

How to Make, Grow and Sell a Semantic Web Start-up

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Reality: In the next 5 years many of you will create start-ups

- Learn from my mistakes
- Understand the role of Semantic Web technologies in a new business, and throughout its life
- Understand the specific position of a researcher in the business world

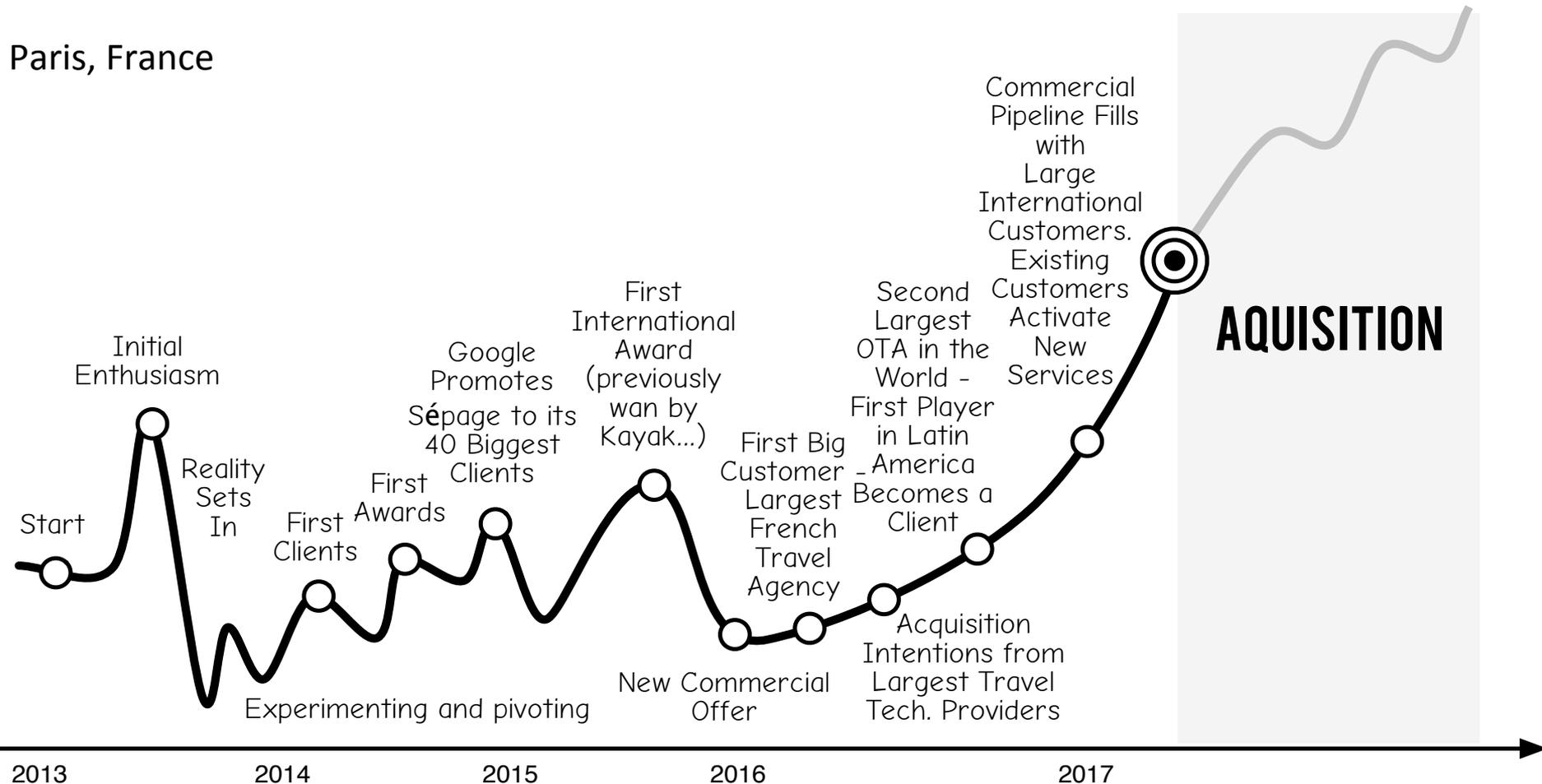
All successful start-ups are the same. All start-ups that fail, fail in their own way.

**SUCCESS IS
GETTING WHAT
YOU WANT AND
FAILING AT
EVERYTHING ELSE**

There is no straight path

Sépage: Semantic Engine for Personalized Adapted Graph Exploration

Paris, France



I've got my first investment in 2012

- It was an informal meeting, one summer day in a Four Seasons hotel
- I had only a vague idea of what I was going to do
- I had no Business Plan
- I had no idea what would the domain of application of my technology be
- I was wearing shorts

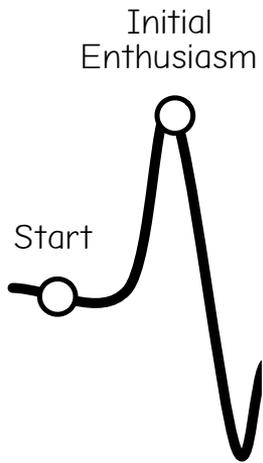
I've got my first investment in 2012

- But I knew what my goal was: Create a Semantic Web technology asset, demonstrate its market relevance and sell it for a profit.
- I had credibility on the topic
- I knew how I would determine which domains are the best candidates

**SEMANTIC WEB
WAS THE KEY
TO GETTING MY
FIRST
INVESTMENT**

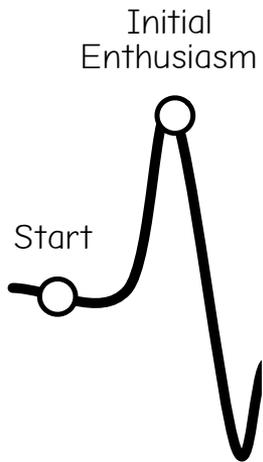
We started in early 2013

- We chose a domain: Travel. Because I believed Semantic Web would do great at supporting humans in making complex choices, and in use-cases where the “semantic” gap between the human perception and raw data is the greatest.



We started in early 2013

- We got into a prestigious start-up incubator
- Some of the people from my previous job followed me
- Some of my students joined as interns
- I was working from 9 am until midnight every day





**IF YOU ARE TOO
BUSY, THERE
MUST BE
SOMETHING
THAT YOU ARE
DOING WRONG**

First clients appeared from day 1

- We had first clients from day 1, but not the clients we wanted to have. Yet we accepted.
- There was money, people were paid,
- We created a first prototype with public data: a system able to recommend future destinations with very little user history

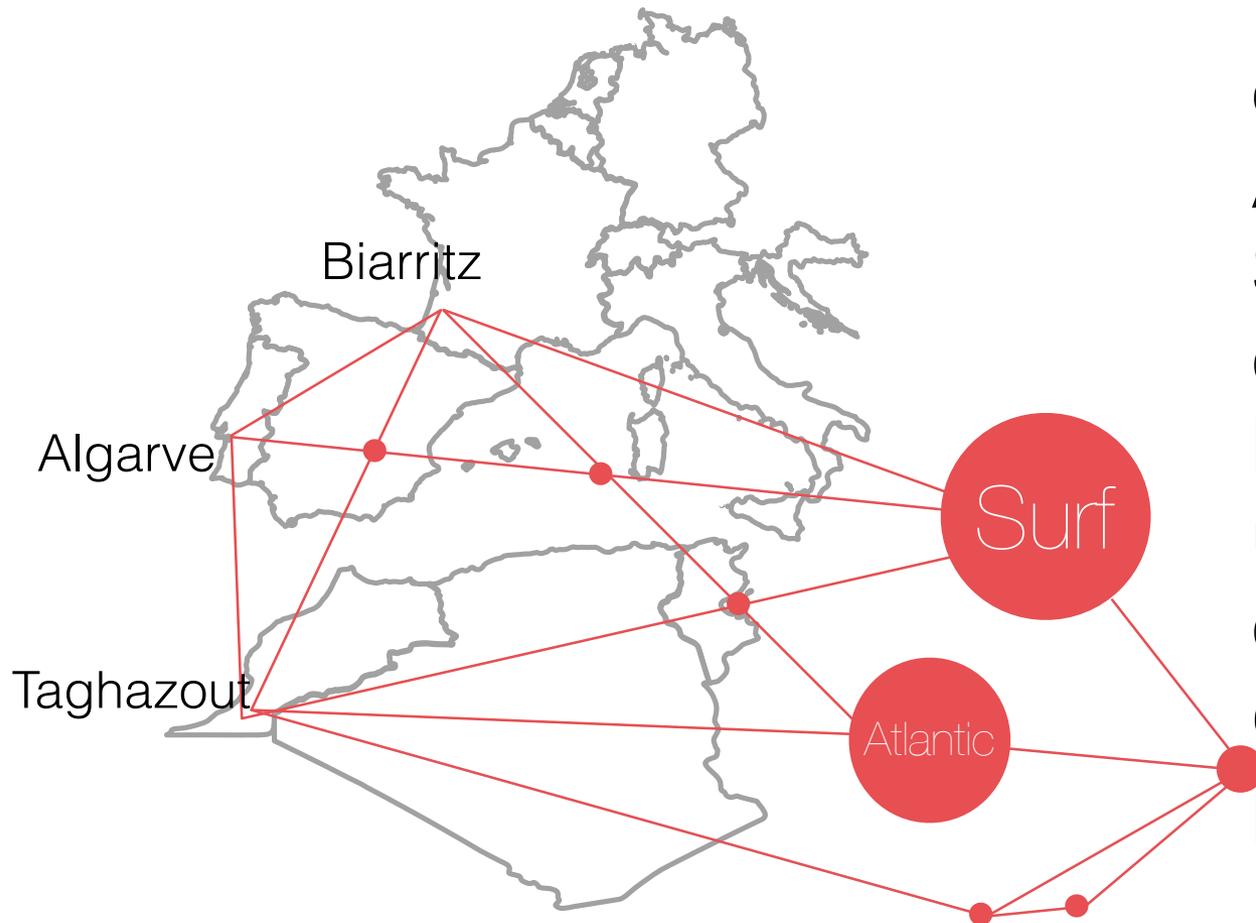
Getting travel clients was difficult

- But we had no real travel-client data, we were not connected to any travel client API
- I was trying to get the travel clients to give me meetings, and convince them to work with us

One meeting was in Vert Galant,
where people have pigs in their
gardens, 8am, on a freezing winter
morning



We learned a bitter lesson about big corporations and start-ups



Here is how I explained to AirFrance how Semantic Web can help them get better at understanding clients needs, and doing personalization.

*“Côté promotions, le graal serait d'envoyer des promotions personnalisées sur des destinations propices au **surf** à un client qui s'est précédemment rendu à **Biarritz** et à **Tenerife**.”*

Tanguy Favennec
Digital Development Director Air France





"We need to rethink our strategy of hoping the Internet will just go away."

**NOVICES
UNDERSTAND THE
IDEA OF SEMANTIC
WEB BETTER THEN
THEY
UNDERSTAND THE
INTERNET**

Year 1: Conclusions

- We were almost profitable, but did not get any closer to our goal
- Our clients met our technology with:



- Fear
- Lack of resources to adopt it
- Interest but no actual move towards adopting it
- We had no product

We knew our product had to be:

- Easy to understand and adopt
- Easy to integrate
- Require little effort from the client

In early 2014 we launched our product/service : GlobeAdvent

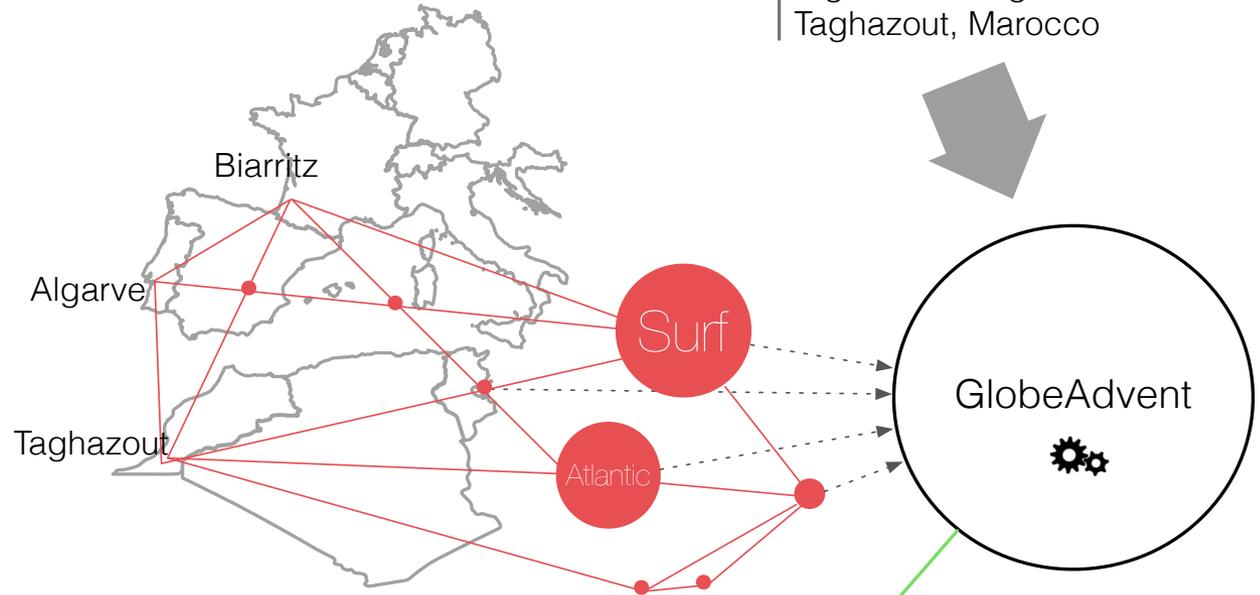


Past travel and current searches

Biarritz, France
Algarve, Portugal
Taghazout, Morocco

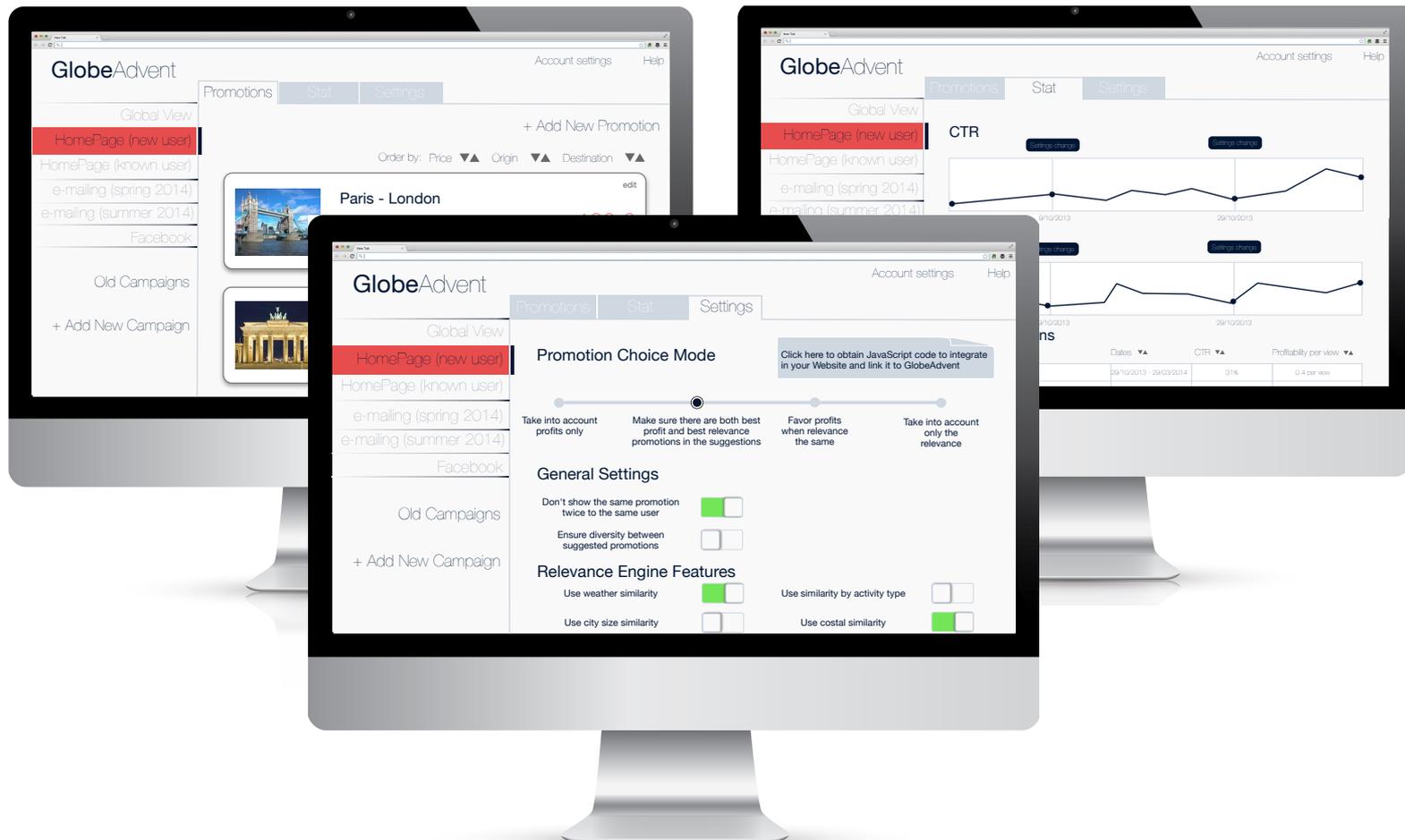


TRY
Mundaka
Spain !



Smart suggestion

In early 2014 we launched our product/service : GlobeAdvent



We won awards before having clients



Then the phone started to ring

- Journalists, Potential clients,... everybody called
- I was having 6 meetings a day (most of which completely useless)
- One of our investors had a heart surgery and we desperately needed money quickly



Focus helped deal with the pressure

- First client came: Nomade aventure, a respectable travel agency, with a great deal of online bookings, signed with us
- Friends helped find new investors
- We expanded our team

**SEMANTIC WEB
HELPED ATTRACT
DEVELOPERS
WANTING TO
LEARN
SOMETHING NEW**

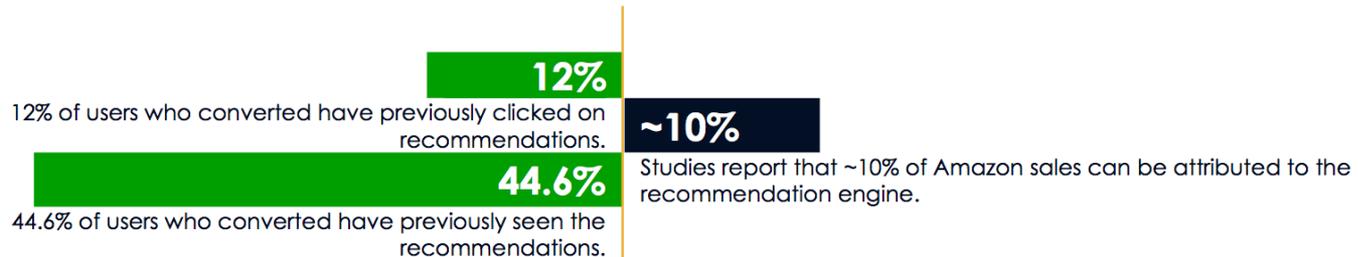
Few first months with the first client

CONVERSION



*In comparison to the segment of people in the control group who would have seen the recommendations if they were there.
**In comparison to the website average
***In comparison to the control group

IMPACT



CLICK-THROUGH RATE

Your Website with GlobeAdvent

9.52 %

CTR for recommendations seen
This ratio is equal to the number of clicks divided by the number of recommendations seen by the users. When taking into account all the recommendations generated (seen or not) the CTR is 3.94%.

Industry Data

4.8 % CTR of Google adWords in travel sector
The adWords are always seen by the visitor, and Google is often used for travel inspiration in the beginning of the shopping process. <http://bit.ly/1cMr0G6>

5.7 % CTR for On-site recommendations by Outbrain/nRelate
General-purpose recommendation engines OutBrain and nRelate are proud of very high CTR registered on recommendations within client websites. <http://bit.ly/1qRr6J2>

0.5-0.7 % CTR of Criteo retargeting ads in travel sector
This click-through rate is also calculated based on recommendations generated (without tracking if they are seen by the user or not). <http://bit.ly/1vW9k53>

GlobeAdvent demo

• 7.2

Confidential

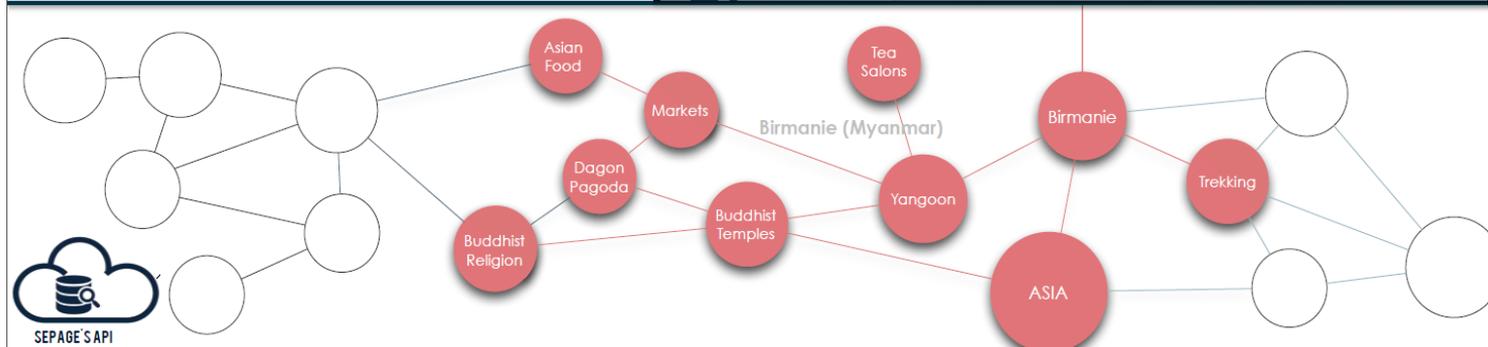
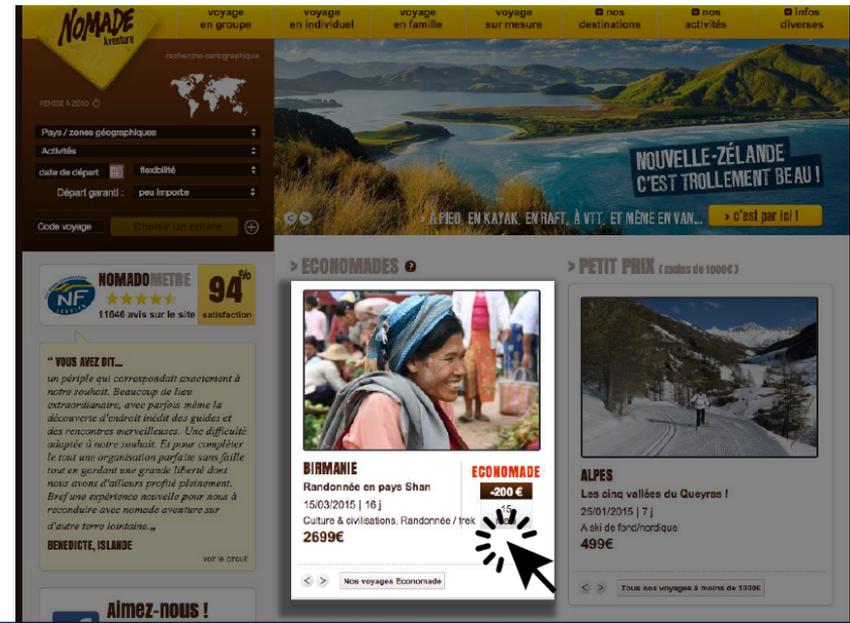
Sépage • Appendices

Step One Homepage

The user clicks on the offer “Birmanie”

What our system knows:

The user is interested in one offer: “Birmanie”
 This offer is related to : Yangoon (popular for Tea Salons, Markets, Asian Restaurants, Buddhist Temples), Shwedagon_Pagoda (Lendmark, related to Buddhist Religion),...



GlobeAdvent demo

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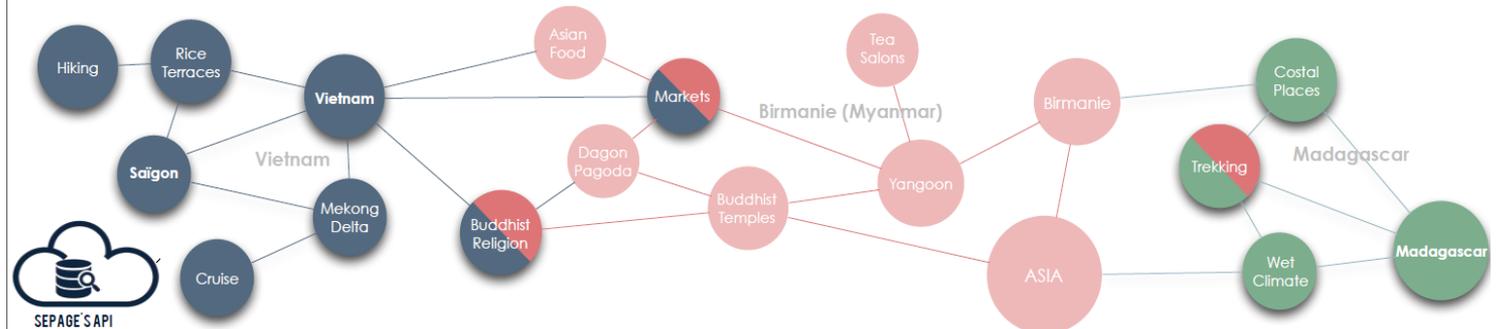
Step Two Recommendation

GlobeAdvent recommends “Madagascar”,
“Vietnam” and “Birmanie”

What our system knows:

By a client settings, the diversity of recommendations is reinforced, so the system proposes **offers in different countries, but having similar content**: Vietnam (similar by Buddhism, street markets...) and Madagascar (also in Indian Ocean, similar climate and activities...).

The screenshot shows the Nomade website interface. At the top, there are navigation tabs for 'voyage en groupe', 'voyage en individuel', 'voyage en famille', 'voyage sur mesure', 'nos destinations', 'nos activités', and 'infos diverses'. Below this is a search filter section with options for 'Pays / zones géographiques', 'Activités', 'date de départ', 'flexibilité', and 'Départ garanti'. A 'NOMADOMETRE' badge shows a rating of 94/100 based on 11046 reviews. A testimonial from 'BENEDICTE, ISLANDE' is displayed. The main recommendation section is titled 'Y'a quelqu'un qui nous a dit que vous aimeriez aussi...' and features three cards: Madagascar (Adventure Robinson entre terre et mer, 15 Jours, starting at 2699€), Vietnam (Best of Vietnam, 18 Jours, starting at 2399€), and Birmanie (Randonnée en pays Shan et extension rocher d'or, 21 Jours, starting at 3749€).



GlobeAdvent demo

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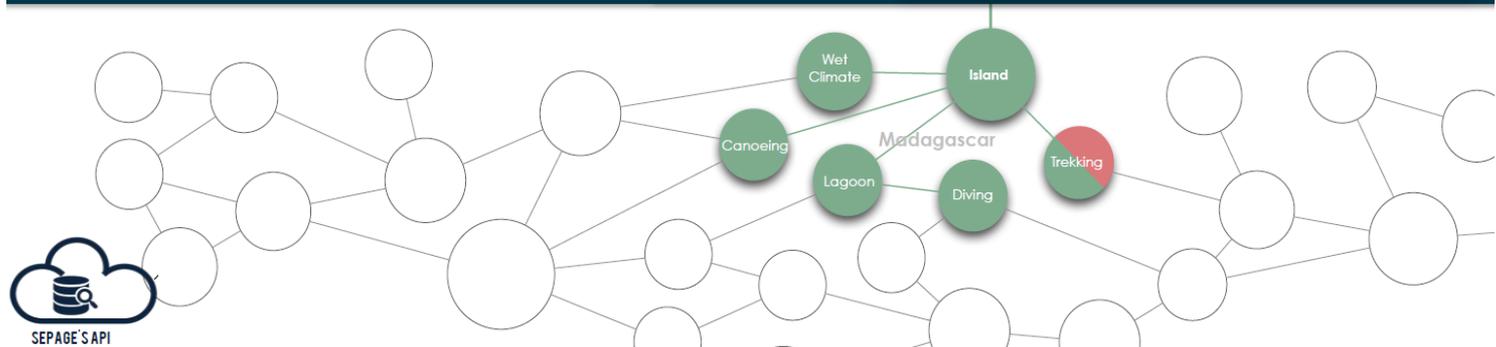
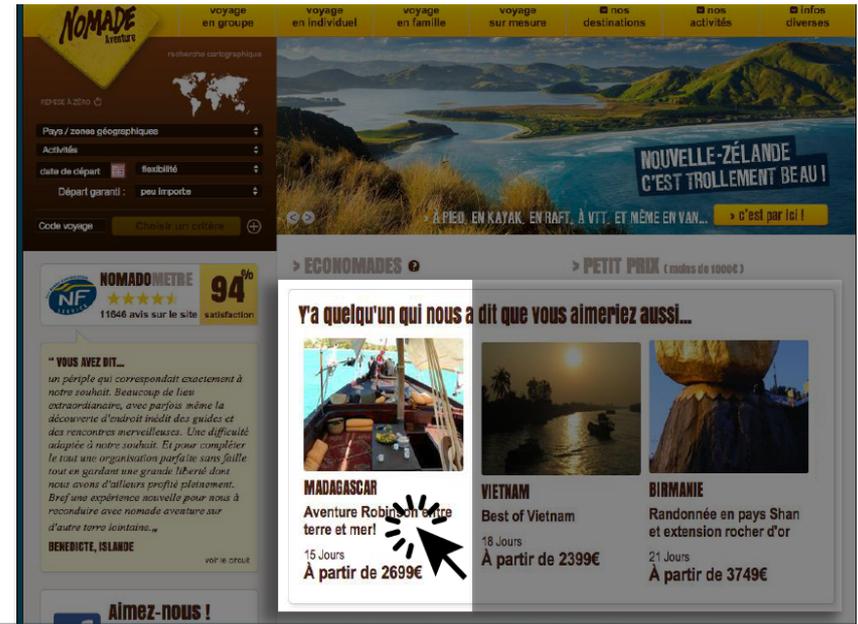
Sépage • Appendices

Step Three 2nd click

The user clicks on the "Madagascar" suggestion.

What our system knows:

The user is now interested in two offers : "Birmanie" and "Madagascar"
This last offer is related to : Island, Indian Ocean, Wet climate... It also has **common concepts** (trekking) with the "Birmanie" offer.



GlobeAdvent demo

• 7.2

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Sépage • Appendices

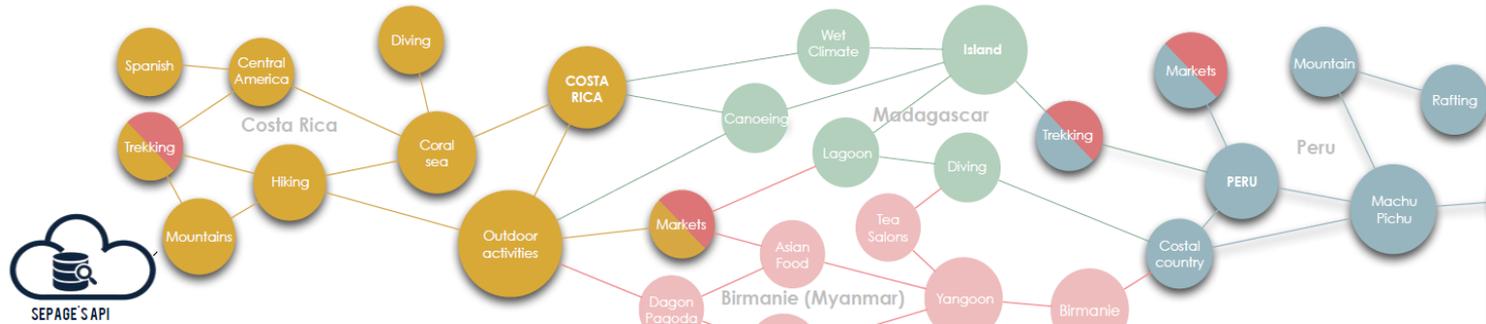
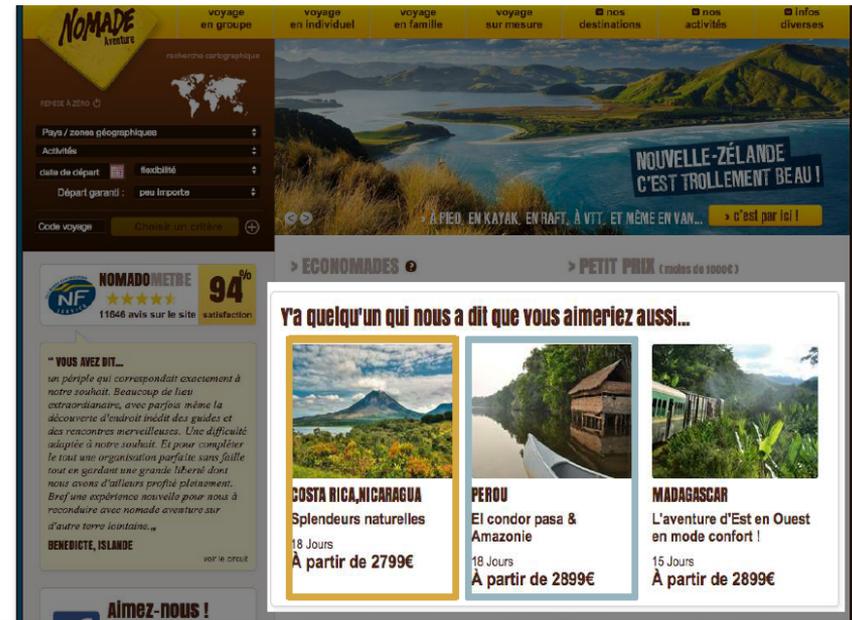
Step Four 2nd recommendation

GlobeAdvent recommends “Costa Rica”,
“Peru” and “Madagascar”

What our system knows:

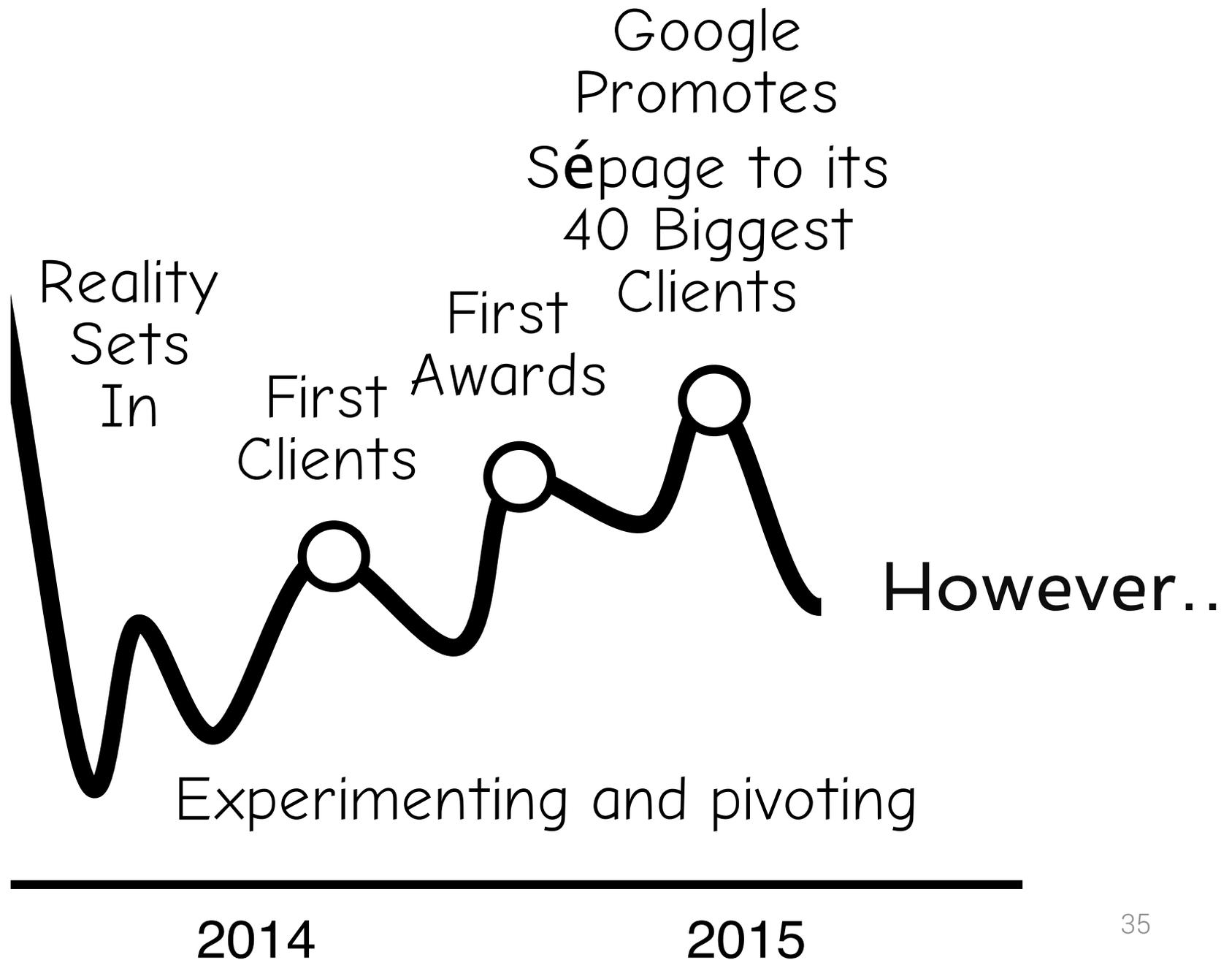
The similarity of “Birmanie” (Myanmar) and “Madagascar” is not in Buddhisam nor in National Parks (Key features of the two offers).

The system bases the next recommendation on **geographic features, and activity-content** “Sight-seeing”, proposing similar journeys on a similar distance from Paris.



International awards came in





Year 2: Conclusions

- We had investments, awards and notoriety
- But the commercialization was slow and cost a lot
- The clients required a lot of coaching and consulting, there was a lot of proving that it works, which is costly in man-effort
- The product was too cheap



**YOUR
PRODUCT
ALLOWS TO
DO
SOMETHING
THAT
COULDN'T BE
DONE
BEFORE.**

**IT'S
EXPENSIVE.**

VS.

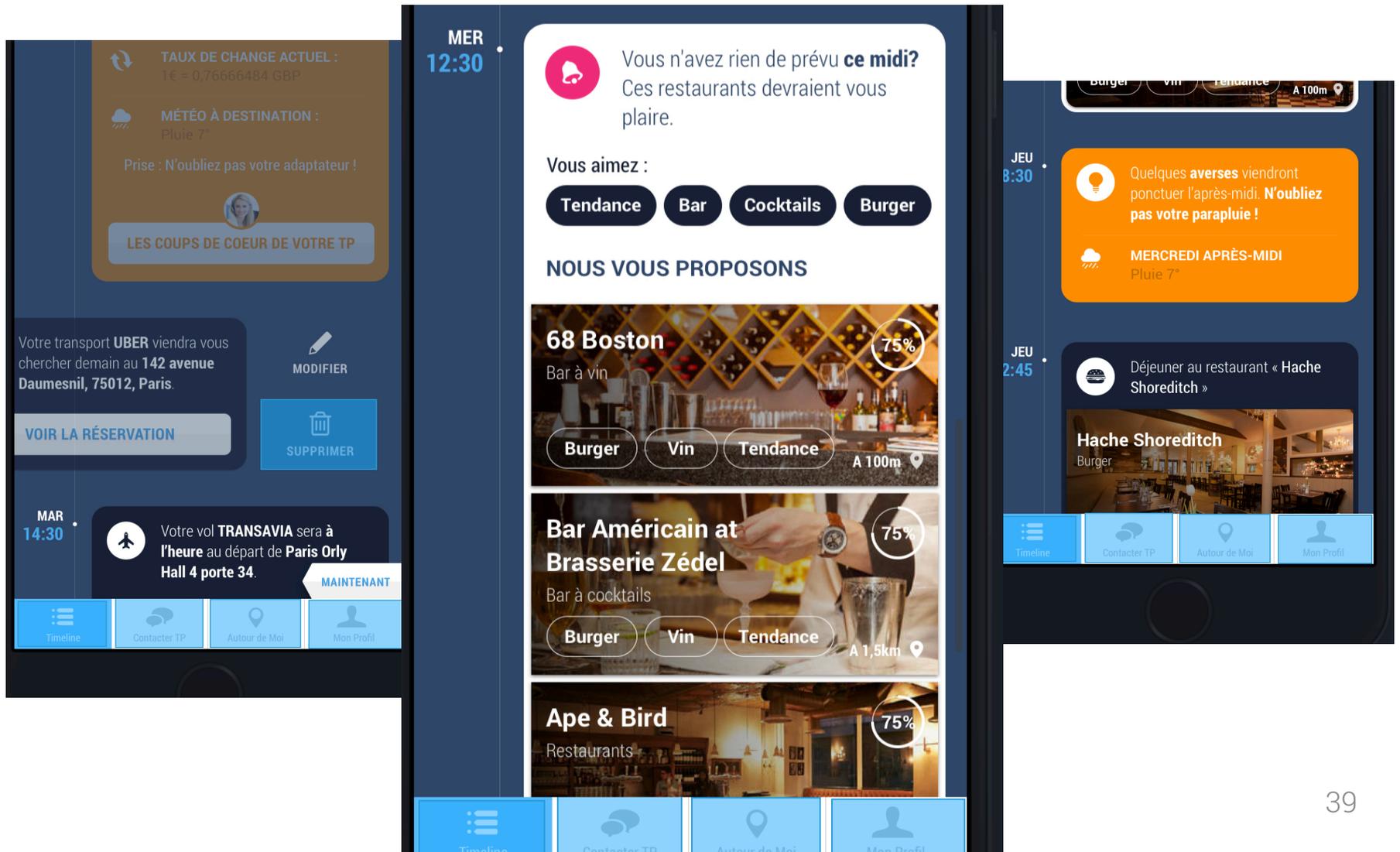
**YOUR
PRODUCT
ALLOWS TO
DO
SOMETHING
IN A
CHEAPER
MORE
EFFICIENT
WAY.**

IT'S CHEAP.

Then came Havas Voyages

- They wanted our technology in their new product
- They were desperate to innovate, and be leaders of tomorrow's economy
- They offered their terms. The value of the contract was like 50 average clients combined (and the sale was quicker). It made us think.

Havas Voyages wanted an intelligent assistant



We changed our commercial offer

- We offered clients to construct applications, websites, CRMs on top of our technology platform in a similar way that Havas Voyages wanted
- It was all against our initial intuition that cost should be light, integration easy and effortless.
- Tighter integration meant more dependency on our company.

Make Travel Great Again

...TO CREATE INTELLIGENT AND PERSONALISED SOLUTIONS FOR TRAVEL

CUSTOM INTERFACES

SITE



APPS



B.I. INTERFACE



DATA-PLATFORM



WHATEVER YOU LIKE



READY TO USE ALGORITHMS

PERSONALISATION

CROSS - SELLING

SEARCH

ADVERTISING

TRAVEL TECHNOLOGY CORE

Knowledge Graph
Machine learning

PROFIL UTILISATEUR
MALE, 35
PARIS (France)

HISTORIQUE DE NAVIGATION

Paris-Madrid/Economy/5 days/Bank-Holiday/November
Paris-Athens/Economy/5 days/Bank-Holiday/November

PRICE SENSITIVITY

160-300 Eur
Lowest fare

LAST TRAVEL SEARCH RADIUS

Short distance
Europe

CLICK HISTORY

Harry-Potter London Tour
November Getaways

CONNECTIVITY

Evenings
Thursday

SCORING D'INTERETS



It worked

- The commercial process was still long, but in the end the contracts were bigger
- Havas Voyages gave us a major Website contract for the same platform
- We had more, better, bigger leads

**THERE IS ONLY
ONE VIABLE
START-UP
IDEOLOGY:
COMMON SENSE**



Year 3: Conclusions



- By listening to the market we changed our commercial offer
- We started to get large contracts
- We've got a first acquisition offer

Acquisition was the goal from the start

- We were always looking to flirt with potential buyers
- When the first real intention appeared (in summer of 2016) we hired an M&A firm to represent us and find other buyers
- Most intentions shown were not really honest

A lot of time lost

- Many discussions on senior levels lead to no real intentions. People in big companies often like a free lunch, and are willing to fly long-distance to get it
- Yet, every buyer that would show up, regardless of how serious their interest would be, would attract new candidate buyers
- We had hundreds of M&A meetings with 5 serious buyers, and dozens of non-serious big ones

Different types of buyers

- Types of companies
 - Companies that might be your clients
 - Competitors or so
 - Companies wishing to enter a new market
- Types of people in those companies
 - Innovation Directors or Department Directors
 - Founders
 - M&A Directors (external Growth)

The buyer that finally bought us

- Was a company offering software services to the same clients we did
- Main interest was to enlarge their offer with new technology and get rid of their reputation of being a “legacy technology provider”
- Commercial synergy was the highest, they bought a clear market potential, rather than pure technology
- Semantic Web technology was clearly a differentiating factor in the buyer's choice

Negotiating the deal took 7 months

- From the first meeting when acquisition was discussed to the actual signing
- If there was one book you should read it would be: The Art of the Deal by Donald Trump
- Lawyers, auditors, accountants... are slow and slower than you think
- Some people left the company the day after the news were announced.

You should be able to walk out

- We created our company in order to sell it for its technology, so we did not really have a choice, and the buyers knew it
- If you can, create a company that can both stand alone or be sold (it is difficult thought as the funding required is different, and the more you are funded the more difficult it is to sell)
- Construct your leverage by having multiple buyers, and steady revenue or subsidies

Takeaways

-Semantic Web-

**THERE IS HUGE
POTENTIAL FOR
SEMANTIC WEB IN THE
TRAVEL INDUSTRY:**

- DATA EXCHANGE**
- ANNOTATION
(CURRENTLY DONE
BY HUMANS)**
- INFERENCE**

**SEMANTIC WEB IS A
GREAT
DIFFERENTIATION
FACTOR, ALLOWING
TO STAND-OUT IN
THE EYES OF CLIENTS
AND TALENT, BUT
NOT ENOUGH**

**SEMANTIC WEB
CAN BE EASILY
UNDERSTOOD BY
PEOPLE IN THE
INDUSTRY**

Takeaways

-Funding-

**THE DESTINY OF
YOUR START-UP
DEPENDS ON THE
TYPE (AND
AMOUNT) OF
FUNDING.**

Funding

- VC vs. Private Equity: make the adequate choice
- Take the bank loans, but give no personal guarantee. Large successful companies have loans of $\sim 100\%$ of their revenue. Debt is the cheapest capital.
- Always raise more money than what you actually need

Takeaways

-being a researcher in business-

**THE BUSINESS
CULTURE IS VERY
DIFFERENT FROM
THE RESEARCH
WORLD CULTURE**

STATION F



**DO NOT MEET WITH
EVERYONE WHO
WANTS TO MEET
YOU. ASK
YOURSELF WHY
SHOULD YOU MEET
THEM?**

**YOUR KNOWLEDGE
MIGHT INTIMIDATE
PEOPLE, GIVE THE
IMPRESSION THAT
YOU HAVE THE
UPPER HAND.**

**INTERACTIONS WITH
PEOPLE TAKE A BIGGER
PART OF MY DAY.**

**THERE IS ALSO
ADMINISTRATIVE
WORK.**



**MAKING YOUR
COMPANY
INDEPENDENT FROM
YOU MIGHT BE
COUNTERINTUITIVE
BUT IS AN ABSOLUTE
NECESSITY**

**APPLYING THE
RESEARCH MINDSET
TO BUSINESS
PROBLEMS MIGHT
LEAD YOU TO
OVERTHINKING.
BUSINESS IS OFTEN
MORE BANAL.**

**RESEARCH IS ABOUT
PROVING YOU'RE
RIGHT.**

**BUSINESS IS ABOUT
SHIFTING THE WORLD
TO YOUR
ADVANTAGE.**

**BUSINESS
ESSENTIALS:
PEOPLE,
CUSTOMERS, AND
PRODUCT
ARE IMPORTANT,
BUT MUST BE
REPLACABLE**

Questions?

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