Summary of the results of Afnic's "Technology Backdrop Survey" - October 2014

Survey organized by Afnic's Scientific Council and run by INIT

Report by:

Alexandre Clame & Mélanie Lirante - INIT

Summary of the results of Afnic's "Technology Backdrop Survey" – 2014 Edition

This document summarizes the results of the 2014 edition of Afnic's technology backdrop survey. By way of introduction, in sections 1-4, it recalls the background, objectives, structure and methodology of the survey. It then presents the main results of this survey, starting with the characteristics (profile) of the population of respondents in section 5. The results are reviewed in section 6, according to the level of agreement (consensus or divergence). Section 7 discusses further work for exploiting the results of the survey and for carrying out future editions.

1. *Background and objectives of the survey*

Background

- ✓ *End 2008 – Early 2011:*

  The ***Afnic Scientific Council (SC)*** asked the question: "Is it possible to have a shared vision of technology trends in the medium to long term?"

  ICT users and professionals were invited to respond to an online survey

  The 1st edition of the survey's results was published in 2011:

  http://www.slideshare.net/AFNIC/findings-techbackdropafnic-6789205

- ✓ *2012 (May – June):*

  The 2nd edition was guided by the Afnic SC, with professional support from (specialist agency) INIT:

  http://www.afnic.fr/en/about-afnic/news/general-news/6391/show/the-internet-in-10-years-professionals-answer-the-afnic-survey.html

- ✓ *2014 (February – March):*

  This 3rd edition *was guided by the* ***Afnic SC,*** *with professional support from* ***INIT****:*

  http://www.afnic.fr/en/about-afnic/news/general-news/7649/show/launch-of-the-third-edition-of-afnic-s-technology-backdrop-survey.html

Goals

- ✓ *Construct a technological backdrop (10-year forecasts):*

  The basis of the backdrop consists of consensuses; it shows the broad orientations.

  Predictions that oppose two subpopulations of respondents ("divergence into two schools of thought") are used to integrate into the backdrop alternative scenarios of high uncertainties..

- ✓ *Monitor trends and technological developments by renewing the survey periodically;*
- ✓ *Use the backdrop as a decision-support tool to launch innovative products-services;*
- ✓ *Share the survey results with the scientific & technical Internet community and contribute to building a common vision.*

2. *Respondents: numbers and profiles*

153 respondents took part in this survey. Their profiles are distributed as follows:

Internet "Professionals":

- ✓ *Respondents working in the ICT field*
- ✓ *114 respondents matched this profile (75%)*

Internet "Users" only:

- ✓ *Simple Internet users, not working in the ICT field*
- ✓ *39 respondents matched this profile (25%)*

N.B. Internet « Professionals » responded to the 1st part of the survey as "Users"!

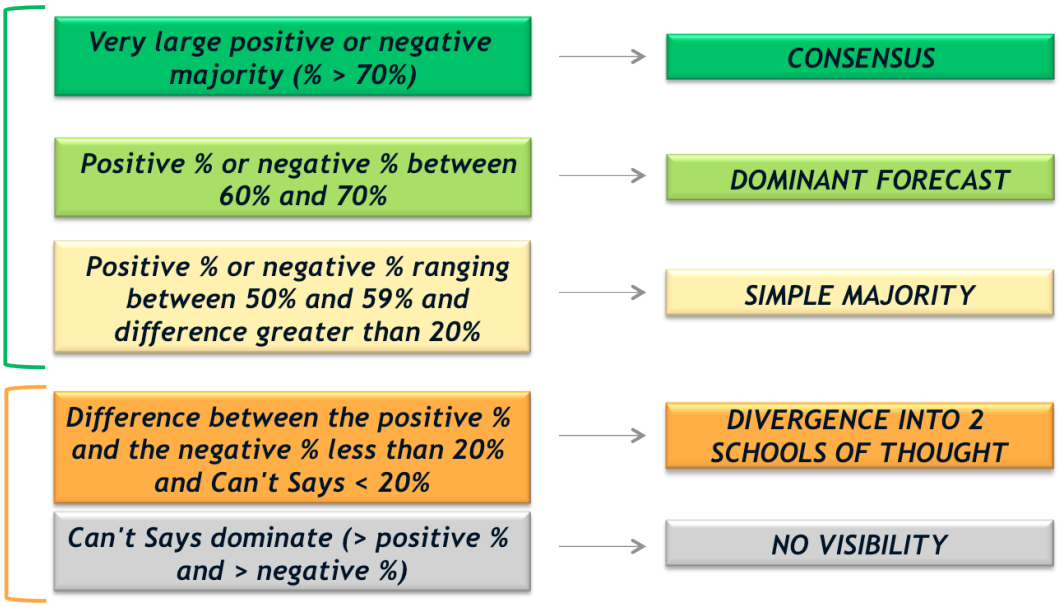
3. *The themes of the questionnaire*

The questionnaire covered on four themes, including a cross-cutting one, as well as identification questions at the end.

THEME 1 / THE PURPOSE OF THE INTERNET	"USER" PROFILE: ALL RESPONDENTS
THEME 2 / THE GLOBAL ARCHITECTURE OF THE INTERNET	"PROFESSIONAL" PROFILE ONLY
CROSS-CUTTING THEME	
THEME 3 / THE INTERNET DOMAIN NAME SYSTEM (DNS)	
IDENTIFICATION	"USER" PROFILE: ALL RESPONDENTS

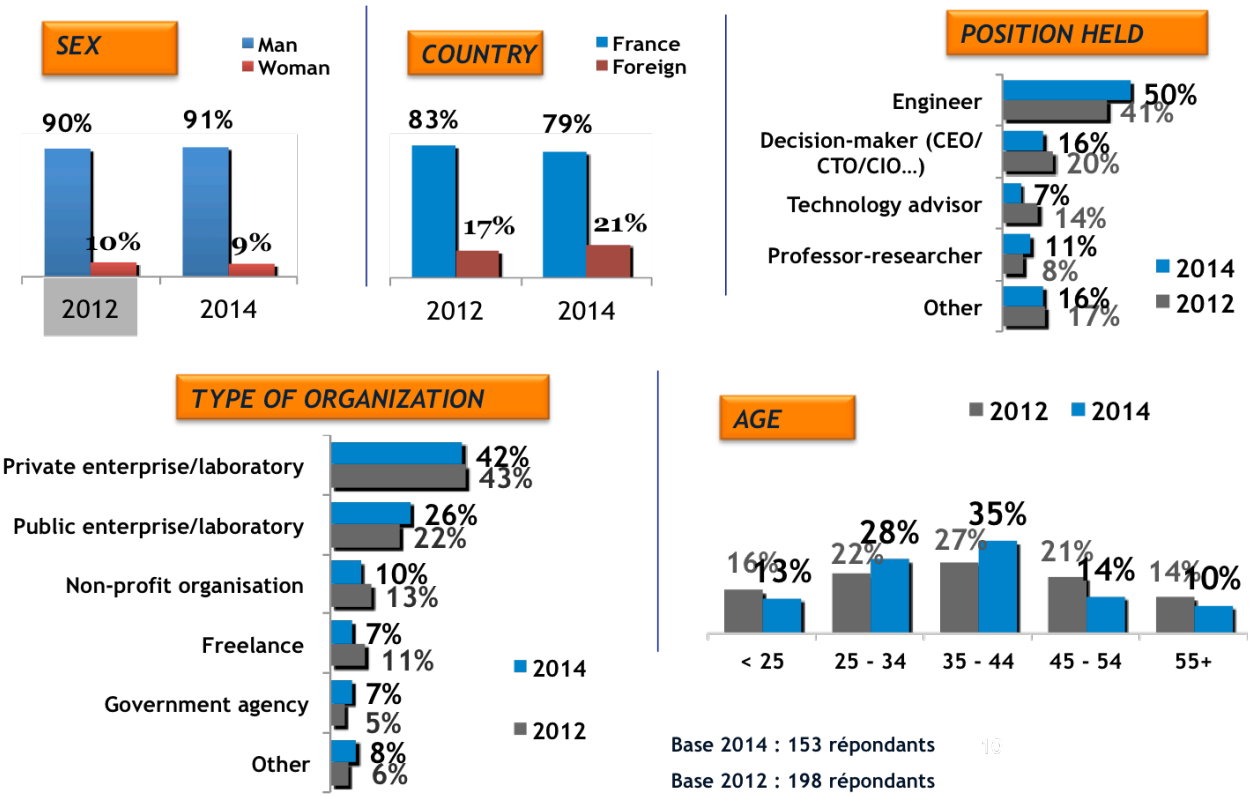
4. Methodology

- ✓ *The questions asked require answers on the following scale:*
  - ✓ *Strongly agree (positive)*
  - ✓ *Tend to agree (positive)*
  - ✓ *Tend to disagree (negative)*
  - ✓ *Strongly disagree (negative)*
  - ✓ *Can't say*
- ✓ *The call for participation was issued by Afnic to contacts by electronic means (e-mail, Twitter, etc.);*
- ✓ *The invited respondents were allowed to pass on the invitation to their acquaintances;*
- ✓ *Thresholds were set to determine whether there is a (more or less strong) consensus or rather a divergence among respondents on the questions (assertions). These thresholds are based on percentages of positive or negative orientation of responses, according to the abovementioned four-level scale of categories (Strongly agree ... Strongly disagree).*



5. *Profile of Respondents*

Here is a graphical summary of the characteristics of the population of respondents, with recall of figures from the 2012 survey:



Base 2014 : 153 répondants

Base 2012 : 198 répondants

6. Summary of the results of the survey

6.1 Internet Use: The vision of respondents in the next 10 years

This is the first theme of the questionnaire, to which the entire population of 153 respondents responded, with the "User" profile.

Internet access

- ✓ *The use of desktop computers, laptops and smartphones will be dominant in the next 10 years in professional life;*
- ✓ *In private life, the smartphone will remain dominant.*

Uses and content on the Internet

- ✓ *Internet exchanges will dominate in professional life;*
- ✓ *In private life, exchange and consultation of Internet content will be dominant and fairly close in terms of use.*

Data storage

- ✓ *In professional and private life, storage and management of data stored, remain largely under the control of their owner.*

6.2 Consensuses

Based on the threshold set (on 70% positive percentage), this part contains the assertions (themes 2, 3 and transverse) on which a consensus was reached among respondents (only "professional" profile).

Consensuses observed during the 2012 survey, repeated in 2014:

- ✓ *Internet infrastructures will continue to evolve in order to meet the needs of all applications and services;*
- ✓ *The DNS will remain the dominant naming and resolution system on the Internet.*

Consensuses on emerging issues in the survey 2014:

- ✓ *The first country-code Top-Level Domains (ccTLDs) will retain their appeal to domain name holders;*
- ✓ *Among the main barriers to the development of new uses on the Internet:*
  - ✓ *Filtering / blocking user applications on the Internet;*
  - ✓ *Absence / weakness of communications security (confidentiality, privacy ...);*
- ✓ *Protection of personal data collected by service providers on the Internet will be inadequate.*

6.3 *Divergences into 2 schools of thought*

Based on the thresholds set (see section 4), this section discusses divergences into 2 schools of thought.

Some cases of "divergence into 2 schools", seen in the 2012 survey, recur:

- ✓ *Local DNS resolvers (on users' machines) will represent a significant share compared to ISP resolvers or "open resolvers" like Google Public DNS;*
- ✓ *When user's DNS queries submitted to a third party's resolver (own ISP's resolver or providers of alternative resolvers), the use of alternative resolvers will exceed the use of their own ISP's resolver;*
- ✓ *IPv6 deployment will result in a gradual disappearance of NAT boxes.*

"Dominant Forecast" (2012) turning into divergence (2014)

- ✓ *The different types of wired Internet access (DSL, fibre, etc.) will be neutral in the sense that these access media let through all the traffic exchanged without judging its nature.*

Divergence (2012) turning into "Dominant forecast" (2014)

- ✓ *The different types of access to wireless Internet (3G/4G/*G, hotspots, wifi...) will be neutral in the sense that these access media let through all the traffic exchanged without judging its nature.*

Divergence on a new question in the survey 2014:

- ✓ *Information on the Internet access service provided by ISPs will be adapted to the users' needs.*

6.4 *Dominant forecasts*

Based on the thresholds set (see section 4), this section deals with "Dominant forecasts", but not dominant enough to reach a consensus (as defined by corresponding threshold).

The survey shows "dominant forecasts" on the following issues:

- ✓ *The DNS will be more secure than it is today;*
- ✓ *NATs will continue to be used for other things regardless of the level of IPv6 deployment;*
- ✓ *The different types of access to wireless Internet (3G/4G/*G, hotspots, wifi...) will be neutral in the sense that these access media let through all the traffic exchanged without judging its nature;*
- ✓ *The Internet name space will still be globally based on a single root (currently, this root is managed by ICANN);*
- ✓ *Data conveyed by DNS queries will be considered as personal data, requiring protection by DNS operators;*
- ✓ *The level of trust in the main Internet applications will be sufficient.*

7. Outlook

The next edition of the survey will allow us to:

- ✓ *Follow important trends and the evolution of the backdrop on the themes studied;*
- ✓ *Introduce additional issues as technology changes;*
- ✓ *Remove the issues whose significance disappears or fades;*
- ✓ *Share - as always - the results with the Internet community.*