6. The Right Game and “Co-opetition”

Business is war and peace.

➢ Cooperation in creating value.
➢ Competition in dividing it up.
➢ No cycles of War, Peace, War, ....
   but simultaneously war and peace.

“You have to compete and cooperate at the same time.”
— Ray Noorda of Novell.

Co-opetition

(See Brandenburger and Nalebuff in the Package.)
Manual for “Co-opetition”

How to:
— cooperate without being a saint
— compete without killing the opposition.

Game Theory
6.1 “It’s a Game, Jim, but Not as We Know Them”

Business is a game, but different from structured board games or arcade games or computer games:

➢ it is not win-lose (not zero-sum): possible for all players to win

➢ apart from the law, there is no rule book

➢ others will change the game to their advantage

➢ the game is made up of five P.A.R.T.S. (see below)

➢ success comes from playing the right game

So game theory provides a framework for an ever-rapidly changing world.
**Wider issues.**

This lecture: beyond the more micro issues → wider issues:

Which game should your firm/organisation be in?

It’s no good sticking to your knitting if there’s no demand for jumpers.
**Question: High or low?**

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<thead>
<tr>
<th>Profit:</th>
<th>Low</th>
<th>High</th>
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<tr>
<td>You</td>
<td>$40 m</td>
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<td>Rival</td>
<td>$20 m</td>
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6.1.1 The Value Chain

The business buys from its suppliers and sells to its customers.

Companies compete to dominate one or more stages of the chain.
6.1.2 Complementors

Every business has

➤ customers
➤ suppliers
➤ competitors
➤ and?

Consider Intel and Microsoft.

Business strategy frameworks often overlook the role of complements.

Brandenburger and Nalebuff suggest a new term — complementor — for those who provide complements.

Customers, suppliers, and complementors can all be partners with the business.

Firms can be complementors with respect to their customers and with respect to their suppliers.
6.1.2.1 Customers and Complementors

Examples of customer’s complements:

- computer hardware and software
- Pentium III and Windows NT
- Cars and roads
- Selling cars and car loans
- Sweets & masks and Hallowe’en
- Red wine and Dry cleaners
- ISDN phone lines and videophones
- Golf courses and real estate
- desktop colour printers and digital cameras
- TV and TV Week
Complementors v. competitors. (Customers)

A firm is your **complementor**
if customers value your product more when they have the other firm’s product than when they have your product alone.

e.g.?

A firm is your **competitor**
if customers value your product less when they have the other firm’s product than when they have your product alone. .5

e.g.?
Customers’ Complementors

Technical definition:

Two businesses A and B are complementors with respect to a customer if the customer’s willingness to pay (WTP) for both of their products together is greater than WTP for A’s product alone plus WTP for B’s product alone:

\[ \text{WTP}(A \& B) > \text{WTP}(A) + \text{WTP}(B) \]
6.1.2.2 Suppliers and Complementors

Examples of supplier’s complements:

➢ supplying wheels to car majors
  — even if different wheels, less costly if two or more customers.

➢ Compaq and Dell
  — compete with each other for the latest Intel chip
  — complement each other in defraying Intel’s R&D costs

➢ Ansett and Qantas
  — compete with each other for passengers, freight, landing slots, and gates
  — complement each other in defraying Boeing’s R&D costs
Complementors v. competitors. (Suppliers)

A firm is your **complementor**
it’s more attractive for a supplier to provide resources to you when it’s also supplying the other firm than when it’s supplying you alone.

e.g.

A firm is your **competitor**
it’s less attractive for a supplier to provide resources to you when it’s also supplying the other firm than when it’s supplying you alone.

e.g.
Suppliers’ Complementors

Technical definition:

Two businesses A and B are complementors with respect to a supplier if the opportunity cost (OC) for supplying both of their products together is less than the OC of supplying A’s product alone plus the OC for supplying B’s product alone:

$$OC(A \& B) < OC(A) + OC(B)$$

Specialising in supplying goods to firms A and B.
6.1.2.3 Common and Proprietary Complements

Create a market by cooperating with competitors to develop **Common Complements:**

➢ In the U.S. in 1913, General Motors, Hudson, Packard, and others formed the Lincoln Highway Association to build “seedling miles”.

➢ IBM, Compaq, Sun, Netscape, Oracle, and others created a $100 m Java Fund.

➢ IBM, Hewlett Packard, Intel have announced a joint development laboratory for Linux.
Proprietary complements.

By offering Proprietary Complements, a firm gains a competitive edge.

Help customers to get existing complements at the right time and at a good price:

- Ikea and kids’ play areas
- Bookshops and coffee bars
- Holden’s and GMAC credit
- Credit cards and airlines (FlyBuys)
- Bundles and suites of software
  (may reduce total price too)
The flip side of complements.

But: the flip side of complements:
your product makes someone else’s much more valuable:

➢ railways and land

➢ IBM and Microsoft/Intel

➢ transport improvements and real estate
6.1.3 The Value Net

Brandenburger and Nalebuff extend the Value chain to include the firm’s complementors and competitors:
The Value Net is useful.

The Value Net is:

➢ a complete map of a firm’s relationships

➢ a counter to limited thinking (e.g. “outsmart the competition”)

➢ a prompt to understand a firm “outside-in”

➢ a shared template for discussions of strategy.
The University’s Value Net.

Customers
Students, Parents, Companies, Governments, Donors

Substitutors
Other unis, Freelancing staff, Private enterprise, Hospitals, Museums

The University

Suppliers
Academic staff, Support staff, Administrators, Publishers, Donors

Complementors
Other unis, K-12 schools, Computers, Housing, Airlines, Hotels, Cultural activities, Employees
Kodak’s Value Net before the APS.

- **Customers**: Photographers
- **Kodak**
- **Substitutors**: Film manufacturers
- **Complementors**: Camera makers
- **Suppliers**: Chemical suppliers
Kodak’s Value Net after the APS.

- **Customers**
  - Photographers, other APS producers

- **Substitutors**
  - Film manufacturers

- **Suppliers**
  - Chemical suppliers

- **Complementors**
  - Camera makers, film manufacturers

- **Kodak**
6.1.4 From Lose–Lose to Win–Win

Business has elements of competition and cooperation:

➤ cooperation to generate the pie

➤ competition over dividing the pie.
Example.

e.g. Intel’s strategy on the Value Net:
  Only the paranoid survive — Andy Grove, CEO

➤ Competitor strategy:
  continuous innovation.

➤ Customer strategy:
  Intel Inside campaign.

➤ Complementor strategy:
  partnership with MCI, H-P, etc.; internal development of the PCI bus, ProShare, ... 
  the Merced chip with Hewlett Packard
  Linux development with H-P and IBM
  a new chip with Palm
Multiple roles: Jekyll & Hyde.

Your complementors often help your competitors too. Why?

Competitive threat or Complementary opportunity?

➢ Cinemas and video rentals.
➢ Traditional and Internet booksellers.
➢ computers and paper
➢ ATM machines
➢ computers and the Internet
➢ Napster and CD music companies
What business is the NRMA in?

➢ Roadside assistance?

➢ Insurance?

➢ Travel?

➢ Buying club?

➢ Financial services?

➢ Discounts?

➢ Used car quality inspection?

➢ Touring information?

➢ Smash repair advice?

The complements business.
Multiple roles: Making markets.

➢ Antique shops in Queen Street, Woollahra.

➢ Theatre, music, and dance on and off Broadway, N.Y.

➢ Universal City, restaurants, hotels, and Disney World in Orlando, Florida

Complementors in making the market,
Competitors in dividing the market
Friend or foe?

Friends
Customers, Suppliers, Complementors

Foes
Competitors

?  
No
The competitive mindset.

➢ The bias:
  — Customers and suppliers have to choose between opportunities with us and with others.
  — We’re taught to think in terms of constraints, trade-offs, substitution.
➢ To correct the bias:

Think complementor as well as competitor.
Cooperate in order to ...

➢ Cooperate to compete better
  — buying conditions
  — selling conditions

➢ Cooperate to create value
  — create new markets
    share risk, knowledge
    build complements
    establish standards
Competing and cooperating.

➤ Air versus land
  — hotels need airports
  airports need hotels
  — allied or conflicting interests
  — consumer cares about
    \[ P_a + P_b \]
  — each wants the other’s price to be lower

➤ Solutions.
  Want competition among your complementors — keeps their prices low and so maintains demand for your product.
  but
  Want high prices among your competitors — for the same reason.
6.2 Your Added Value

Two sorts of interactions:

— structured: “Look forward and reason back”

— unstructured (free-form) such as business:

  “You can’t take away more than you add.”

Your added value: what difference does your participation make? Your added value, which disappears when you do.

Put yourself in the others’ shoes in order to design a game that is right for you.

Your strategy: actively shape the game you play, not just playing the game you find.
6.2.1 Value-Added Games

The Card Game 1

➤ I have 29 red cards
➤ 29 people each have 1 black card
➤ A red card and a black card together are worth $100
➤ Who will get what?
The Card Game 2

Same as Card Game 1, but:

➢ Now I tear up 3 black cards
➢ The pie is smaller by $300
➢ Is everyone worse off?

Example?
Added value.

Your added value =
the size of the pie with you in the game
minus
the size of the pie without you in the game.

It’s what you bring to others.

What you can get is based on your added value.

You can’t get more than your added value.

Zero added value ⇒ get zero.
Added-Value analysis of Card Game 1

- My added value is $2,900
- Each participant with a black card has added value of $100
  \[\therefore\text{their total added value is }$2,900\]

- The game is symmetric
Added-Value analysis of Card Game 2

➢ My added value is now $2,600

➢ But each black card has zero added value

➢ So I do much better

   A bigger piece of a smaller pie.
6.2.2 A quiz: added value

Which company had the largest market value (in 1990–91) on the Tokyo Stock Market? (Write down your answer.)

A. Sony

B. Nissan

C. Nintendo
A quiz.

Which company had the largest market value (in 1990–91) on the Tokyo Stock Market?

A. Sony 2.2 trillion ¥
B. Nissan 2.0 trillion ¥
C. Nintendo 2.4 trillion ¥
Nintendo’s Value Net

Customers
Toys “R” Us
Wal-Mart

Substitutors
Atari
Commodore

Nintendo

Complementors
Acclaim
Electronic Arts

Suppliers
Ricoh, Sharp
Marvel, Disney

Customers under-supply \rightarrow\ destroy their added value
Complementors internal development \rightarrow\ lower their added value
Suppliers old chips \rightarrow\ commodities;
new characters - Mario - lower the added value of Disney, Marvel, etc.
Substitutors positive feedback loop

Nintendo: ¥ 2,400,000,000,000
Sony: ¥ 2,200,000,000,000
Nissan: ¥ 2,000,000,000,000
Co-opetition:

Looking not just for win–lose (zero-sum) opportunities, but also for win–win (positive-sum) opportunities.

Win–lose opportunities often backfire:

- e.g. lowering price to gain market share
  - ∴ temporary benefit,
  - but gains evaporate if others match
  - → new status quo at lower prices (lose–lose)

Competitive threat or Complementary opportunity?

- Cinemas & video rentals
- Computers & paper
6.3 The Game of Business

The stakes are too high to be left to chance.

The Value Net: a map representing all players in the game and their interdependencies.

Interaction in two dimensions:

Vertical: the firm’s customers and suppliers
- Resources: suppliers → company
- Products and services: firm → customers
- Money: customers → firm → suppliers

Horizontal: other players, but no transactions;
the firm’s substitutors and complementors.
Horizontal players.

**Substitutors:** alternative players:
- from whom customers may purchase products
- to whom suppliers may sell their resources
  e.g. Coke and Pepsi: rival sellers

**Complementors:** players:
- from whom customers buy complementary products
- to whom suppliers sell complementary resources
  e.g. hardware & software

Many interdependencies.
Several hats are possible.

The Value Net: various roles of players possible (Qantas & SAL) to be in more than one role.

Two fundamental symmetries:

1. vertically, between customers and suppliers, and
2. horizontally, between substitutors and complementors

Intuitively, only vertical dimension a mix of cooperation (getting together) and competition (dividing the pie).

Along the horizontal dimension?

➢ substitutors seen as enemies
➢ complementors seen (if at all) only as friends

But there can be:

cooperative element to interactions with substitutors, as in the GM credit card case, and

competitive elements with complementors
Irrationality?

➢ Profits may not be the only objective
    — pride, jealousy, fairness may matter

➢ Ignore this, and all players may lose
    — WWI “impossible”: too much to lose

➢ Even if you think others are misguided,
    don’t project your rationality on them:

    Imagine yourself in the shoes of the other players, in order to:
    — assess your added value
    — anticipate their reactions to your moves
    — see how they see you (It’s a Wonderful Life).

Rationality doesn’t require:

➢ our preferences are the same
➢ our information is the same
➢ our perceptions are the same
6.4 Changing the Game

Value Net prompts for all dependencies.

1. Drawing the Value Net is the first step towards changing the game.

2. Identifying all elements of the game:

   Players, Added values, Rules, Tactics, and Scope (P.A.R.T.S.)

   P.A.R.T.S. will describe all the interactions.

   To change the game, you must first change one or more of these elements.
P.A.R.T.S.

Players: customers, suppliers, substitutors, complementors; change any, including yourself.

Added Values: what each player adds to the game (taking the player out would subtract their added value). Ways to raise yours, or lower theirs.

Rules: give structure to the game; in business — no universal set of rules from law, custom, practicality, or contracts can revise exiting rules, or devise new ones

Tactics: moves to shape the way:
— players perceive the game, and hence
— how they play
    Tactics to reduce misperception, or to create or maintain misperception.

Scope: the bounds of the game: expand or shrink.

P.A.R.T.S. does more than give a framework, it also provides a complete set of levers.

P.A.R.T.S. provides a method to promote non-routine thinking.
6.5 Changing the Players

Becoming a player changes the game for the others.
e.g. NutraSweet case: Coke, Pepsi, Monsanto, HSC.

Sometimes the most valuable service:
- to create competition
- so don’t do it for free

Get paid to play — takeover business.
e.g. McCaw & BellSouth & Lin B.C.

Even if you can’t make money in the game the old-fashioned way, you can get paid to change it.

Need not be in cash —
- guaranteed sales contract
- R&D contributions
- bid preparation expenses
- last-look provision
Pay me to play.

Competition is valuable
Don’t give it away –
Get paid to play
How to get paid.

➢ Cash, of course
➢ Contribution of upfront expenses
➢ Guaranteed sales contract
➢ Last-look provision
➢ Access to people who know
➢ Access to information
➢ Bids on other pieces of business
➢ A price at which the customer would give you his business
➢ Contributions towards bidding expenses ...
Hidden Costs of Bidding/Playing

➢ You’re unlikely to succeed — there are better uses of your time.
➢ When you win the business, the price is so low you lose money.
➢ The incumbent can retaliate — you end up trading high-margin for low-margin customers.
➢ Win or lose, you establish a lower price — existing customers will want a better deal.
➢ New customers will use the low price as a benchmark.
➢ Rivals will use the low price you helped create as a benchmark.
➢ It doesn’t help to give your customers’ competitors a better cost position.
➢ Don’t destroy rivals’ glass houses.
Changing players.

(See the Brandenberger and Dixit paper.)
e.g. Lin paid to bring in an extra player (customer).
e.g. Coke & Pepsi would have paid HSC to become a second supplier.
e.g. McCaw paid to take out a rival bidder (substitutor).
e.g. 3DO Video Games — Panasonic, Gold Star, Sanyo, Toshiba — cheap complements to 3DO software (See Reading in Package.)

Paying people to compete in the complements market.
Complementors not only friends, also rivals.
Legitimate win–lose opportunities with complementors.
6.6 Changing Added Values

Your added value = the total value with you minus the total value without you.

It’s what you bring to others.

What you can get is based on your added value.

Raise yours. (TWA — new seats, fewer seats)
Lower theirs. (Card Games 3 & 4.)
e.g. TWA — business class
e.g. The Card Game 2.
e.g. Nintendo trumped every player in its Value Net.
e.g. Power Beer v. XXXX in Brisbane
Sources of added value.

➢ Generic strategies
   → Value Chain

➢ Scarcity

➢ Think: big picture
   → step outside the Value Chain

➢ Complements
   — creating new ones
   — getting them more cheaply

➢ Perceptions versus reality

➢ Product differentiation
   — relationships
     e.g. skiing
Added value of credit cards.

➢ Protection
  — mail order
  — dishonest merchants
  — defective products

➢ Information

➢ Record keeping

➢ Convenience

➢ Liquidity

➢ Prestige signal (of platinum)

➢ Loyalty points (FlyBuys)

➢ Issuer as agent
Your added value.

Protecting your added value.

In freewheeling interactions (business):
   — no player can take any more than that player adds to the game,
but:

1. no guarantee that any player will get all of its added value
2. even if you have no added value, that doesn’t stop you from making money — others might be willing to pay you to enter or exit the game
3. rules constrain interactions among players — in games with rules, some players may be able to capture more than their added value.
6.7 Changing the Rules

Rules: limit the possible reaction to any move

Rules come from:

➢ custom
➢ contractual arrangements
➢ the government (laws)

In interactions with rules, you need to anticipate the reactions of others to your actions.

To analyse the effect of a rule:

   Look forward and reason back.
Kinds of rules.

Simplest rule: one price for all.

➤ new player — enters a market
➤ new player — limited capacity (clear, credible)
➤ incumbent — match price or lose share
➤ judo economics: keep small as entrant
e.g. Kiwi Airlines, Virgin Blue?

Contract-Based Rules:

➤ Most-Favoured-Customer (MFC) clauses
➤ Take-or-pay agreements
➤ Meet-The-Competition (MTC) clauses (last bid)
— give structure to the negotiations
Most-favoured-customer (MFC) clauses.

Under a MFC clause, a supplier undertakes to give the favoured customer (MFC) a price at least as low as the best price given to its other customers.

So a discount to any customer requires a discount to the MFC too.

How do MFCs change the game?

➢ makes discounting “expensive” (the price effect)
  : a tendency for prices to remain both rigid and higher
➢ facilitates price-fixing arrangements between customers by acting as a signalling mechanism (collusion effect)
➢ raises barriers to entry (entry effect)
MFC:

The price effect:

➢ a supplier has less incentive to negotiate prices with individual customers
➢ customers, equally, have less incentive to negotiate price reductions since their rivals would also benefit
➢ guarantee cost parity, and discourage selective price cutting by suppliers, maintaining higher prices
➢ a credible commitment not to compete on price

The collusion effect:

➢ suppliers will less likely cheat on MFC clause by acceding to customer pressure to lower their prices
➢ MFC clauses facilitate competitor coordination by signalling commitment to less-agressive conduct, so allowing industry prices to rise
Meeting the competition (MTC).

e.g. carbon dioxide with MTC
    → produce can capture more than added value
    .: gain for incumbent
    & gain for challenger: prices higher

MTC: coopetition
    & customers may gain with long-term relationship

MTC enhanced by imitation:
the more the merrier (higher price)

Rules can be changed, but beware:
It’s the added value → power to write rules.

A Smith & Wesson beats a straight flush.
6.8 Tactics: Changed Perceptions

Changed players, added values, rules.

Now, perceptions: uncertainty pervasive $\rightarrow$ behaviour.

$\Rightarrow$ Perceptions of the world, whether right or wrong, drive behaviour.

$\Rightarrow$ Tactics are actions taken to shape other players’ perceptions.

e.g. Murdoch at the New York Post lifting the fog about the cost to both papers of a price war.

e.g. client’s optimism ($500m$), bank’s pessimism ($250m$)
    fee: from $1\% \rightarrow 0.625\%$ plus guaranteed minimum of $2.5m$

e.g. The Texas Shoot-out (see handout)
    different valuations
Foggy, mixed, or clear?

➢ Lifting the fog.
   The peacock’s tail: credibly signalling.

➢ Preserving the fog.
   Negotiation, asymmetric information

➢ Stirring the fog.
   Telstra v. Optus
6.9 Changing the Scope

➢ Is P.A.R.T.S. the whole?
➢ Recognise links between games
  e.g. Epson in laser printers
➢ Links can occur through:
  — players
  — added value (complements)
  — rules (MFC)
  — perceptions (threats, precedents)

  e.g. Nintendo’s 8-bit Mario v. Sega’s 16-bit Sonic
Links between games.

➢ Added-value links.

➢ Rules can link games.

➢ Perceptions can link games.
Think big.

There is always a larger game!
6.10 Checklists for Changing the Game.

6.10.1 Questions For Changing Players

➢ What is your Value Net?

➢ What are the opportunities for cooperation and competition?

➢ Would you like to change the cast?
  Which new players would you like to bring into the game?

➢ Who stand to gain if you enter?
  Cui bono?
  Who stands to lose?
6.10.2 Questions For Changing Added-Value

➢ What is your added value?

➢ How can you increase your added value?

➢ Can you create loyal customers and suppliers?

➢ What are the added values of the other players?

➢ Is it in your interest to limit their added values?
6.10.3 Questions For Changing Rules

➢ Which rules are helping you and which are hurting you?

➢ Which rules would you like to have in contracts with your customers and suppliers?

➢ Do you have power to make rules? Does someone have the power to overturn them?
6.10.4 Questions For Changing Tactics

➢ How do other players perceive the game?

➢ How do these perceptions affect the play?

➢ Which perceptions would you like to preserve?

➢ Which ones would you like to change?

➢ Do you want the game to be transparent or opaque?
6.10.5 Questions For Changing Scope

➢ What is the current scope of the game

➢ Do you want to change it?

➢ Do you want to link the current game to others?

➢ Do you want to unlink the current game from other games?
6.11 The Traps, or Mistakes

1. Accepting the game you find yourself in.
2. Believing that changing the game must come at other’s expense; Co-opetition: look for win-win and win-lose
3. Believing that you mustn’t be imitated — uniqueness is not necessary for success.
4. Failing to see the whole game, complementors especially — see the Value Net.
5. Failing to think methodically about changing the game — use P.A.R.T.S., and put yourself in the others’ shoes.

And, there’s no end to the game of changing the game.
Pascal’s Wager

Pascal’s Dilemma: To Believe or Not
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