/TP system;
- Implementation of Tax/TP system;
- Documentation of Tax/TP system;
- Defense/controversy management of Tax/TP system;
- Establish the link between strategy/business model versus Tax/TP.

Regulatory Anchor

- OECD
- IRS Regulations and Guidance
- Federal Rules of Evidence
- UN Practical Manual on Transfer Pricing (2021)

OECD reference materials

each point below should be scored with:
1 – the quantification meets the criterion or
0 – the quantification does not meet the criterion

Quantification

1. The quantification should be based on **objective** data.
2. The quantification should be based on **comparable** data.
3. The quantification should rely on all the **economically significant** functions, assets, and risks contributed by the parties to the value driver.
4. There should be a **strong and relatively consistent correlation** between the variable and the creation of value represented by the relevant profits.

Allocation keys

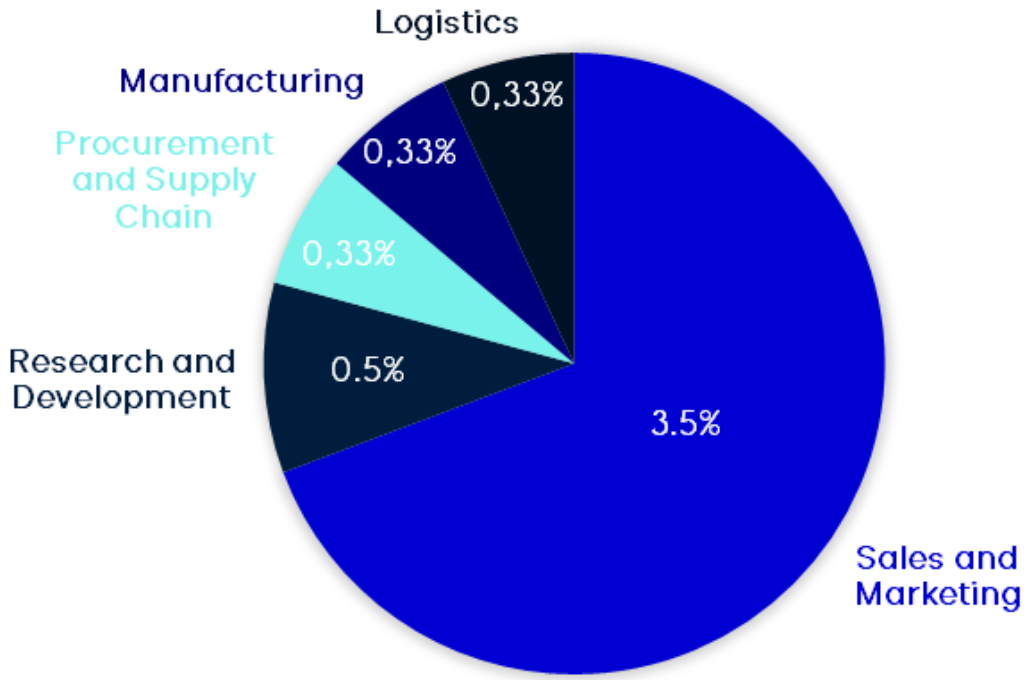
1. Allocation keys should be based on **objective** data.
2. Allocation keys should be supplemented where possible **by external market data** that indicate how independent enterprises would have divided profits in similar circumstances.
3. Keys for the allocation of profits may be based on the **relative contributions** of the parties, as measured by their functions, assets used , and risks assumed.
4. Allocation keys should demonstrate a **strong correlation** between the allocation key and the value created.

Source: OECD Guidelines 2017, OECD Guidelines 2022, BEPS Report on Actions 8-10, published in October 2015

Case Study – Chemical Industry

Facts and Assumptions under the <u>Transactional Approach</u>

- Total operating margin of the 5 value drivers = 5%
- Under the transactional benchmark, the profit (EBIT) allocated to the sales and marketing function is 3,5%.
- Patent portfolio was held, maintained, and paid for by the Dutch group entity for which a gross royalty was being applied (leaving 0.5 % EBIT)
- This leaves 1% (5 % minus 3.5 % minus 0.5 % =1%) for the value drivers #2 #3 & #4



Questions on Case Study

- Assume the management instructs you to perform a Value Chain Analysis with a focus on the value driver #1 (R & D in the Netherlands) and #5 (sales & marketing in 40 countries). Please complete the next slides and apply the scoring metrics explained before
- Complete the combined score and present your outcome to the management of the chemical MNE

Chemical Industry

Visualization of the Company's value chain

	#1	#2	#3	#4	#5
Functions	The company provides strategic management and direction of the R&D function withing the company's business. The company funds all R&D activities withing the group.	The process for planning and forecasting raw materials needs is based on the sales forecast for each business segment. The process of determining the production schedule for a company's manufacturers is a bottom-up process representing the convergence of forecast demand and available capacity.	The manufacturing process is highly automated and has been standardized within the company. Despite heavy automation, there is still a need for manufacturing employees with the necessary skills to operate the plant safely and efficiently.	Delivery of final products is organized by the manufacturing plant and is detailed in the terms of customer contracts. The goal is to deliver the product to the customer in a form that meets their need in the most cost-effective manner.	A formal sales plan is drawn up each year by the commercial leadership of each business segment. The sales plan is developed initially by the commercial or sales directors from bottom-up input provided by the account managers.
Risks	Market and business risk R&D risk.	Compliance risk Supply risk Inventory risk Price risk Foreign exchange risk Product liability risks for upstream material	Inventory risk Foreign exchange risk Product liability risk Credit risk Warranty risk	Transportation risk	Market and business risk Product liability risk Credit risk
Assets	Tangibles: Land and buildings associated with its offices, the production plant and warehouses, machinery and production equipment, furniture and fixtures, office equipment, and transportation vehicles. Intangibles: All intangible property developed by the company is owned by company X funds all costs, and manages all key decisions and risks relating to R&D.				

Value Driver #1 (R&D) /Chemical Industry

Definition for quantification scoring	Quantification score (0 or 1)	Definition for allocation key scoring	Allocation key score (0 or 1)
Value Driver #1		Value Driver #1	
Based on the objective data	1	Based on the objective data	1
Based on comparable data	1	Based on comparable data	0
Relies on all the economically significant functions, assets, and risks contributed by the parties to the value driver.	1	Allocation of profits may be based on the relative contributions of the parties, as measured b y their functions, assets used and risks assumed.	0
There is strong and relatively consistent correlation between the variable and the creation of value represented by the relevant profits	1	Strong correlation is found between the allocation key and the value created.	0
Total score (quantification)	4	Total score (allocation)	1

Value Driver #5 (Sales & Marketing) Chemical Industry

Definition for quantification scoring	Quantification score (0 or 1)	Definition for allocation key scoring	Allocation key score (0 or 1)
Value Driver #5		Value Driver #5	
Based on the objective data	1	Based on the objective data	1
Based on comparable data	1	Based on comparable data	1
Relies on all the economically significant functions, assets and risks contributed by the parties to the value driver.	1	Allocation of profits may be based on the relative contributions of the parties, as measured by their functions, assets used and risks assumed.	1
There is strong and relatively consistent correlation between the variable and the creation of value represented by the relevant profits	1	Strong correlation is found between the allocation key and the value created.	1
Total score (quantification)	4	Total score (allocation)	4

Combined Results

#	Value drivers	Quantification score	Allocation key score	Average score
1	Value Driver #1	4	1	2.5
5	Value Driver #5	4	4	4
Average		4	2.5	3.25

Steps:

- Please calculate the combined average score
- Given the score how relevant would the VCA be for “Slicing the profit pie”?
- How do you rank the “transactional transfer pricing” versus the VCA approach?

Relationship transactional transfer pricing and VCA 2.0

Scenario 1: total average score is close to 4 (3.0 -4)

VCA might become the prevailing approach once the dataset shared with tax authorities is almost exclusively based on a holistic and global profit, e.g trends like CbCr as well as pillar 1 and pillar 2 are illustrations of such an approach;

Scenario 2: total average score is close to 3 (2.0-3)

VCA is considered the corroborative approach to transactional transfer pricing if sufficient and quality data is available;

Scenario 3: total average score is equal or lower than 2

Transactional transfer pricing remains dominant in case not enough/ not enough quality data and information on VCA is available.

Country-by-Country Report and VCA

Source: BEPS Action 13 Country-by-country Reporting Handbook on Effective Tax Risk Assessment September 2017

Country-by-Country Report (CbCr) requires the ultimate parent entities of large MNE groups to file a CbCr with the tax authority in their residence jurisdiction, containing information (CbCR information) relating to the global allocation of the group's income and taxes, together with indicators of the location of economic activity within the group. *Para. 1 of BEPS Action 13 Country-by-country Reporting Handbook on Effective Tax Risk Assessment, 2017*

Source: OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations January 2022

- The CbCr requires aggregate tax jurisdiction-wide information **relating to the global allocation of the income**. *Para. 5.24 of OECD Transfer Pricing Guidelines, 2017 + Para. 5.24 of OECD Transfer Pricing Guidelines, 2022*
- The CbCr will be **helpful for high-level transfer pricing risk assessment purposes**. It may also be used by tax administrations in evaluating other BEPS related risks and where appropriate for economic and statistical analysis. *Para. 5.25 of OECD Transfer Pricing Guidelines, 2017 + Para. 5.25 of OECD Transfer Pricing Guidelines, 2022*

Relevance: VCA contributes to the assessment of objective risk mitigation through CbCr analysis and compliance.

Other Regulatory Guidance - e.g. United States

- U.S. Treasury Regulations Section 1.482-1(f)(2)(iv) "Product lines and statistical techniques"

The methods described in Section 1.482-2 through 1.482-6 are generally stated in terms of individual transactions. However, it is permissible to evaluate the arm's length results by applying the appropriate methods to the overall results for product lines or other groupings. In addition, the arm's length results of all related party transactions entered into by a controlled taxpayer may be evaluated by employing **sampling and other valid statistical techniques.**

- Development of IRC 482 Cases IRS Internal Program Audit Guidelines 13 December 2018

"9. The issue team should perform an analysis to compute key financial ratios for multiple years, **make industry comparisons**, and consider whether cross-border income shifting is occurring. Ratios should be based on both tax and financial data. The ratios are useful as **a diagnostic tool** to help focus the examination. Each examination will have different considerations and key financial ratios….."

- Rule 702 of Federal Rules of Evidence "sufficient facts or data;"

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(a) The expert's **scientific, technical, or other specialized knowledge** will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) The testimony is based on **sufficient facts or data**;

(c) The testimony is the product of **reliable principles and methods**; and

(d) The expert has **reliably applied the principles and methods** to the facts of the case.

Industry Trends & Profitability

TPA’s Approach to a holistic value chain analysis

Industry Trends & Profitability

- # of players
- Maturity level
- Cycles of products/services
- Portfolio approach of multiple products/services
- Strategic positioning
- Stability of customer/supplier relationship
- Ability to deal with transformation
- B2B, B2C or other configurations
- Regulatory aspects
- Other thresholds for entering

Shein: The Chinese company storming the world of fast fashion

Source: Eley, J and Olcott, E. Shein: the Chinese company storming the world of fast fashion (December 9, 2022) Retrieved October 2022 from Financial Times. https://www.ft.com/content/ed0c9a35-7616-4b02-ac59-aac0ac154324

Shein has seized over a quarter of the US fast-fashion market and its rapid growth threatens to disrupt established global players such as Spain's Inditex and Sweden's H&M. The business is built around the fast-fashion model pioneered by others, including Inditex's Zara. But through use of automation, artificial intelligence and a well-drilled supply chain, Shein has found a way to do it both cheaper and faster.

The company's detractors say its business model relies on tax loopholes, a flexible attitude to intellectual property and scant regard for corporate and social responsibility. "I think it should be closed down," grumbles the chief executive of one big fashion retailer.

In the process, Shein has become one of the few Chinese consumer brands to break through in the US and European markets. The company's competitiveness also calls into question the notion that the era of super-cheap manufacturing in China is over.

Each day, it adds 6,000 new items online, far more than any comparable retailer manages. It responds in real time to trends picked up not by fashionistas and designers but by analytics software, which trawls through shopping and social media website

Shein also makes a much greater proportion of its sales via mobile apps rather than conventional websites and has borrowed ideas from the world of gaming — such as countdown clocks and even games with discounts as prizes — to boost engagement and spend in that channel

The ‘Tesla-financial complex’

Source: Wigglesworth, R. The ‘Tesla-financial complex’. (November 24, 2021). Retrieved October 2022, from https://www.ft.com/content/17f0cd1f-e751-4ddb-b13c-ea4e685b55c0 By: The Financial Times

The rally in Tesla’s shares has lifted the overall stock market value of Elon Musk’s electric carmaker to over $1.1tn, making it one of the most valuable companies in the world.

However, the real importance and wider footprint of what might be called the “Tesla-financial complex” far outstrips the company’s market capitalisation. This is thanks to a vast, tangled web of dependent investment vehicles, corporate emulators and an enormous associated derivatives market of unparalleled breadth, depth and hyperactivity. Combined, these factors mean Tesla’s influence over the ebb and flow of the stock market is far greater than even its size would imply.

Options to trade

One of Tesla’s oddest quirks is the fuel that has helped power its rocketing stock market value. Although its stock is wildly popular with many ordinary retail investors, the swelling size and hyperactivity of Tesla “options” (…) has also flabbergasted many market veterans.

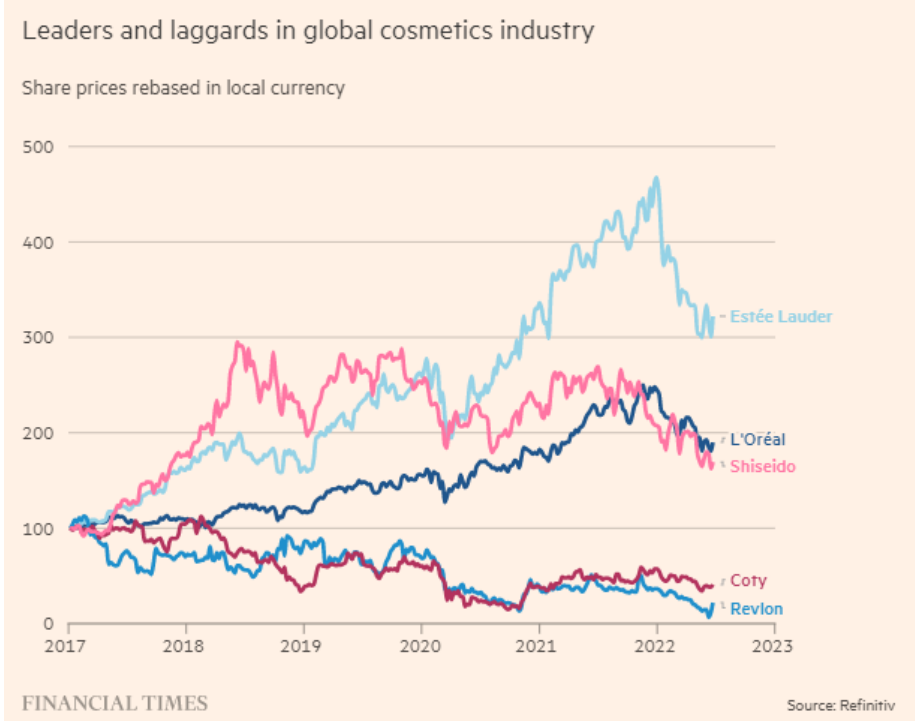
How the Beauty Industry left Revlon Behind

Source: Abbound, L. How the beauty industry left Revlon Behind (June 26, 2022) Retrieved October 2022, from Financial Times. https://www.ft.com/content/475c0a97-b26f-4687-a775-fcc01253d1ba

Even the stock market's top performers in the beauty sector have struggled this year as investors become alarmed by a confluence of Covid-19 limits in China and worries over a world recession. Shiseido is down 18%, L'Oréal is down 22%, and Estée Lauder is down 30% compared to the Dow Jones Industrial Average and the global consumer staples indices. This year, Coty has decreased by 30%, while Revlon has decreased by 38%.

Analysts said that Revlon's brands failed to adapt to consumers' shifting preferences, which began to place a greater focus on self-expression and accepting faults than on unachievable beauty standards. Because of its shortcomings in skincare, Revlon was unable to capitalize on the growth of that industry.

Revlon was unable to buy independent brands to update its product lineups due to a strained balance sheet. The business will go on operating after applying for bankruptcy protection in court while it develops a repayment strategy for its creditors.

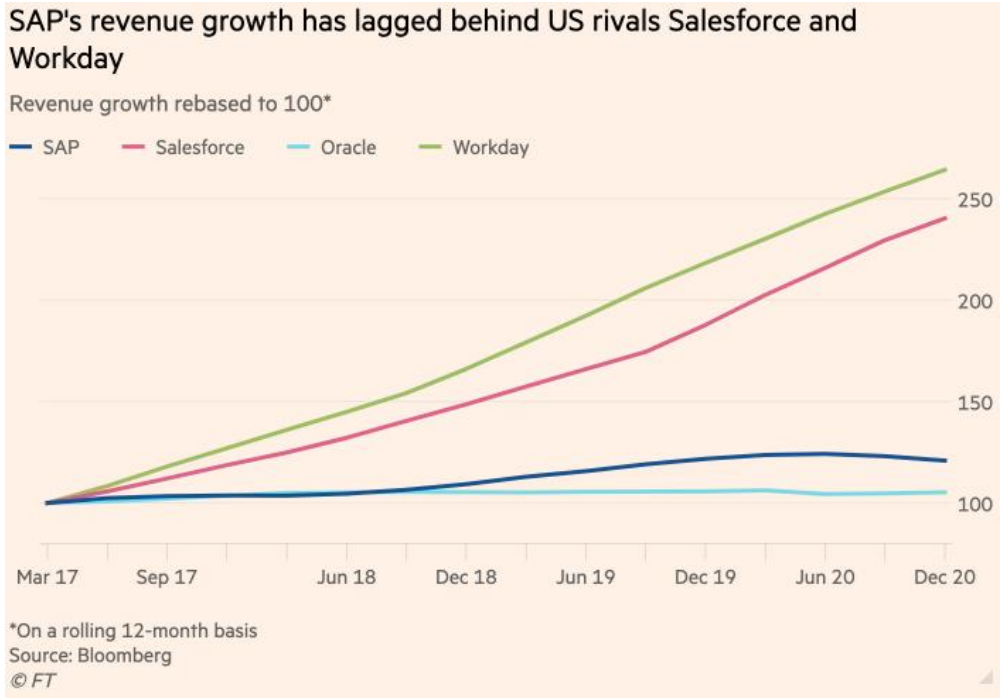


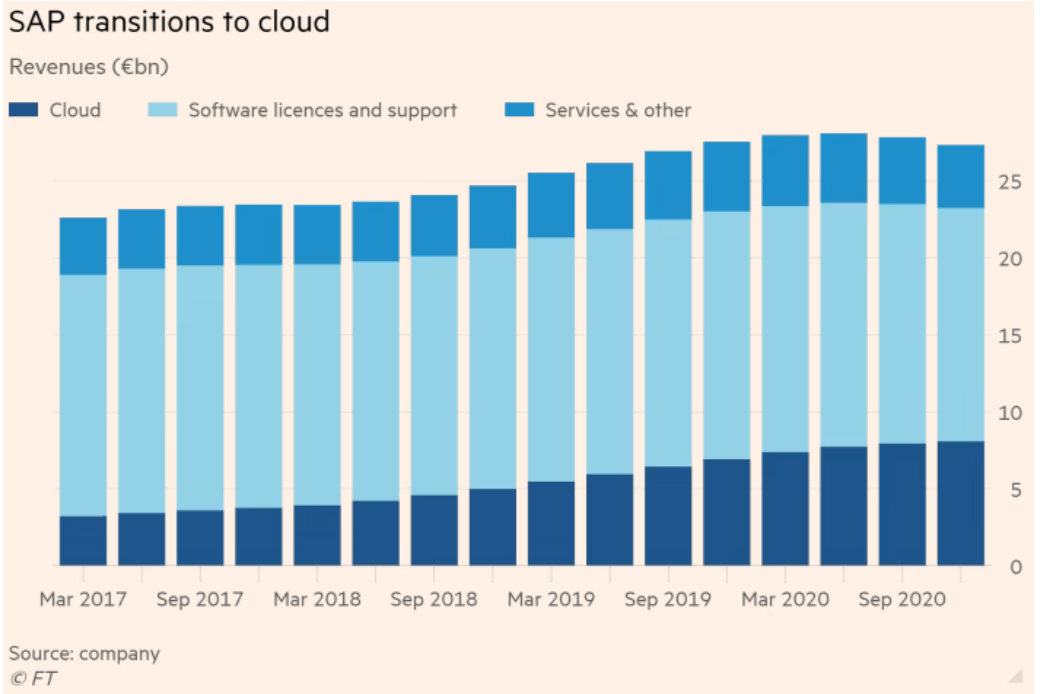
Can Christian Klein steer SAP into the cloud era?

Source: Miller, J. Can Christian Klein steer SAP into the cloud era? (Feb 02, 2022). Retrieved October 20, 2022, from https://www.ft.com/content/e9591001-4557-4503-9347-827b899f50db Publication By: Financial Times

The bigger challenge for Mr Klein, and his newly refreshed management team, was to make customers believe that SAP had more to offer than smaller, more focused rivals and become “a very dominant cloud player in 2025”.

Ever since taking the helm in April, Mr Klein has been working on a new product to help his cause. “Rise with SAP” is a pre-packaged suite, offering services such as robotic process automation and artificial intelligence on one single platform, designed to “bring the pieces [of SAP] together” and simplify the move to the cloud.





Industry Profitability Levels

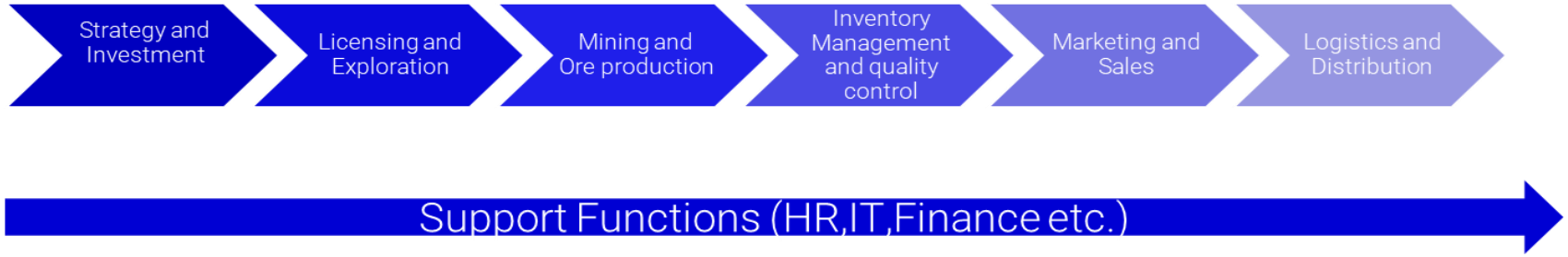
Industry Name	Number of firms	Gross Margin	Net Margin	Pre-tax, Pre-stock compensation Operating Margin	COGS/Sales	R&D/Sales	SG&A/ Sales
Chemical (Basic)	879	19.48%	7.40%	10.68%	80.52%	1.28%	6.96%
Chemical (Diversified)	68	27.28%	7.69%	10.30%	72.72%	2.49%	13.35%
Financial Svcs. (Non-bank & Insurance)	1089	56.07%	22.08%	12.15%	43.93%	0.79%	32.61%
Metals & Mining	1783	25.48%	11.50%	16.64%	74.52%	0.53%	5.07%
Software (Entertainment)	320	60.47%	20.60%	29.95%	39.53%	15.36%	23.27%
Software (Internet)	152	39.03%	-13.33%	6.59%	60.97%	11.72%	27.11%
Software (System & Application)	1648	66.03%	11.17%	25.02%	33.97%	17.00%	30.25%
Total Market	47913	32.10%	8.51%	10.88%	67.90%	2.12%	3.81%
Total Market (without financials)	42593	28.69%	7.24%	11.49%	71.31%	2.36%	11.85%

Source Date updated: 5-Jan-2023
Created by: Aswath Damodaran, adamodar@stern.nyu.edu
What is this data? Profit margins (net, operating and EBITDA)

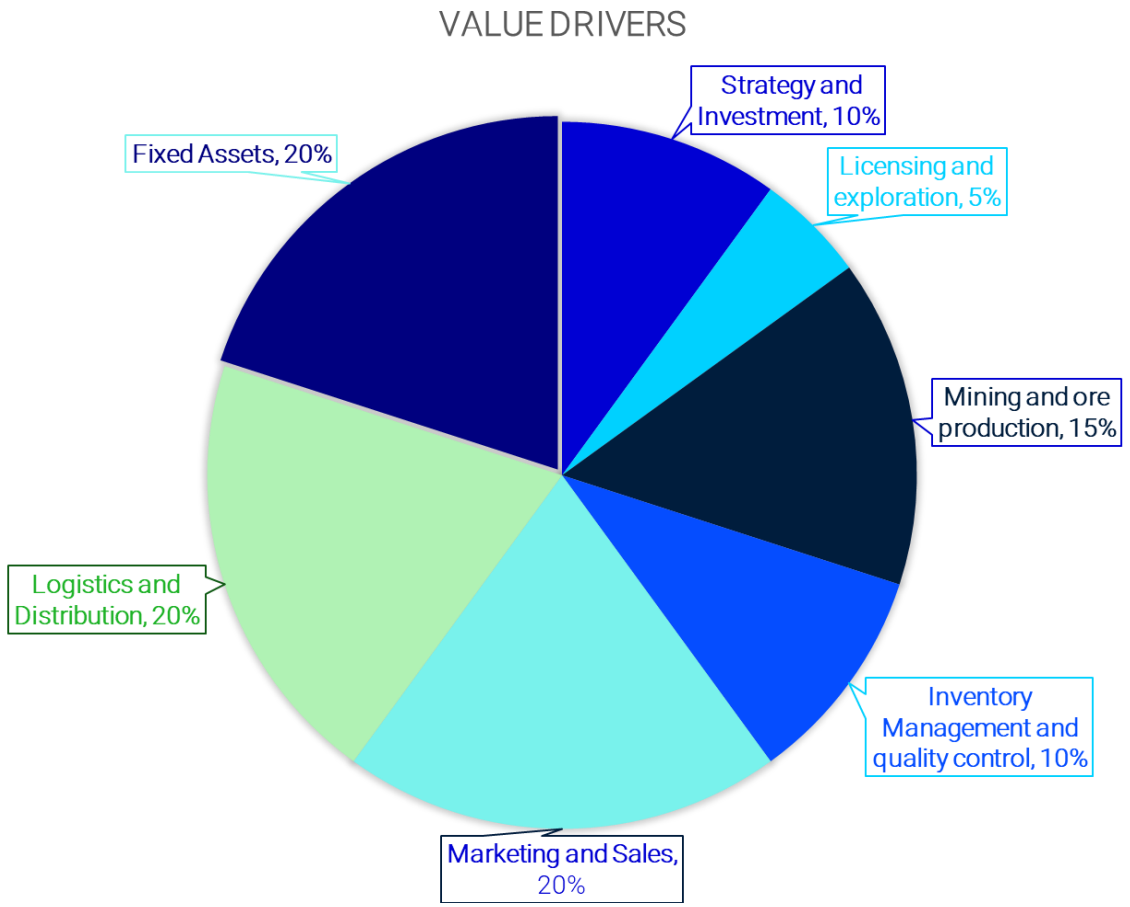
Quantification and Allocation Techniques

- Case Studies

The mining industry in the context of a quantitative VCA

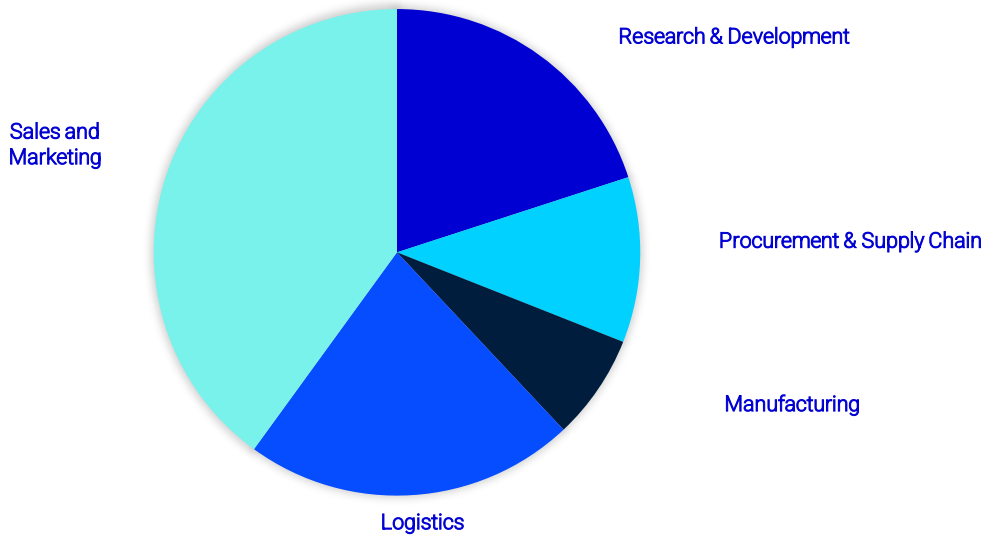


Steps for quantitative VCA:
1. Apply a return on mining assets
2. Apply a split of residual result on 6 value drivers of value chain
3. Use FTE (people) to put a weighting on each of the 6 value drivers



Question: How do you make sure the steps comply with the criteria (quantification and allocation) provided in case study no.1?

Global Profits + VCA + Segmented P&L



Research & Development → Procurement & Supply Chain → Manufacturing → Logistics → Sales & Marketing

P & L Table for Research & Development	
Turnover (Sales)	10,000,000
COGS	8,000,000
Gross Margin	2,000,000
SG & A	1,500,000
Operating Income (EBIT)	500,000
Operating Margin	5%

P & L Table for Manufacturing	
Turnover (Sales)	200,000,000
COGS	140,000,000
Gross Margin	60,000,000
SG & A	55,000,000
Operating Income (EBIT)	5,000,000
Operating Margin	2.5%

P & L Table for Distribution (Logistics and Sales & Marketing)	
Turnover (Sales)	600,000,000
COGS	300,000,000
Gross Margin	300,000,000
SG & A	210,000,000
Operating Income (EBIT)	90,000,000
Operating Margin	15%

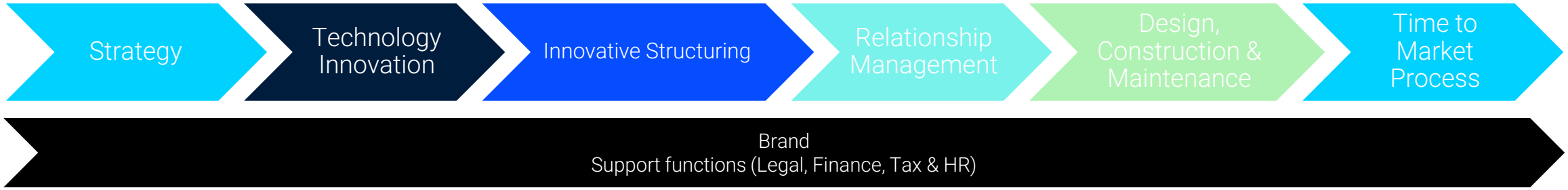
Amazon Value Chain Analysis

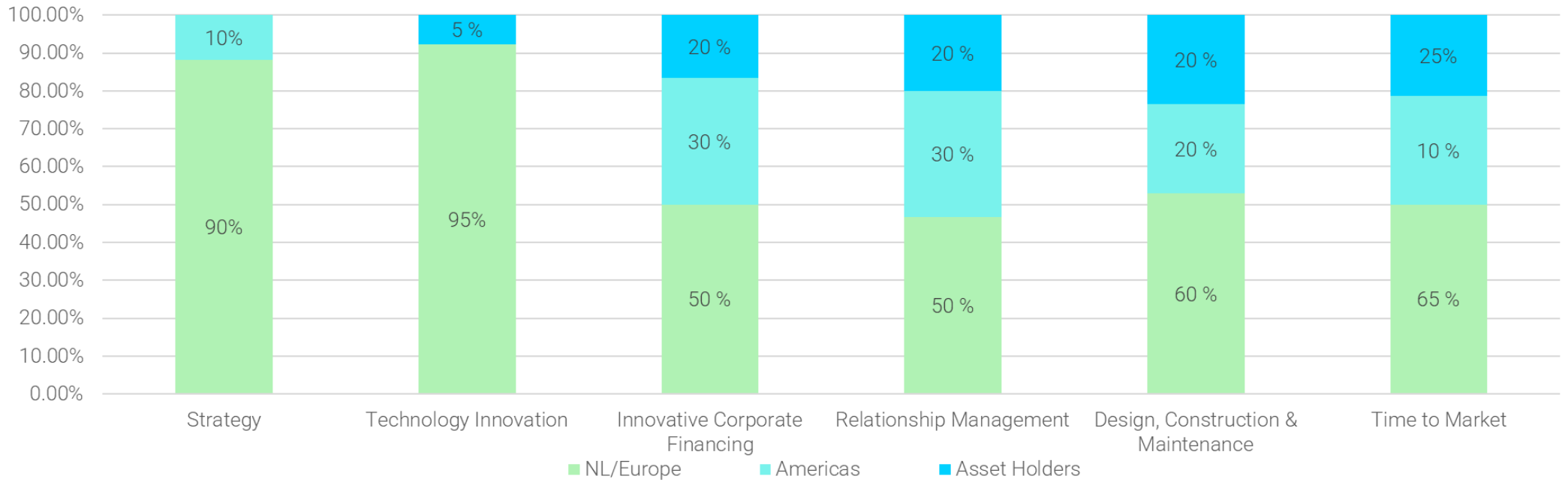
Source: Huibregtse, S. Verdoner, L and Jalan, N. (2022) Digital economy taxation – Discussion on the existing developments, possible alternatives and way forward

Amazon – transportation business unit

	Activities by MNEs						Activities by local third-party actors								
	HQ	Sourcing of data	R&D	Supply chain / own servers	Manufacturing of data	Sales & Marketing of data	Use of platform	Buy through platform	Supply through platform	ISP supporting platform access & traffic	Server parks handling data storage & retrieval	Media agents with sponsored links	Media agents buying data	Transportation facilitators	Financial services
Development platform	X		X												
Creating data		X					X	X	X						
Collecting data			X	X						X	X				
Cleansing data			X	X							X				
Profiling of data	X		X		X										
Creation of datasets	X		X		X										
Storage & retrieval of data			X	X	X						X				
Consumption of data	X		X	X		X					X	X	X		
Monetize & deployment of data	X		X	X		X								X	X
Sub total	5	1	8	5	3	2	1	1	1	1	4	1	1	1	1
Total						24									8-12

Data storage, data traffic services industry in the context of a quantitative VCA

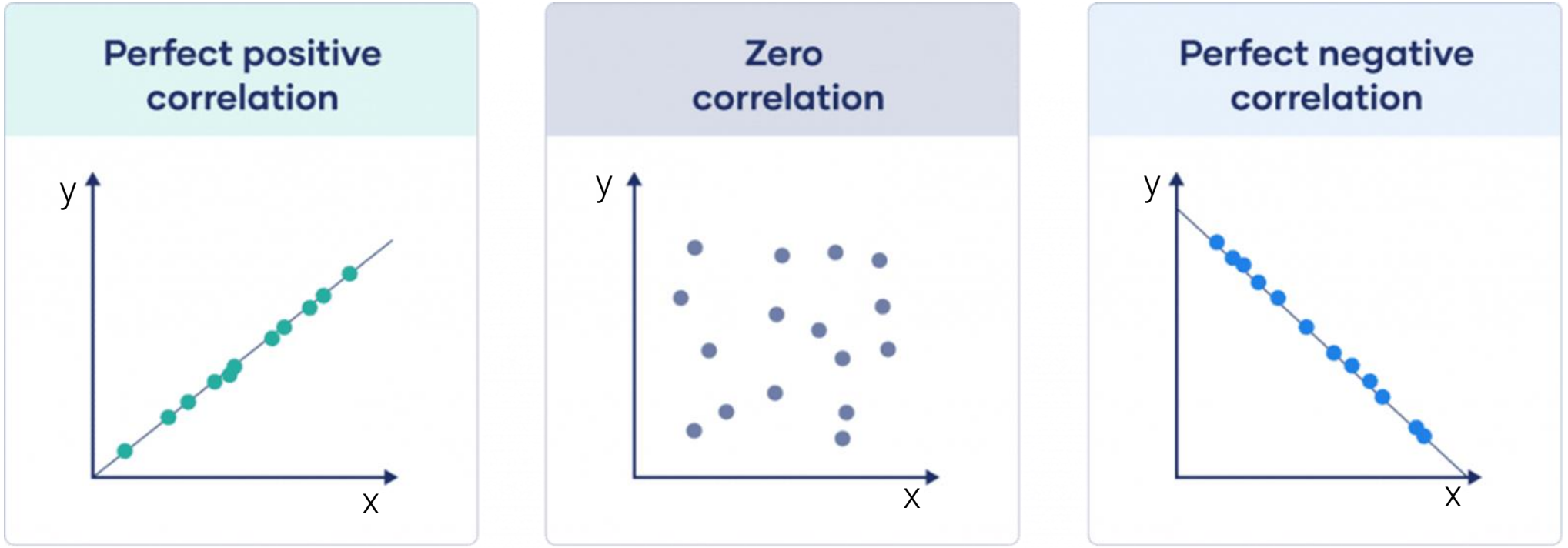




Question: How does the VCA get impacted in case of a business restructuring?

VCA 3.0- What's Next?

A **correlation analysis** is a statistical method that is used to discover if there is a relationship between two variables/datasets, and how strong that relationship may be, allowing the identification of **usable variables** in connection with each other as the OECD intended.



Key Takeaways

- A balancing act between transactional TP vs VCA
- OECD/EU/Country specific references to VCA provide a solid anchor
- How reliable is your VCA 3.0? - apply the criteria from OECD
- With 6 years of VCA experience (design, implementation, documentation & controversy) and trend in model (CBCR & Pillar II) VCA is here to stay.
- Join our VCA 3.0 in May!