# "商务视角下的数据分析"课程所覆盖的专题

- 1. 简介
- 2. 商务思维 (Business thinking)
  - <mark>所谓的"商务 (BUSINESS</mark>)" 其实就是学会做出获得更多利润的决策 (making decisions to earn more profit)
  - 管理技巧 (Management skills) 如何落实那些决策
  - 试试<mark>创业</mark>? 可以! 但是要慎重!!
- 3. 数据分析的方法概览 (Data Analytics methods)
  - 其实,数据分析有着悠久的<mark>历史</mark> (<u>HISTORY</u> view about Data Analytics)
  - 理解数据分析方法的 一点<mark>优化</mark>的技巧 (<u>OPTIMIZATION</u>)
  - 来自<mark>统计</mark>学的数据分析方法 (STATISTICS) 基于抽样的推断 (一个有趣的视角来梳理而已,不重复)
  - 来自<mark>机器学习</mark>的数据分析方法 (<u>BASIC + ADVANCED</u>) 基于数据的知识发现 (KDD)
- 4. 实用技巧 (Practical skills)
  - 大商务,需要大数据
  - 大商务的两个挑战: "<mark>秒杀</mark>"和 "精准广告/推荐"
- 5. 课程总结



# 管理技巧 (Management skills) – 知己知彼

- □了解你的目标客户
  - 将客户分等级 (RFD)
- □了解<mark>你自己</mark> 找准战略,用好人,增强执行力
  - 做好战略规划
    - ➤ Planning (**SWOT**) 成本很重要
  - 找准人 (DISC,MBTI), ...
  - ●增强执行力
    - ➤抓核心指标(Balanced Score Board + KPI),
    - ▶ 有问题就要找到(主要)原因
      - √ (Why-Why, Fishbone, Pareto, ...)
    - ▶群策群力来解决
      - √ (Brainstorm, Osborn's Checklist, ...)



# **RFM** analysis

Recency 新近性

#### □ Recency, Frequency, Monetary

- 在众多的<u>客户关系管理</u>(CRM)的分析模式中,RFM模型是被广泛提到的。RFM模型是衡量客户价值和客户创利能力的重要工具和手段。
- 该模型通过一个客户的近期购买行为、购买的总体频率以及花了多少钱三项指标来描述该客户的价值状况。
- 实际运用上,我们只需要把每个维度做一次两分即可,这样在3个维度上我们依然得到了8组用户。这样,之前提的四个问题,就能很容易被解读(编号次序RFM,1代表高,0代表低)
  - 1. 重要价值客户(111):最近消费时间近、消费频次和消费金额都很高,必须是VIP!
  - 2. 重要保持客户(011):最近消费时间较远,但消费频次和金额都很高,说明这是个一段时间没来的忠诚客户,我们需要主动和他保持联系。
  - 3. 重要发展客户(101):最近消费时间较近、消费金额高,但频次不高,忠诚度不高, 很有潜力的用户,必须重点发展。
  - 4. 重要挽留客户(001):最近消费时间较远、消费频次不高,但消费金额高的用户,可能是将要流失或者已经要流失的用户,应当给予挽留措施。



□ RFM非常适用于生产多种商品的企业,而且这些商品单价相对不高,如消费品、化妆品、小家电、录像带店、超市等;它也适合在一个企业内只有少数耐久商品,但是该商品中有一部分属于消耗品,如复印机、打印机、汽车维修等消耗品;RFM对于加油站、旅行保险、运输、快递、快餐店、KTV、行动电话信用卡、证券公司等也很适合。

## □但是,RFM也不可以用过头,而造成高交易的客户不断收到信函。

■每一个企业应该设计一个客户接触频率规则,如购买三天或一周内应该发出一个感谢的电话或Email,并主动关心消费者是否有使用方面的问题,一个月后发出使用是否满意的询问,而三个月后则提供交叉销售的建议,并开始注意客户的流失可能性,不断地创造主动接触客户的机会。这样一来,客户再购买的机会也会大幅提高。



# 甚至可以与数据挖掘/机器学习算法结合

- □ 基于K-均值聚类法的客户分类过程应用K-均值聚类法<sup>⑤</sup>,以加权RFM为指标, 将具有相近的<u>顾客终身价值</u>的客户进行分类,基本思路如下:
  - (1)将RFM各指标标准化。
  - (2)应用AHP法 (Analytic Hierarchy Process: 层次 学习了K-均值聚类算法后, 并将各个指标加权。 可以再了解一下此算法
  - (3)确定聚类的类别数量m。
  - (4)应用K-均值聚类法对加权后的指标进行聚类,得到m>
  - (5)将每类客户的RFM平均值和总RFM平均值作比较,每次对比有两个结果:大于(等于)平均值和小于平均值,通过对比得到每类客户RFM的变动情况。
  - (6)根据每个客户类别的RFM的变动情况分析该客户类别的性质,如该客户类别是倾向于忠诚的还是倾向于背离的,然后在此基础上定义客户类型。
  - (7)对每类客户标准化后的各个指标取平均,将平均值加权求和,得到每类客户的顾客终身价值总得分,分析各类<u>顾客终身价值</u>的差别。

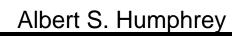


# 管理技巧 (Management skills) – 知己知彼

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      - √ (Brainstorm, Osborn's Checklist, ...)



# 要清楚自己的核心竞争力 (competence)





- 口在了解了3链分析后,还要知晓自己的 <u>Pros & Cons</u>,这样才能做好发展 战略
- □其中,用的比较多的就是 SWOT
- □ Strengths, Weaknesses, Opportunities, Threats
  - "知己知彼百战不殆" 知道彼此的什么?
    - > Strengths [强项]: characteristics of the business or project that give it an advantage over others.
    - Weaknesses [弱项]: characteristics that place the business or project at a disadvantage relative to others
    - ➤ Opportunities [机会]: elements that the project could exploit to its advantage
    - >Threats [风险]: elements in the environment that could cause trouble for the business or project



#### ■ SWOT Analysis for Sedibeng Breweries (Craft Beer)

#### **SWOT ANALYSIS**

	Helpful to achieving the objective	Harmful to achieving the objective
Internal origin	Strengths	Weaknesses
External origin	Opportunities	Threats

	<del>-</del>	
-	Strengths	Weaknesses
Ф	<ul> <li>Capital stock: We've established and and maintained a strong capital base.</li> <li>Marketing: Aggressive and focused marketing campaign with clear goals and strategies.</li> <li>Management team: Together have wide experience in product and business know-how.</li> </ul>	<ul> <li>savvy D.J.[ˈsævi]v.知道,了解; n</li> <li>Not tech-savvy: Establishing a reputation on the internet will be challenging.</li> <li>Quick expansion: There are a lot of new hires to train and organizational structures to learn.</li> <li>New: Don't have the reputation or money of the big breweries.</li> </ul>
	Opportunities	Threats
	<ul> <li>Packaging: New generation of consumers appreciate high-end bottling and labels.</li> <li>Craft beer niche: There is a growing community of craft beer appreciators in Botswana.</li> </ul>	<ul> <li>Vertical integration: Major breweries are establishing control of supply and distribution channels to corner the market.</li> <li>Price fluctuation: Huge fluctuations in prices of supplies may occur.</li> </ul>
	<ul> <li>Government programs: Promotion of and initiatives to support Botswana exports.</li> </ul>	<ul> <li>Competitor marketing: Competition could develop expensive new marketing campaigns.</li> </ul>

n. 机智,头脑,理解,悟性



above sb's bend 〈美〉力所不及的 The task is above my bend. 我无力完成这项任务。

# 信息准确基础上,制定战略也就简单了

disastrous consequences.

# 

- Two important things to focus on in the coming year, identified in the "Weaknesses" column, are
  - ▶ building and learning how to manage an information an efficient employee onboarding process and training.
     ✓ Use of the internet is only growing, so ignoring this

其实,生活中也 是一样:努力提 升自己!

- A potential business opportunity is a government-subsidiation,
  - ➤ ideally to target markets in neighboring countries that are very similar to Sedibeng's target markets in Botswana so that Sedibeng's strong marketing campaign can remain consistent



#### 2017年9月18日23:33:56 还是不讲了 - 时间不够呀

# SWOT分析中,成本是很重要的信息

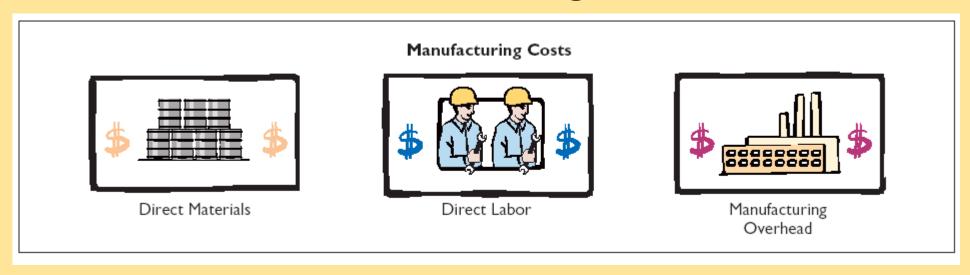
#### ☐ You have to know the COST of your service/product

- We've learned that the profitability computation is based on the COST and the PRICE
  - ➤ Of course, the final profit also needs to know the # of sold products
- We've learned
  - **➢** Gross **Profit** = **Total Revenue Costs of Sales** 
    - √ Total Revenue = Price of Product\*Number of Product Sold.
  - Cost of goods sold (COGS) is an accounting term to describe the direct expenses related to producing a good or service.
    - ✓ For goods, COGS is primarily composed of the cost of the raw materials that physically constitute the item.
      - » But cost of goods sold does not include indirect expenses, such as utilities, office supplies, or items not associated with the production of a specific good or service.



#### ■ Manufacturing Costs

- Manufacturing consists of activities to convert raw materials into finished goods.
  - In contrast, a merchandising firm sells goods in the form in which they were bought.
- □ Typical Classification of Manufacturing Costs





#### ■ Manufacturing Costs – Manufacturing Overhead

- Costs that are indirectly associated with manufacturing the product
- Examples include
  - > Indirect materials
  - ➤ Indirect labor
  - ➤ Depreciation [折旧贬值; 折旧] on factory buildings
  - ➤ Insurance, taxes, maintenance on factory facilities



■ Basically manufacturing overhead includes all manufacturing costs except direct materials and direct labor.



- In accounting, overhead usually refers to the indirect manufacturing costs. These are the manufacturing costs other than direct materials and direct labor.
- ☐ The actual overhead refers to the indirect manufacturing costs actually occurring and recorded.
  - These include the manufacturing costs of **electricity**, gas, water, rent, property tax, production supervisors, depreciation, repairs, maintenance, and more.

http://www.accountingcoach.com/blog/dfiffe rence-actual-overhead-applied-overhead



#### ■ Manufacturing Costs – Indirect Labor

- Indirect Labor
  - Work of factory workers that have no physical association with the finished product or for which it is impractical to trace to the goods produced
- Examples include:
  - ➤Wages [工资] of
    - √ maintenance workers
    - ✓ Supervisors
    - √ Time-keepers



time keeping system: 时间记录系统



□ Atlas Company produces two products—the Ab Bench and the Ab Coaster abdominal trainers.

- The Ab Bench is a high-volume item totaling 25,000 units annually.
- The Ab Coaster is a low-volume item totaling only 5,000 units per year.
- The direct materials cost per unit is \$40 for the Ab Bench and \$30 for the Ab Coaster.
- The direct labor cost is \$12 per unit for each product.
  - Each product requires one hour of direct labor for completion.
- Expected annual manufacturing overhead costs \$900,000





## □ Unit Costs Under Traditional Costing

	<b>Products</b>				
Manufacturing Costs	Ab Bench	Ab Coaster			
Direct Materials	\$40	\$30			
Direct Labor	12	12			
Overhead	<u>30</u> *	<u>30</u> *			
Total unit cost	<b>\$82</b>	<b>\$72</b>			
* Predetermined overhead rate: \$900,000/30,000 DLH = \$30 per DLH					
Overhead = predetermined overhead rate $\times$ direct labor hours					
$(\$30 \times 1 \text{ hr.} = \$30)$					

Predetermined overhead rate = Estimated manufacturing overhead cost

Estimated total units in the allocation base



- □ However, that COGS is not easy for complicated company (with many products) → ABC
- <u>Activity-based costing</u> (ABC) is a costing methodology that
  - identifies activities in an organization and assigns the cost of each activity with resources to all products and services according to the actual consumption by each.
  - It's a new method!
    - ➤ ABC arose in the <u>1980s</u> from the increasing lack of relevance of traditional cost accounting methods.
      - ✓ The traditional cost accounting methods were designed around 1870 - 1920 and in those days industry was labor intensive, there was no automation, the product variety was small



# Types of Business Activity

# ACCOUNTING TO SERVICE THE PROPERTY OF THE PROP

#### □ Financing

- Borrowing creates liabilities
  - ➤ Bank loans, Debt securities, Goods on credit or payables
- Selling stock creates stockholders' equity

#### ■ Investing

- Obtaining resources or assets to operate the business
  - ➤ Land, Buildings, Vehicles, Computers, Furniture, Equipment

#### Operating

- Primary activity of business
  - Selling goods, Providing services, Manufacturing, Cost of Sales, Advertising, Paying employees, Paying utilities





#### Operating

- Revenues are the increases in assets resulting from the sale of a product or service
- Expenses are the cost of assets consumed or services used in generating revenue.
- If revenue > expense = Net Income
- If revenue < expense = Net Loss!





**□** Unit Costs Under ABC:

Step 1: Identify and Classify Activities and Allocate Overhead to Cost Pools

Activity Cost Pools	<b>Estimated Overhead</b>
Setting up machines	\$300,000
Machining	500,000
Inspecting	100,000
Total	\$900,000



#### **□** Unit Costs Under ABC:

# **Step 2: Identify Cost Drivers**

		Expected Use of Cost Drivers
<b>Activity Cost Pools</b>	Cost Drivers	Per Activity
Setting up machines	Number of setups	1,500
Machining	Machine hours	50,000
Inspecting	Number of	
	Inspections	2,000



#### **■** Unit Costs Under ABC:

## **Step 3: Compute Overhead Rates**

**Estimated Overhead Per Activity** 

**Activity-Based** 

**Expected Use of Cost Drivers Per Activity** 

**Overhead Rate** 

		<b>Expected Use</b>	
	<b>Estimated</b>	of Cost Drivers	<b>Activity-Based</b>
<b>Activity Cost Pools</b>	<b>Overhead</b>	<b>Per Activity</b>	<b>Overhead Rates</b>
Setting up machines	\$300,000	1,500 setups	\$200 per setup
Machining	500,000	50,000 machine hrs.	\$ 10 per mach. hour
Inspecting	100,000	2,000 inspections	\$ 50 per inspection
Total	\$900,000		



#### **□** Unit Costs Under ABC:

**Step 4: Assign Overhead Costs to Products** 

**Part 1: Expected Use of Cost Driver Per Product** 

			Expected Use of Cost Drivers per Product		
Activity Cost Pools	Cost Driver	Expected Use of Cost Drivers Per Activity	Ab Bench	Ab Coaster	
Setting up machines	Number of setups	1,500 setups	500	1,000	
Machining	Machine hours Number of	50,000 hours	30,000	20,000	
Inspecting	inspections	2,000 inspections	500	1,500	



**□** Unit Costs Under ABC:

**Step 4: Assign Overhead Costs to Products** 

**Part 2: Assign Cost Pools to Products** 

The Ab Bench

	<b>Expected Use of</b>		Activity-Based	
Activity	<b>Cost Drivers</b>	X	Overhead	= Cost
Cost Pools	per Product		Rates	Assigned
Setting up machines	500		\$200	\$100,000
Machining	30,000		10	300,000
Inspecting	500		50	25,000
Total costs assigned				\$425,000
Units produced				25,000
Overhead cost per	unit			<b>\$17</b>



#### **■** Unit Costs Under ABC:

**Step 4: Assign Overhead Costs to Products** 

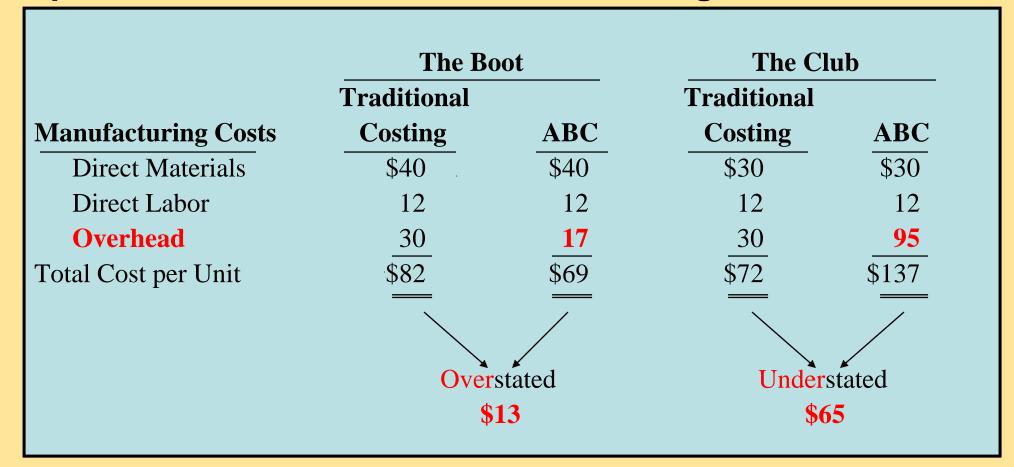
**Part 2: Assign Cost Pools to Products** 

The Ab Coaster

	<b>Expected Use of</b>		Activity-Based	
Activity	<b>Cost Drivers</b>	X	Overhead	= Cost
Cost Pools	per Product		Rates	Assigned
Setting up machines	1,000		\$200	\$200,000
Machining	20,000		10	200,000
Inspecting	1,500		50	75,000
Total costs assigned				\$475,000
Units produced				5,000
Overhead cost per	unit			<b>\$95</b>



#### □ Computation of unit costs-traditional costing





 $\square$  Ag

You can see it's maybe a easier direction to decrease the cost for coaster

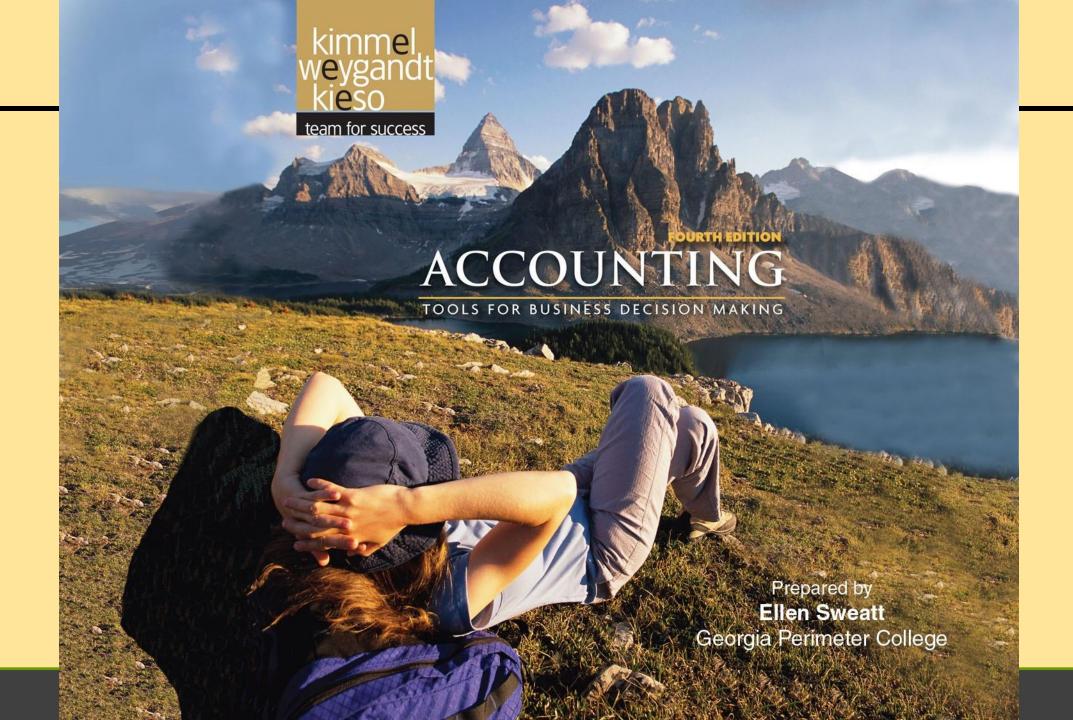
d costs

#### Limitations 6

- Can be expensive to use
- **➤**Some arbitrary allocations con

And, now you know the cost, you can do some evaluations, like assuming the price, and calculate BEP, Rate of ROI, ... into Business Report







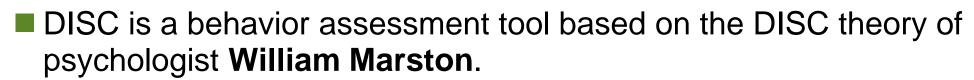
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## **Know your competence**

#### DISC



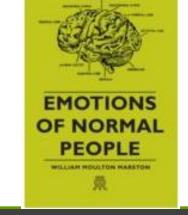
➤ Marston's theory centers on four different personality traits: <u>Dominance</u>[支配;领导力], <u>Influence</u>[影响], <u>S</u>teadiness[稳健], and <u>C</u>ompliance[服从].

This theory was then developed into a personality assessment tool (personality profile test) by industrial psychologist **Walter Vernon** 

Clarke (July 26, 1905 - Jan. 1, 1978).

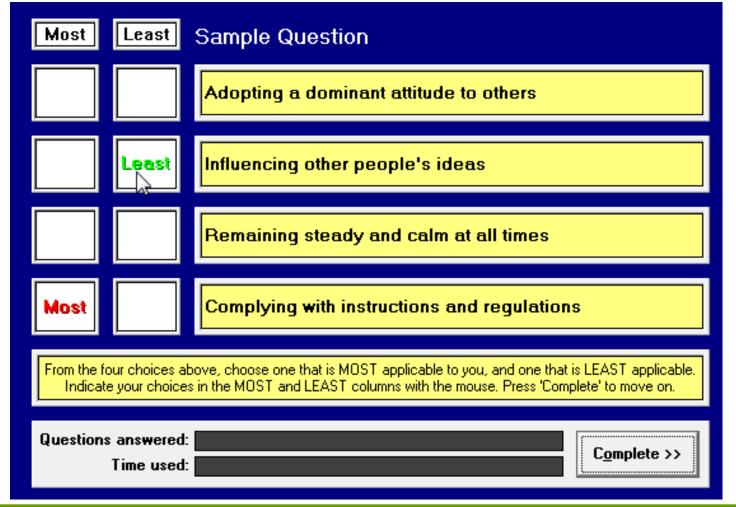




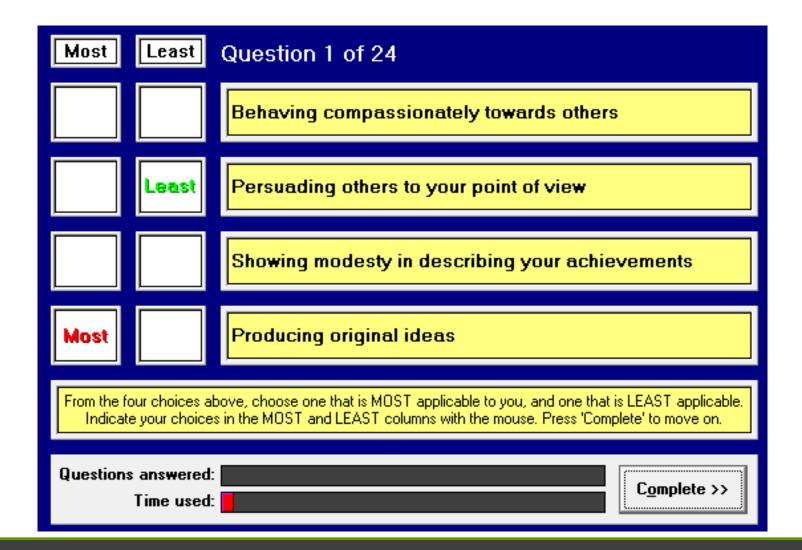




#### **□** Sample questions









#### Dominant (D)

Direct, outspoken, results-oriented, a leader, problem-solver

#### ■ Influencing (I)

Friendly, outgoing, talkative, optimistic, the life of the party, people-oriented

#### ☐ Steady (S)

Team player, stable, consistent, maintains the status quo, peacemaker, family-oriented, patient

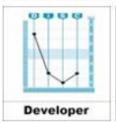
#### □ Compliant (C)

 Logical, organized, data-driven, methodical, perfectionist, detail-oriented

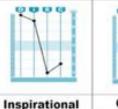
#### DiSC Classic Profile - High D Personality - The Dominance Family:

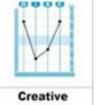
Developer . Results Oriented, Inspirational, Creative







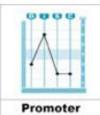




#### DiSC Classic Profile - High I Personality - Influence Family:

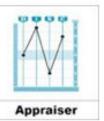
Promoter ●, Persuader, Counselor, Appraiser







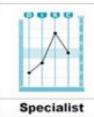




#### DiSC Classic Profile - High S Personality - Steadiness Family:

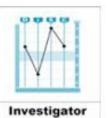
Specialist . Achiever, Agent, Investigator







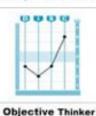




DiSC Classic Profile – High C Personality – Conscientiousness Family:

Objective Thinker, Perfectionist, and Practitioner









## □ Dominant (D)

Best characterized by: Donald

Trump

#### Donald Trump 百度百科



姓名:唐纳德·特朗普

生日:1946年6月14日 职业:商人,作家,主持人

简介:特朗普生于1946年6月14日美国纽约市,商人,作家,主持人。唐纳德·特朗普,曾经是美国最具知名度的房地产商之一,人称"地产之王"。依靠房地产和股市,特朗普拥有纽约、新泽...

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#### Donald Trump宣布竞选美国总统-华尔街见闻



2015年6月17日 - 还记得地产大亨、真人秀《学徒》中的Donald Trum status amplified by the p吗?周二,这位共和党商人在纽约以其名字命名的特朗普大厦宣布,将 Success of his NBC rea 正式竞选美国总统。。华尔街见闻——中国… show, *The Apprentice*.

wallstreetcn.com/node/... ▼ - 百度快照 - 82%好评

#### **Donald John Trump**

(born June 14, 1946) is an American <u>real estate</u> developer, <u>television</u> personality, business author, and political candidate. He is the chairman and president of <u>The Trump Organization</u>, and the founder of <u>Trump Entertainment Resorts</u>.

Trump's career, branding efforts, lifestyle and outspoken manner helped make him a celebrity, a status amplified by the success of his NBC reality show, *The Apprentice*.



## □ Dominant (D)

Best characterized by: Donald Trump

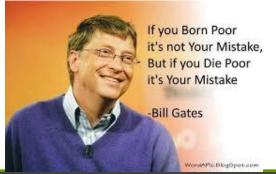
# □ Influencing (I)

Best characterized by: Bill Clinton

# □ Compliant (C)

Best characterized by: Bill Gates

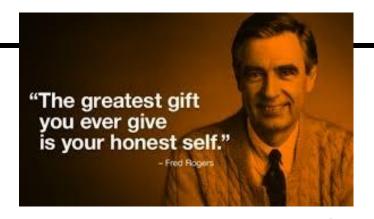






## ☐ Steady (S)

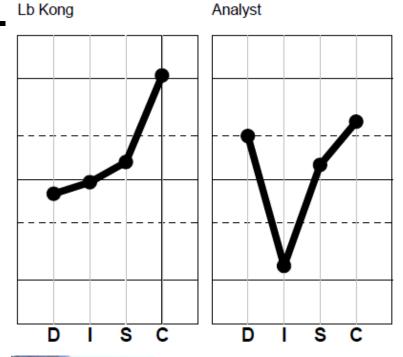
Best characterized by: Fred Rogers



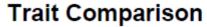
Fred McFeely Rogers (March 20, 1928 – February 27, 2003) was an American <u>television personality</u>, <u>educator</u>, <u>Presbyterian minister</u>, <u>composer</u>, <u>songwriter</u>, <u>author</u>, and <u>activist</u>. Rogers was most famous for creating, hosting, and composing the theme music for the <u>educational preschool</u> television series <u>Mister Rogers' Neighborhood</u> (1968–2001), which featured his gentle, soft-spoken personality and directness to his audiences



#### **Graph Comparison**



	Candidate	Profile	Comments
Dominance	45%	65%	Somewhat too low
Influence	49%	20%	Too high
Steadiness	56%	55%	Close match
Compliance	86%	70%	Somewhat too high



#### Strengths For This Job:

The candidate has no significant strengths in relation to this role.

#### Weaknesses For This Job:

- Insufficient emphasis on achieving results
- Too dependent on social interaction
- Reluctance to act independently
- Too dependent on others



#### ☐ And it's expensive!

Home / Buy Products / DiSC® Classic Group Culture Report

## DiSC® Classic Group Culture Re

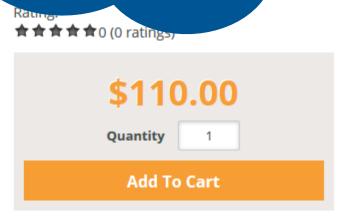
When the second second

This 13-page report identifies your group's DiSC culture and explores what that means for your group. It helps you and your group understand what your group members value most. This report does not include any individual names, unlike the DiSC Classic Facilitator Report.

This report is created from 3 or more individual completed DiSC Classic 2.0 online profiles.

Available with online profiles only.

And you can also earn a lot of money if you could crack/construct your own service. There are lots of domains which need this







# **MBTI** – Myers-Briggs Type Indicator

https://www.16personalities.com/freepersonality-test

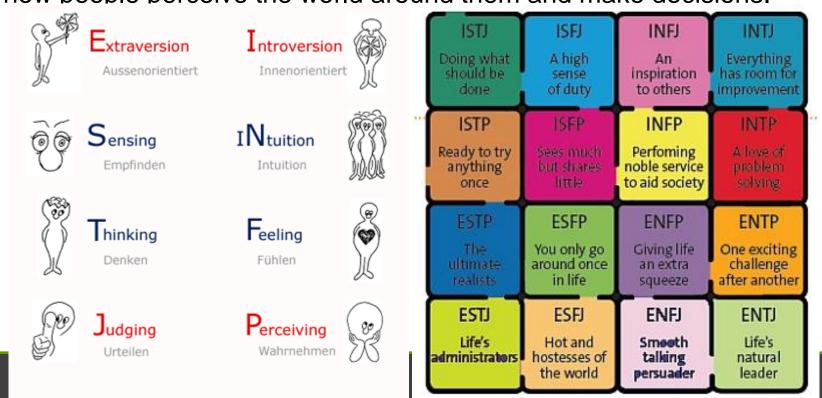
https://www.opp.com/en/tools/MBTI/MBTI-personality-Types



Katherine Briggs

Isabel Briggs-Myers

☐ The Myers—Briggs Type Indicator (MBTI) is an introspective self-report questionnaire designed to indicate psychological preferences in how people perceive the world around them and make decisions.





## **ISFJ**



- □1.安静、和善、负责任且有良心。
- □2.行事尽责投入。
- □3.安定性高,常居项目工作或团体之安定力量。
- □4.愿投入、吃苦及力求精确。
- □5.兴趣通常不在于科技方面。对细节事务有耐心
  - 0
- □6.忠诚、考虑周到、知性且会关切他人感受。
- □7.致力于创构有序及和谐的工作与家庭环境。

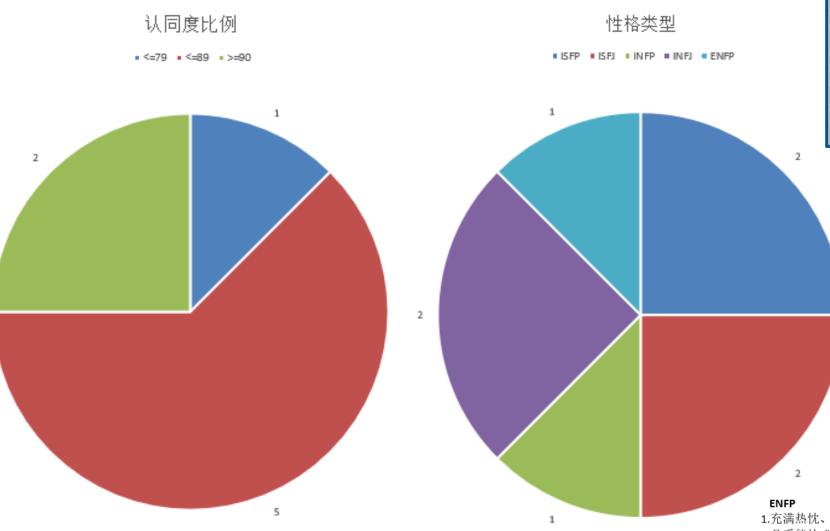


# 共收到8份MBTI样本

#### pie chart



- 1. 羞怯的、安宁和善地、敏感的、亲切的、且行事谦虚。
- 2.喜于避开争论,不对他人强加已见或价值观。
- 3.无意于领导却常是忠诚的追随者。
- 4.办事不急躁,安于现状无意于以过度的急切或努力破坏现况,且非成果导向。
- 5.喜欢有自有的空间及照自订的时程办事。



#### ISFJ

- 1.安静、和善、负责任且有良心。
- 2.行事尽责投入。
- 3.安定性高,常居项目工作或团体之安定力量。
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- 7.致力于创构有序及和谐的工作与家庭环境。

#### INFP

- 1安静观察者,具理想性与对其价值观及重要之人具忠诚心。
- 2.希外在生活形态与内在价值观相吻合。
- 3.具好奇心且很快能看出机会所在。常担负开发创意的触媒者
- 4.除非价值观受侵犯,行事会具弹性、适应力高且承受力强。
- 5.具想了解及发展他人潜能的企图。想作太多且作事全神贯注
- 6.对所处境遇及拥有不太在意。
- 7.具适应力、有弹性除非价值观受到威胁。

#### INFJ

- 1.因为坚忍、创意及必须达成的意图而能成功。
- 2.会在工作中投注最大的努力。
- 3.默默强力的、诚挚的及用心的关切他人。
- 4.因坚守原则而受敬重。
- 5.提出造福大众利益的明确远景而为人所尊敬与追随
- 6.追求创见、关系及物质财物的意义及关联。
- 7.想了解什么能激励别人及对他人具洞察力。
- 8.光明正大且坚信其价值观。
- 9.有组织且果断地履行其愿景。
- 1.充满热忱、活力充沛、聪明的、富想象力的,视生命充满机会但期能得自他人肯定与支持。
- 2.几乎能达成所有有兴趣的事。
- 3.对难题很快就有对策并能对有困难的人施予援手。
- 4.依赖能改善的能力而无须预作规划准备。
- 5.为达目的常能找出强制自己为之的理由。
- 6.即兴执行者。

# 管理技巧 (Management skills) – 知己知彼

- □了解你的目标客户
  - 将客户分等级 (RFD)
- □了解<mark>你自己</mark> 找准战略,用好人,增强执行力
  - 做好战略规划
    - ➤ Planning (**SWOT**) 成本很重要
  - 找准人 (DISC,MBTI), ...
  - ●增强执行力
    - ➤抓核心指标(Balanced Score Board + KPI),
    - ▶ 有问题就要找到(主要)原因
      - √ (Why-Why, Fishbone, Pareto, ...)
    - ▶群策群力来解决
      - √ (Brainstorm, Osborn's Checklist, ...)



# **Know your competence**

## □ Balanced Score-Card Analysis (BSC) + KPI

- Traditional financial reporting systems provide an indication of how a firm has performed in the past, but offer little information about how it might perform in the future.
  - For example, a firm might reduce its level of customer service in order to boost current earnings, but then future earnings might be negatively impacted due to reduced customer satisfaction.

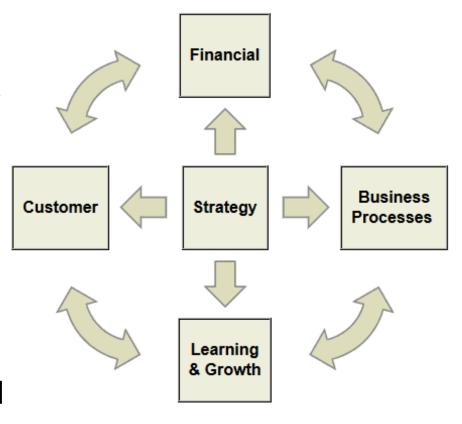




- Robert Kaplan and David Norton developed the Balanced Scorecard (BSC), a performance measurement system that
  - >considers not only financial measures, but also customer, business process, and learning measures.



- □ The BSC translates the organization's strategy into four perspectives, with a balance between the following:
  - between internal and external measures
  - between objective measures and subjective measures
  - between performance results and the drivers of future results

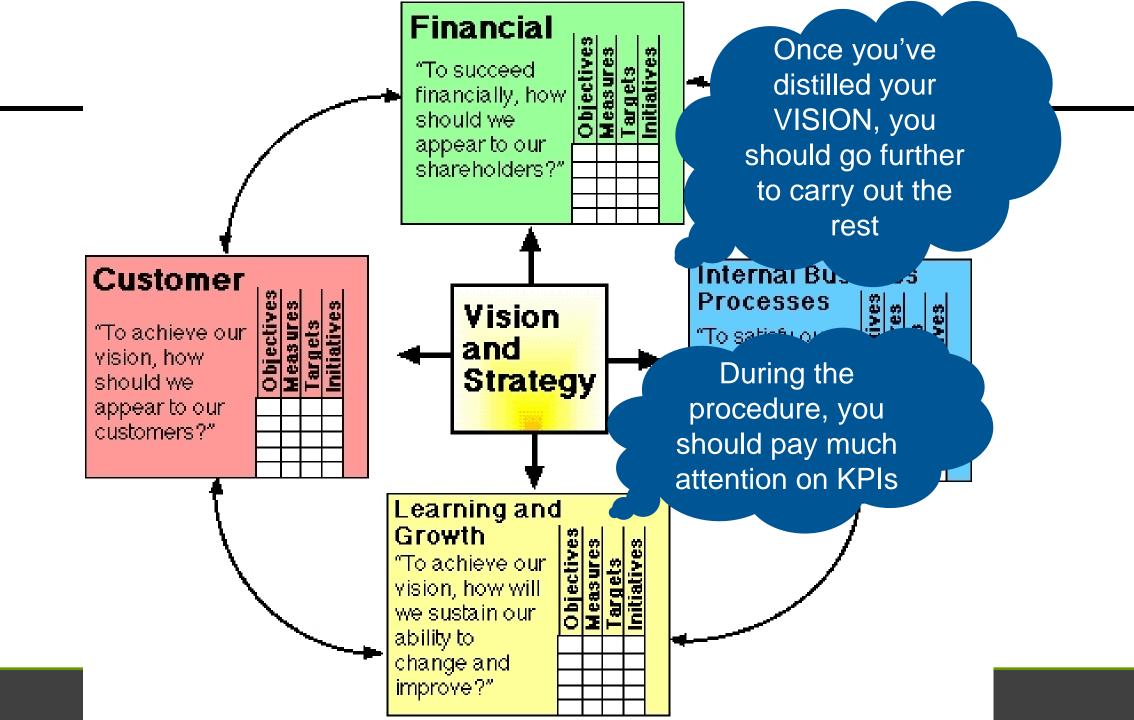




	Objectives	Measures	Targets	Initiatives
Financial				
Customer				
Process				
Learning				

- □ Each perspective of the Balanced Scorecard includes objectives, measures of those objectives, target values of those measures, and initiatives
  - Objectives major objectives to be achieved, for example, profitable growth.
  - Measures the observable parameters that will be used to measure progress toward reaching the objective. For example, the objective of profitable growth might be measured by growth in net margin (净赚)- Net Income/Total Revenue.
  - Targets the specific target values for the measures, for example, +2% growth in net margin.
  - Initiatives action programs to be initiated in order to meet the objective.





#### ■ BSC + KPI (Key Performance Indicator)

- Key Performance Indicators, also known as KPI or Key Success Indicators (KSI), help an organization define and measure progress toward organizational goals
- Some common Key Performance Indicators of a Marketing Plan
  - ➤ 1) Market Share; 2) Revenue; 3) Repeat Customer Sales
  - ➤ 4) New customer acquired; 5) New customer sales
  - ➤ 6) Profit Margin; 7) Average Sales Price
  - ➤8) Customer Complaints; 9) Customer Recognition
  - ➤ 10) Referral Customers



### □ There are even "The 75 KPIs Every Manager Needs To Know"

- http://www.linkedin.com/pulse/article/20130905053105-64875646-the-75-kpis-every-manager-needs-to-know
- To measure financial performance:

To measure financial performance:

- 1. Net Profit
- 2. Net Profit Margin
- 3. Gross Profit Margin
- 4. Operating Profit Margin
- 5. EBITDA
- 6. Revenue Growth Rate
- 7. Total Shareholder Return (TSR)
- 8. Economic Value Added (EVA)
- 9. Return on Investment (ROI)
- 10. Return on Capital Employed (ROCE)
- 11. Return on Assets (ROA)



#### ■ How many KPIs

- One of the biggest mistakes in introducing KPIs is producing a huge list of all the things you want to measure in your business. What really matters is finding the right KPIs and distributing them to the right people.
  - ➤ There have been several inspired theories on the optimal number of KPI's but in practice 5 9 KPIs work well.
- Examples of KPI, Performance Indicators for Finance Departments
  - ➤ Average monetary value of overdue invoices [过期的收据]
  - Percentage of invoices overdue when paid
  - ➤ Percentage of accuracy of forecasts against accounts [预测和实际账务的准确率]
  - ➤ Percentage of payments made late



#### □ Risks

- Cash is important for a company/everyone
  - You should balance the cash and investment keeping adequate cash in hand all the time
    - ✓ Of course it's efficient to borrow money from the bank
- Mortgage [抵押 贷款]



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## Locate the key troubles

### □ Why-Why

- By repeatedly asking the question "Why" (five is a good rule of thumb), you can peel away the layers of symptoms which can lead to the root cause of a problem.
- **Example**: Customers are unhappy because they are being shipped products that don't meet their specifications
  - ➤ 1. Why are customers being shipped bad products?
    - ✓ Because manufacturing built the products to a specification that is different from what the customer and the sales person agreed to.



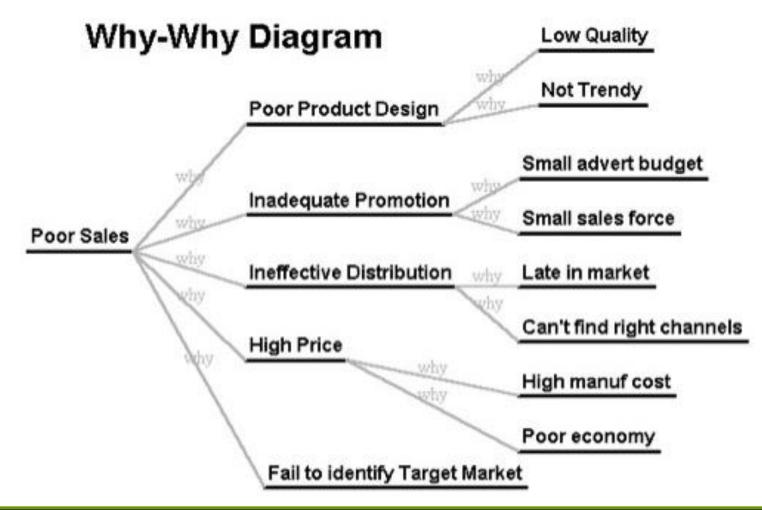
- ▶2. Why did manufacturing build the products to a different specification than that of sales?
  - ✓ Because the sales person <u>expedites</u> work on the shop floor by calling the head of manufacturing directly to begin work.
  - ✓ An error happened when the specifications were being communicated or written down.
- ➤ 3. Why does the sales person call the head of manufacturing directly to start work instead of following the procedure established in the company?
  - ✓ Because the "start work" form requires the sales director's approval before work can begin and slows the manufacturing process (or stops it when the director is out of the office).



- ▶ 4. Why does the form contain an approval for the sales director?
  - ✓ Because the sales director needs to be continually updated on sales for discussions with the CEO.
- ➤In this case only 4 Whys were required to find out that a non-value added signature authority is helping to cause a process breakdown.



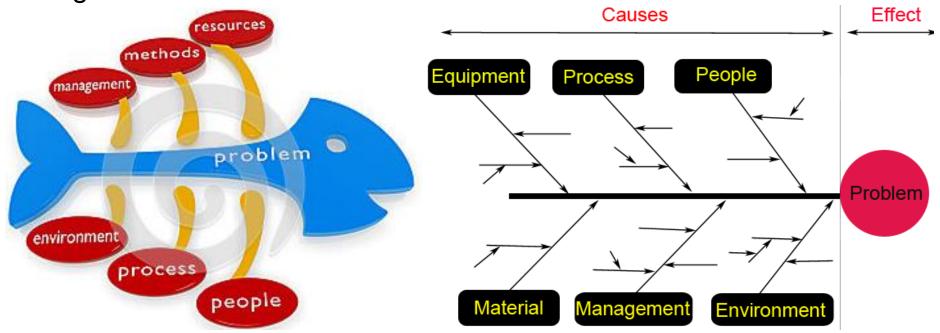
#### ■ Why-Why Can be a tree



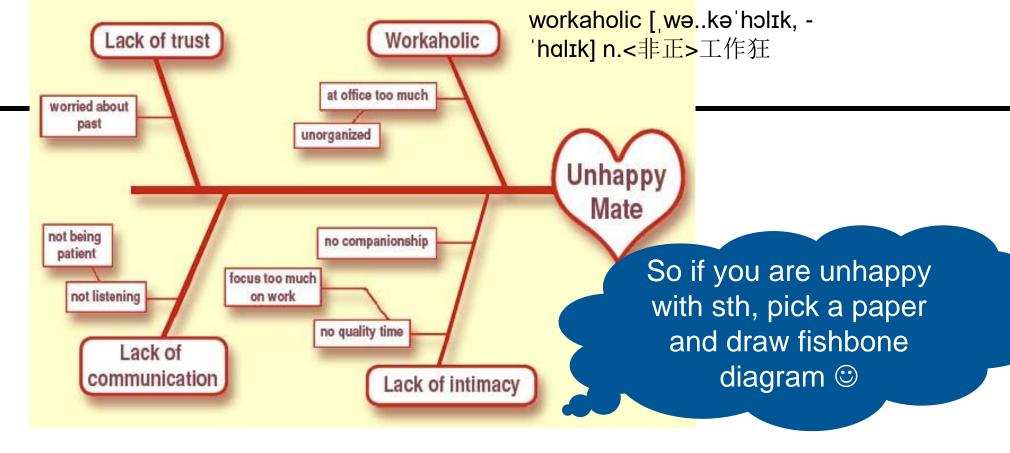


### ■ 5 Whys and the <u>Fishbone Diagram</u> (Cause-Effect analysis)

- The 5 Whys can be used individually or as a part of the fishbone (also known as **the cause and effect** or Ishikawa) diagram.
  - The fishbone diagram helps you explore all potential or real causes that result in a single defect or failure.







□ "The psychologist explains that they will <u>brainstorm</u> and identify at least four major reasons why Joe's mate might be unhappy, and then identify actions or activities that are contributing to each reason. Once they have identified the reasons, they can determine how to eliminate them."



#### □ Pareto analysis

- Pareto analysis is a creative way of looking at causes of problems because it helps stimulate [vt. 刺激; 鼓舞, 激励] thinking and organize thoughts.
  - > "80/20" rule: 20% of causes determine 80% of problems
    - √ this ratio is merely a convenient rule of thumb and is not nor should it be considered immutable law of nature
  - ➤ Steps to do Pareto analysis
    - ✓ Step 1: Identify and List Problems
    - ✓ Step 2: Identify the Root Cause of Each Problem
    - ✓ Step 3: Score Problems
    - ✓ Step 4: Group Problems Together By Root Cause
    - ✓ Step 5: Add up the Scores for Each Group
    - √ Step 6: Take Action



### ☐ Case study

Jack has taken over a failing service center, with a host of problems that need resolving. His objective is to increase overall customer satisfaction

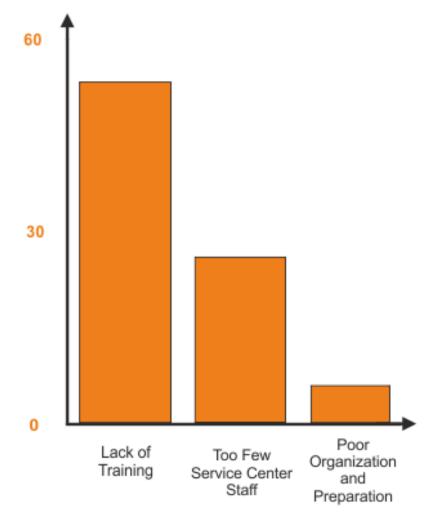
#	Problem (Step 1)	Cause (Step 2)	Score (Step 3)
1	Phones aren't answered quickly enough.	Too few service center staff.	15
2	Staff seem distracted and under pressure.	Too few service center staff.	6
3	Engineers don't appear to be well organized. They need second visits to bring extra parts.	Poor organization and preparation.	4
4	Engineers don't know what time they'll arrive. This means that customers may have to be in all day for an engineer to visit.	Poor organization and preparation.	2
5	Service center staff don't always seem to know what they're doing.	Lack of training.	30
6	When engineers visit, the customer finds that the problem could have been solved over the phone.	Lack of training.	21



#### Figure 1. Jack's Pareto Analysis

SCORE

- □ Jack then groups problems together (steps 4 and 5).
- □ He scores each group by the number of complaints, and orders the list as follows:
  - Lack of training (items 5 and 6) 51 complaints.
  - Too few service center staff (items 1 and 42) 21 complaints.
  - Poor organization and preparation (items 3 and 4) 6 complaints.







# □ As above figure, Jack will get the biggest benefits by providing staff with more training.

- Once this is done, it may be worth looking at increasing the number of staff in the call center.
  - ➤ It's possible, however, that this won't be necessary: the number of complaints may decline, and training should help people to be more productive.
- By carrying out a Pareto Analysis, Jack is able to <u>focus on training</u> as an issue, rather than spreading his effort over training, taking on new staff members, and possibly installing a new computer system to help engineers be more prepared.



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      - √ (Brainstorm, Osborn's Checklist, ...)



# "民主集中"

### □ Brain storm: organize related staff to collect thoughts

Brainstorming is a group or individual creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its member(s).



The term was popularized by <u>Alex Faickney Osborn</u> in the 1953 book *Applied Imagination*.

- Osborn claimed that two principles contribute to "ideative efficacy,":
  - ➤ Defer judgment, and Reach for quantity.



## Steps to carry out the brainstorm

- 1. Define your problem or issue as a creative challenge.
- 2. Give yourselves a time limit.
  - Larger groups may need more time to get everyone's ideas out.
- 3. Once the brainstorming starts, participants shout out solutions to the problem while the facilitator writes them down usually on a white board or flip-chart for all to see.
  - There must be absolutely no criticizing of ideas. No matter how daft, how impossible or how silly an idea is, it must be written down. Laughing is to be encouraged. Criticism is not.



4. Once your time is up, select the five ideas which you like best.

Make sure everyone involutional agreement.

5. Write down about for solve your problem.

Criteria should start who be cost effective", "it finish before July 15", etc.

The idea with the highest score will best solve your problem.

But you should keep a record of all of your best ideas and their scores in case your best idea turns out not to be workable.

possible to

6. Give each idea a score of 0 to 5 points depending on how well it meets each criterion.

Once all of the ideas have been scored for each criterion, add up the scores.



#### Solve those troubles

#### □ Osborn's Checklist method

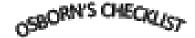


What can you change?
Other use / form / color / odor /
texture / temperature /
movement / meaning /
angle / ... ?



Make it bigger / stronger / larger / heavier / thicker? Add something? Value / time / distance / ...? Multiply? Exaggerate? Intensify?







Make it smaller / shorter /
lower / lighter / thinner / ...?
Leave out something?
Concentrate? Divide?
Create miniature?



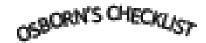
### SUBSTITUTE

Substitute component / material / ingredient / method / process / person? Other places / times?





Opposite / backward / inverted? Deconstruct & reconstruct? Change positive & negative? Change cause and effect?

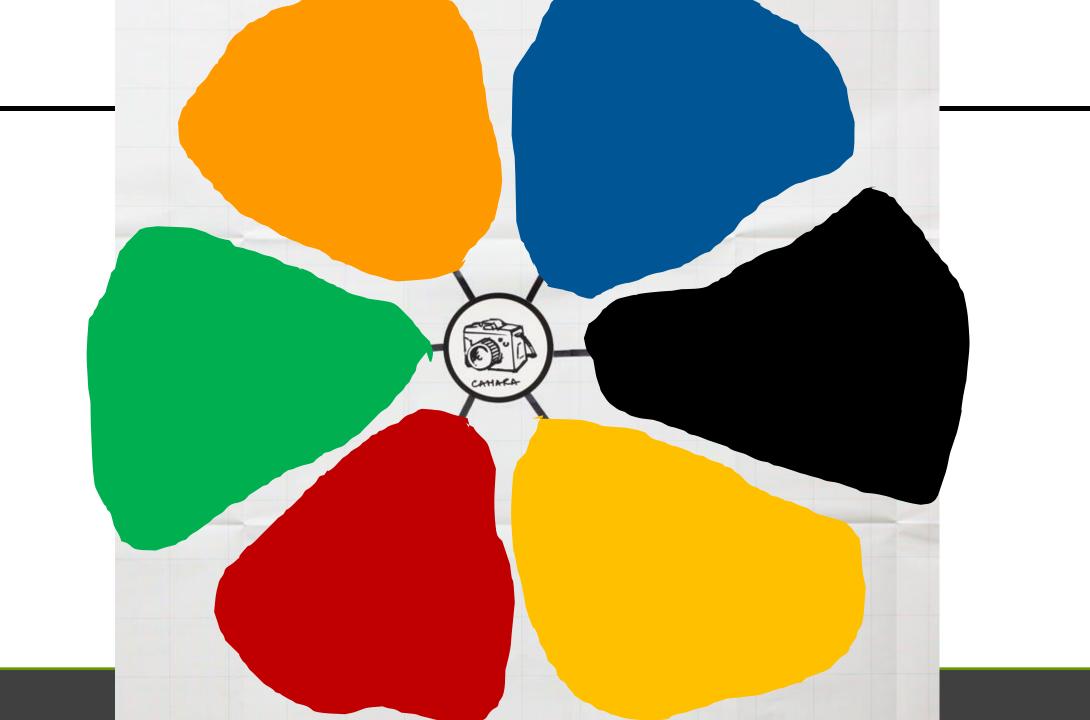




## COMBINE

What can you combine?
Ideas / units /
benefits / purposes / ...?
Mix / assemble?
Make modular?







# The Balanced Scorecard: Translating Strategy into Action

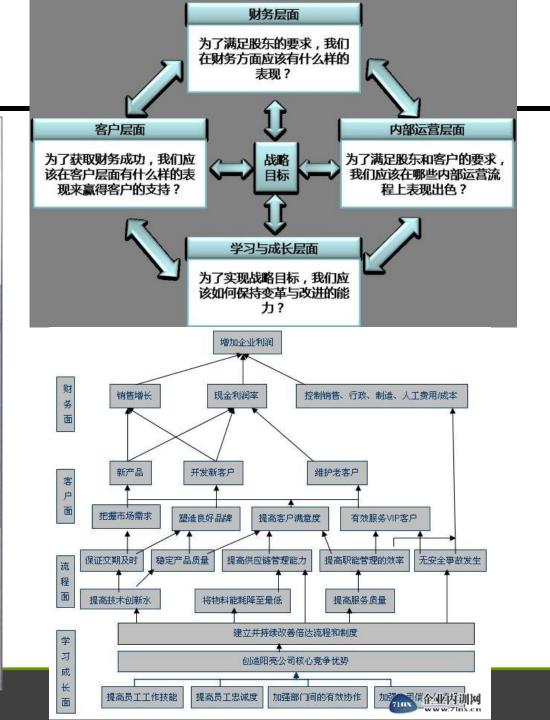
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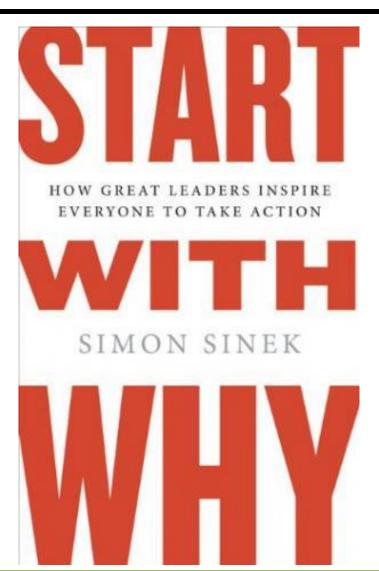
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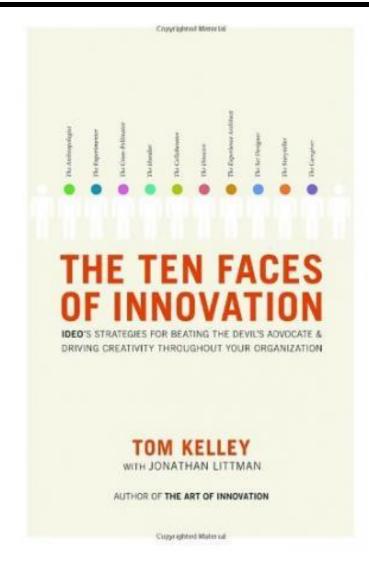






- ☐ Start With Why: How Great Leaders Inspire Everyone to Take Action
- □ Simon Sinek
- **2009**





- □ The Ten Faces of Innovation: IDEO's Strategies for Defeating the Devil's Advocate and Driving Creativity Throughout Your Organization
- □ Tom Kelley, Jonathan Littman
- **2005**

