Web Marketing & Digital Advertising
Digital technologies and market changes

A.A. 2019-2020
Costanza Nosi
My name is Carotino, I am a dwarf rabbit, male (not sterilized) two years old I have the same colors as wild rabbits (pearl grey with white eyes and belly), I am super nice, clean and docile.

I live in a house with a family of humans, but for two months my space has been very limited because another child (now there are three) was born in the same house.

If there were a family that could offer me hospitality (a terrace, a garden or a room) and many hugs I would be happy to move in.

Thanks!
This is a forum of people who love animals in general and rabbits in particular, and not a forum of people who are looking for a way to get rid of it: YOU ARE IN THE WRONG PLACE!!!!!!...

why should animals always lose? But what kind of beasts are we humans? Can it be that they always have to make room for us? Is it possible that one should never have respect for other life forms?

...no one would dream of getting rid of the older brother when the minor is born?...

I am so sad thinking of that bunny who will have become fond of his family and ignores that they are trying to give it away ....

Animals are as responsibilities just as children,

A few months ago I gave up a job that I would have been crazy about before, because there was no way to reconcile it with the presence of the puppy

....
Dear Carotino's parents and other young animals,

You have stirred up a nice uproar! Obviously, this issue stimulates everyone, and me too. I’ll bring a painful testimony here, but I hope it will be useful for the debate.

Two years ago my husband and I had to "change life" for work reasons: a relatively quiet period led to a nomadism without rules and indefinitely, which forced us to imagine a new future for our Pizzilini.

After having examined all the possibilities, our decision was inspired by Zen Love and the courage that true love instills: now Pizzilini is part of us, with its molecules now firmly assimilated to ours, until we live or will be eaten by someone else.

I do not want to give advice, I do not want to give examples; rather, I want to reflect with you on the wonderful multiplicity of forms and ways of Love.

Hugs
Federica70
(together with Ugo and Nuvoletto, the new family members)
Only one, then removed:

- If what you tell is true, I wish you the same
RULE 1: UNDERSTAND BEFORE INTERACTING

- Listen to understand before interacting
- "Ethnological" marketing approach
- Communities exclude those who do not share the same values and passions
RULE 2: BE HONEST, SINCERE AND CORRECT

- It's difficult to bluff
- Changing the paradigm of communication (one-to-many to many-to-many)
- The market punishes those who make mistakes
RULE 3: DON’T BE IMPULSIVE

- Time to fix mistakes is short
- Information moves fast (in real time)
- Practically impossible to contain its propagation
RULE 4: THE WHOLE ORCHESTRATION

- The problem is not technology
- Critical resources: time and money
- Directing channels: orchestrating them and finding priorities for investments
WHAT DOES DIGITAL MEAN?

- Digital data is also called **binary data** because it is encoded by combinations of only **two symbols**, called binary digits, which form **strings of 0 and 1**.

- A bit is the **minimum unit** of information.

- A series of **8 bits forms one byte**.

- Digital data and the systems that encode it **change discreetly** between different states, such as on/off.

- Instead, analog data and the systems that encode, store, process or transmit it, **change continuously**.
A watch with hands is **analog** because the position of each of its 3 hands (hours, minutes and seconds) can indicate any of the infinite points that form the circumference of the watch face itself, points that are therefore **not numerable**.

In contrast, in a digital clock, the digits of the hour, minutes and seconds indicate only and only the **86,400 possible moments** in which it can be divided one day into seconds (24 hours x 60 minutes x 60 seconds).
An object is digitized, i.e. turned into digital format, if its original (analog) state is "translated" and represented by a numerable set of elements.

For example, a photo, normally formed by an infinite number of dots, each one of which is formed by an infinite range of colors, is scanned, and therefore translated into a digital photo,

when its surface is represented by a discrete number of "points" (usually small squares or rectangles called pixels) each of which is a format of a colour of the possible 16 777 216
“The best way to appreciate the merits and consequences of being digital is to reflect on the difference between bits and atoms...

... A bit has no color, size, or weight, and it can travel at the speed of light. It is the smallest atomic element of the DNA of information. For practical purposes we consider a bit to be a 1 or a 0.”

Sectors are now a digital ecosystems, defined by the collection of entities that
- produce,
- consume and
- exchange information within the space delimited by digital technologies
A digital ecosystem is an interdependent group of enterprises, people and/or things that share standardised digital platforms for a mutually beneficial purpose, such as commercial gain, innovation or common interest.

Digital ecosystems enable you to interact with customers, partners, adjacent industries — and even your competitors.
CHARACTERISTICS OF DIGITAL TECHNOLOGIES

- High productivity
- High diffusive potential
- High information complexity
- Interactivity
- Overcoming trade-off reach/richness
- Long tail phenomenon
- Convergence
IBM computers ...
HIGH PRODUCTIVITY

Improvements in technology (hardware)

Costs reduction

Increased speed in elaboration

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**1950s**
- Silicon Transistor
- 1 Transistor

**1960s**
- TTL Quad Gate
- 16 Transistors

**1970s**
- 8-bit Microprocessor
- 4500 Transistors

**1980s**
- 32-bit Microprocessor
- 275,000 Transistors

**1990s**
- 32-bit Microprocessor
- 3,100,000 Transistors

**2000s**
- 64-bit Microprocessor
- 592,000,000 Transistors

**2010s**
- 3072-Core GPU
- 8,000,000,000 Transistors
2. Elevato potenziale diffusivo

– Legge di METCALFE:
  
  $U_i = n(n-1) \approx n^2$

$U_i$: utilità del user $i$

$n$: numero utenti della rete
A FEW QUESTIONS …

How many of you have ever sent an MMS?

How many of you still send SMS?

WHAT DO YOU USE?
WHY??
To benefit from the positive externalities linked to digital technology, we need to achieve a CRITICAL MASS, which is a function of two factors:

- Scale economies on the demand side
- Technology lock-in
Economies of scale on the demand side determine the reduction of the average unit price to access the technology as the diffusion of technology increases.
The presence of a lock-in situation implies the existence of **switching costs** (monetary or cognitive) that users of a technology have to bear to change, in fact if the user is faced with high costs of change, the probability of affirming a technology as standard increases.

An example from the past …
The QWERTY design (patented by Christopher Sholes in 1868 and sold to Remington in 1873) aimed to solve a mechanical problem of early typewriters.

When certain combinations of keys were struck quickly, the type bars often jammed.

To avoid this, the QWERTY layout put the keys most likely to be hit in rapid succession on opposite sides.

This made the keyboard slow.
A different layout, which had been patented by August Dvorak in 1936, was shown to be much faster.

Yet the Dvorak layout has never been widely adopted, even though (with electric typewriters and then PCs) the anti-jamming rationale for QWERTY has been defunct for years.
Bandwidth grows fast.
<table>
<thead>
<tr>
<th></th>
<th>Bytes</th>
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<tbody>
<tr>
<td>Megabyte</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Gigabyte</td>
<td>1,000,000,000</td>
</tr>
<tr>
<td>Terabyte</td>
<td>1,000,000,000,000</td>
</tr>
<tr>
<td>Petabyte</td>
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<tr>
<td>Zettabyte</td>
<td>1,000,000,000,000,000,000,000</td>
</tr>
<tr>
<td>Yottabyte</td>
<td>1,000,000,000,000,000,000,000,000</td>
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Putting petabyte in its place
A petabyte is a lot of data:

- 1 petabyte = 20 million four-drawer filing cabinets filled with text.
- 1 petabyte = 13.3 years of HD-TV video.
- 1.5 petabytes = size of the 10 billion photos on Facebook.
- 20 petabytes = the amount of data processed by Google per day.
- 20 petabytes = total hard drive space manufactured in 1995.
- 50 petabytes = the entire written works of mankind, from the beginning of recorded history, in all languages.

(all approximate)
OVERCOMING THE TRADE-OFF REACH/REACHNESS!

MARKET REACH

INFORMATION RICHNESS

Internet & ICT

MARKET REACH

INFORMATION RICHNESS

MARKET REACH

INFORMATION RICHNESS
Il superamento del trade-off reach/richness: il significato della flessibilità digitale.

MARKET REACH

Quantitative market researches

Tracking, profiling, chat, online community

INFORMATION RICHNESS

Qualitative market researches
Forget squeezing millions from a few megahits at the top of the charts. The future of entertainment is in the millions of niche markets at the shallow end of the bitstream.

Chris Anderson
In 1988, a British mountain climber named Joe Simpson wrote a book called *Touching the Void*, a harrowing account of near death in the Peruvian Andes.

It got good reviews but, only a modest success, it was soon forgotten.
Jon Krakauer wrote *Into Thin Air*, another book about a mountain-climbing tragedy, which became a publishing sensation.

Suddenly *Touching the Void* starts to sell again.
Then …

1. Random House rushed out a **new edition** to keep up with demand.

2. Booksellers began to **promote it next to their Into Thin Air displays**, and sales rose further.

3. A revised paperback edition, which came out in January, spent 14 weeks on the **New York Times bestseller list**.

4. That same month, IFC Films **released a docudrama** of the story to critical acclaim.

5. In 2006, **Touching the Void outsells** Into Thin Air more than **two to one**.
WHAT HAPPENED??????
TRADITIONAL MARKETS

It was the era of hits and blockbusters
An average movie theater will not show a film unless it can attract at least 1,500 people over a two-week run; that's the rent for a screen.

An average record store needs to sell at least two copies of a CD per year to make it worth carrying; that's the rent for a half inch of shelf space.

And so on for DVD rental shops, videogame stores, booksellers, etc.
THEN HE LOOKS AT DIFFERENT INVENTORIES OF DIFFERENT PLAYERS

<table>
<thead>
<tr>
<th>Company</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhapsody</td>
<td>735,000 songs</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>39,000 songs*</td>
</tr>
<tr>
<td>Amazon</td>
<td>2.3 mil books</td>
</tr>
<tr>
<td>Barnes &amp; Noble</td>
<td>130,000 books*</td>
</tr>
<tr>
<td>Netflix</td>
<td>25,000 DVDs</td>
</tr>
<tr>
<td>Blockbuster</td>
<td>3,000 DVDs*</td>
</tr>
</tbody>
</table>

* inventory in a typical store
THE NEW GROWTH MARKET

Obscure products you can’t get anywhere but online

- product not available in offline retail stores (% total sales)

- Rhapsody: 22%
- Amazon: 25%
- Netflix: 20%
CHRIS ANDERSON COLLECTS SOME DATA AND FINDS OUT THIS

![Graph showing average number of plays per month on Rhapsody and distribution of songs available at both Walmart and Rhapsody.](image)

- Average number of plays per month on Rhapsody.
- Songs available at both Walmart and Rhapsody.
- Songs available only on Rhapsody.
- Titles ranked by popularity.
TRADITIONAL MARKETS: PHYSICAL CONSTRAINTS

Hit-driven economics is a creation of an age without enough room to carry everything for everybody.

- Not enough shelf space for all the CDs, DVDs, and games produced.
- Not enough screens to show all the available movies.
- Not enough channels to broadcast all the TV programs.
- Not enough radio waves to play all the music created
- …
Traditional Market: 20% of the most popular products generates 80% of the total sale, and 100% of the total profit.

The retailer makes the majority of the profit by selling more from a minority of popular products.
No Long Tail in Traditional Markets

Lower demand leads to larger marginal cost.

Stop to produce the products with low demand.
BEFORE THE LONG TAIL

- It was the era of **hits and blockbusters**
- **One-size-fits-all** products
- Limits posed by physical space
- Not enough shelves in book shops, CDs and DVDs, not enough screens to project films, not enough channels to broadcast all TV programmes
- **World of scarcity**
- **Need for selection** of mainstream products by sellers or distributors
Analisi del mercato della IPTV – Le forze competitive

Negozianti a “dedicare il massimo dello spazio ai prodotti che avevano il massimo di compratori”, sacrificando un lunghissimo elenco di titoli di libri che, secondo le loro previsioni, non venderanno sufficienti copie da ripagarsi i costi di stoccaggio.

La seguente figura mostra i tre livelli cui può giungere la coda dei prodotti venduti.

Figura 23 – L’ampiezza del catalogo per commerci tradizionali, ibridi e totalmente digitali


Sull’asse verticale sono riportate le vendite per ciascuno dei titoli in catalogo, mentre quello orizzontale indica i singoli titoli disponibili. Il primo punto di equilibrio tra costi e opportunità di tenere un titolo in vendita riguarda il commercio tradizionale, il secondo è applicabile a business come quello di Amazon, mentre il terzo individua la coda lunga di un distributore interamente digitale. Si prendano come esempio di dati riportati da Anderson, nel campo della distribuzione libraria e musicale. Amazon ha un catalogo di oltre 3,7 milioni di titoli, in confronto, un tradizionale libreria di grandi dimensioni ne conta solo 100.000. Per la distribuzione musicale, si possono rapportare le vendite di Rhapsody, un distributore di file mp3 interamente digitale, con quelle di un punto vendita della catena Wal-Mart, il maggior venditore di cd musicali negli USA. Di fronte a 1,5 milioni di canzoni disponibili online, il magazzino medio della catena di distribuzione contiene l’equivalente di “appena” 55.000 brani.

A QUESTION …

The CEO of Ecast, a digital jukebox company which offers more than 150,000 tracks, asks this question:

"What percentage of the top 10,000 titles in any online media store (Netflix, iTunes, Amazon, or any other) will rent or sell at least once a month?"

99%
WHAT HAPPENS???

- From a mass market to a **mass of (niche)** markets

- Niche markets have always existed but before there was **no possibility to satisfy** them
NICHE MARKETS EMERGE

- Even niche markets can be satisfied
- Niche products have always been on the market but were not visible or difficult to find
- Spatial constraints made it necessary to offer only hits
- The absence of limits allows you to offer hits but also niches
Amazon is the precursor, along with eBay

No more physical spatial constraints

Amazon relies on countless shops that provide it with materials when needed

Distributed inventory

We move on to the world of abundance (vs. the world of scarcity)
NOT A STORE FOR 30 MILLION CUSTOMERS, BUT 30 MILLION STORES
WITH RELATION TO BOOKS FOR EXAMPLE …

The top 100,000 most popular books (sold on the traditional stores) account for 43% of the total sale. 57% of the sale comes from the long tail.

43% of Amazon’s Sales
Books carried by traditional stores

57% of Amazon’s Sales
Books only carried by Amazon
- Virtually **universal validity**
- **All** product sectors
- Concerns online resources
- A first step is the possibility to sell products online
- A further boost is the possibility of selling products online in **digital format**
OTHER EXAMPLES

- Downloads of Apps in Apple Store, Google Play
- Downloads of music in iTunes
- Plays of movies in Netflix, Youtube, …
- Visits of websites on Internet
- Sales of goods in Amazon,
THE SUM OF NICHE MARKETS

- It is important from an economic point of view because the sum of these niche markets is as large as (if not bigger) the market of the hits.

- Once storage costs and distribution costs have been eliminated, the sum of the niches brings the same profit to online sellers as the hits.
LET’S THINK AGAIN ABOUT PARETO (80/20)
Linked to the similarity between technological and production processes (once considered separate and distant). It means that:

- The same technology is at the basis of a growing number of products
- An increasing number of different technologies is embodied in a same product
ONE PRODUCT FOR ALL...