DENTAL MONITOR

Cad-Cam Survey

ITALY JUNE 2017

KEY-STONE
Marketing research and consulting

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In-depth interviews with chairside users
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KEY-STONE

Methodology

1. In-depth interviews with chairside users

2. CATI CAWI* interviews

Cad-Cam market

*Telephone (CATI) and web based (CAWI) interviews

GLOSSARY

Confidence level

The <u>confidence level</u> tells how sure the results can be. It is expressed as a percentage and represents **how often the true percentage** of the population who would pick an answer **lies within the confidence interval**. The 95% confidence level means you can be 95% certain.

Confidence interval

The <u>confidence interval</u> indicates how much the research data diverge from reality. In this survey considering a confidence level of 95% the maximum error (confidence interval) is +/- 4,8%.

Base of the calculation of the contingency data

The analyses presented in this survey were calculated based on the number of respondents (represented by blue charts) and indicate the percentage of dentists that produce a certain result. In other cases certain analyses are quantitative (number of restorations, number of dental chairs, number of patients, etc.) and in this case the reference base is the total amount related to the analyzed topic (% of restorations,% of dental chairs, % of patients, etc.), in this case the charts are usually green.

Types of questions

The research was performed both with dichotomic questions (questions producing a single answer, therefore a total answers with a 100% result) or multiple choices (in this case the sum of the answers is more than 100% because the respondent could choose one or more options). Questions with multiple choices were indicated next to the corresponding chart.

Research sample

The sample consists of **515 interviews**, of whom **455** random dental practices stratified by Nielsen areas. To correctly represent the Italian market, the analyzed cases were weighed. The weight was calculated considering the distribution of practices in the geographic areas.

Region	Cases	%
1 North West	142	31%
2 North East	98	22%
3 Centre	96	21%
4 South and Islands	119	26%
Total	455	100%

+ 60 users
(oversample)

The analysis of this study is made up of two different samples:

Random sample: dental practices resulting from a random database

455 interviewees of whom:

45 Cad-Cam technology owners (random data)

Oversample: random dental practices picked up from a chairside owners database; 60 interviewees

Owners sample: 105 dental practices owning Cad-Cam equipment (scanner and/or chairside milling) coming from the random database and the chairside owners one (45 + 60)
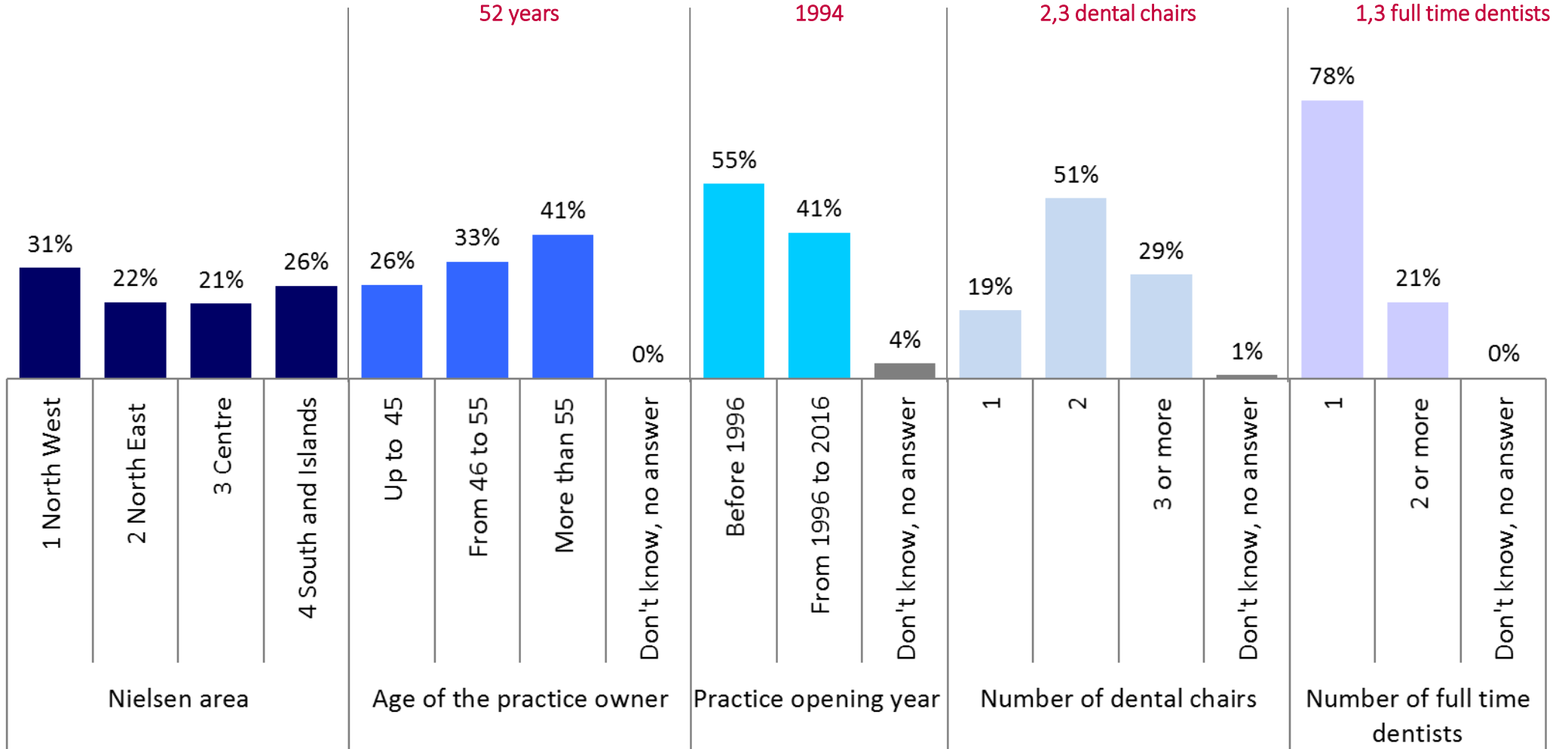
1.

2.

3.

4.

Segmentation data

Demographic segmentation

Demographic and structural segmentation

MEAN:

| | 52 years | 1994 | 2,3 dental chairs | 1,3 full time dentists |

- **Nielsen area**: 1 North West 31%, 2 North East 22%, 3 Centre 21%, 4 South and Islands 26%
- **Age of the practice owner**: Up to 45 26%, From 46 to 55 33%, More than 55 41%, Don't know, no answer 0%
- **Practice opening year**: Before 1996 55%, From 1996 to 2016 41%, Don't know, no answer 4%
- **Number of dental chairs**: 1 19%, 2 51%, 3 or more 29%, Don't know, no answer 1%
- **Number of full time dentists**: 1 78%, 2 or more 21%, Don't know, no answer 0%

Base: 455 cases

Total sample

RANDOM SAMPLE

7

Stratification socio-demographic

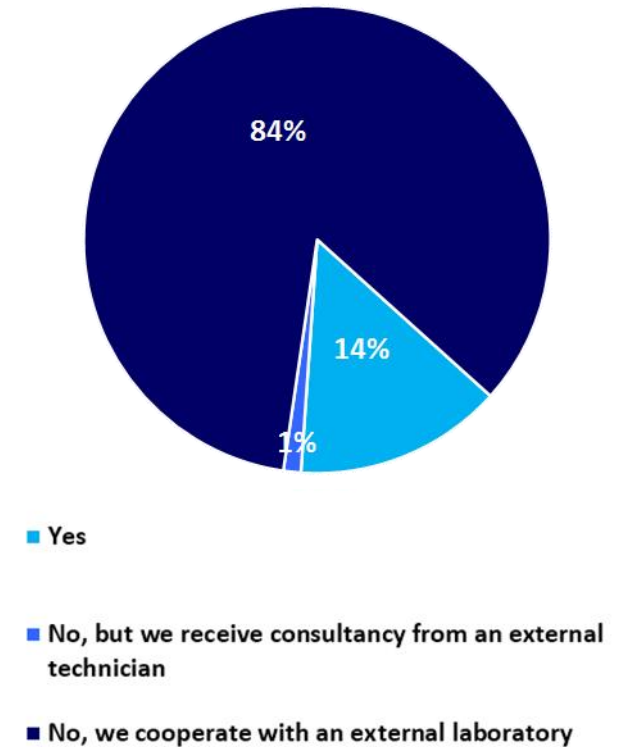*Sample stratification parameters*

Research Methodology

- CATI
- CAWI

Monthly expenditure on consumable materials

- Less than 900 euro
- 900 euro or more
- Don't know, no answer
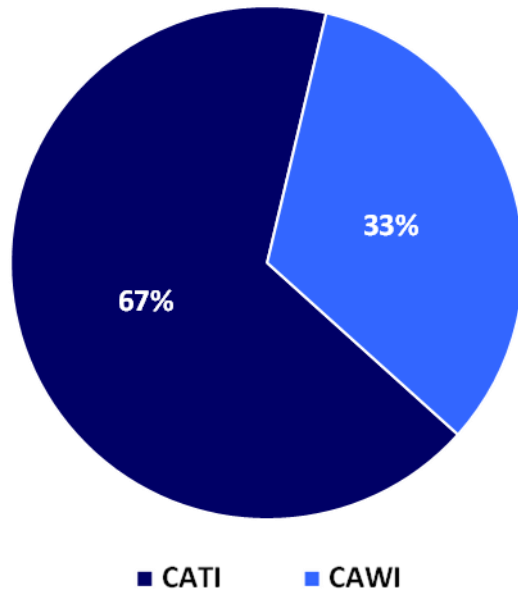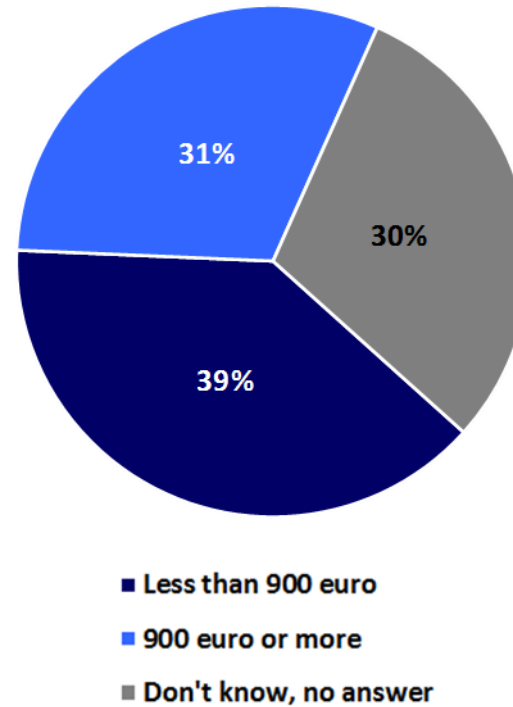
MEAN: 1.511€
(1.016 CATI vs 2.140 CAWI)

In-house lab

- Yes
- No, but we receive consultancy from an external technician
- No, we cooperate with an external laboratory
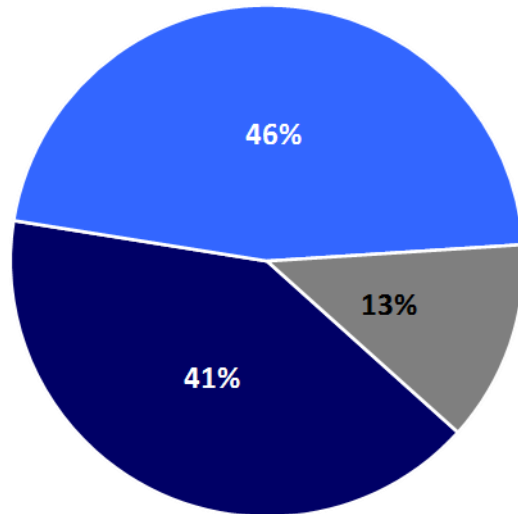
RANDOM SAMPLE

Base: 455 cases
Total sample

8

Stratification of the practice activity

Number of weekly appointments

46%
41%
13%

- Less than 30
- 30 or more
- Don't know, no answer

MEAN: 37,2 patients per week

Number of precision impressions a week
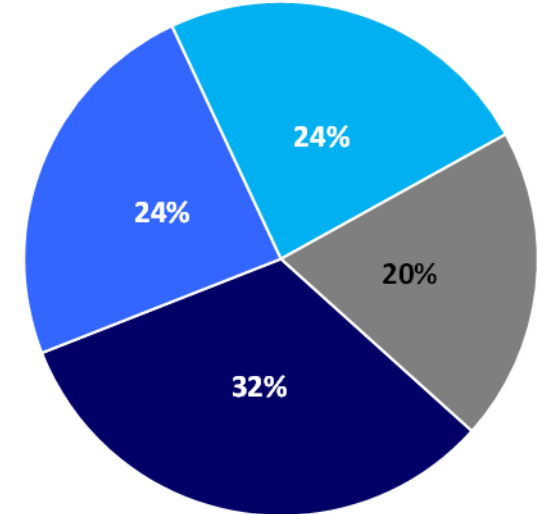

50%
43%
7%
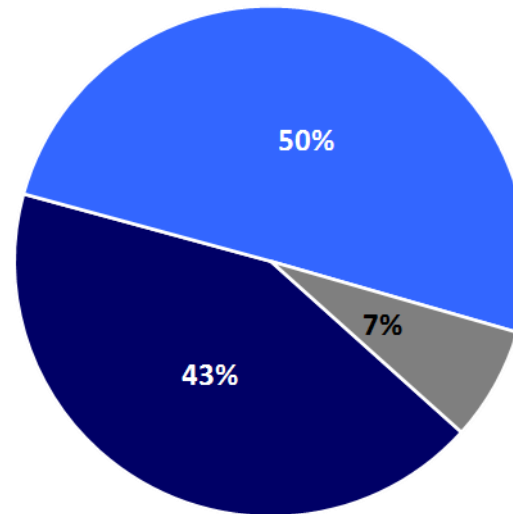
- Less than 5
- 5 or more
- Don't know, no answer

MEAN: 6,7 precision impressions a week

Number of implants placed in the last year

24%
24%
20%
32%

- Up to 20
- From 21 to 50
- More than 50
- Don't know, no answer

MEAN: 56,3 implants placed in the last year

RANDOM SAMPLE

Base: 455 cases
Total sample

KEY-STONE

Stratification of the practice management modalities

The objective of this section is to create psychographics clusters to categorize the dental practices according to the managerial attitude

Does your clinic develop a business plan
or strategic marketing plan?
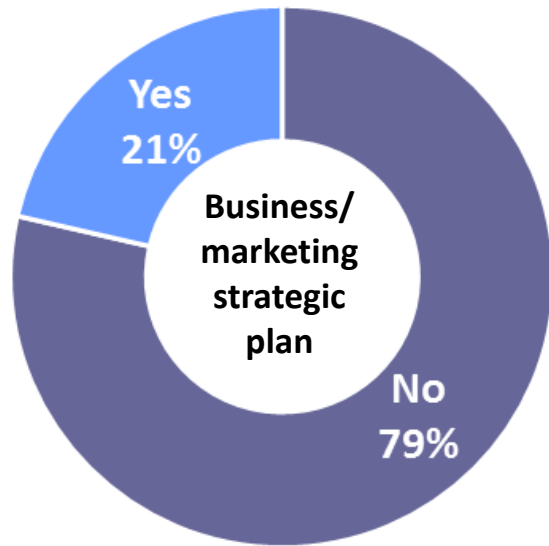
Are you aware of the price per working
hour of your team?
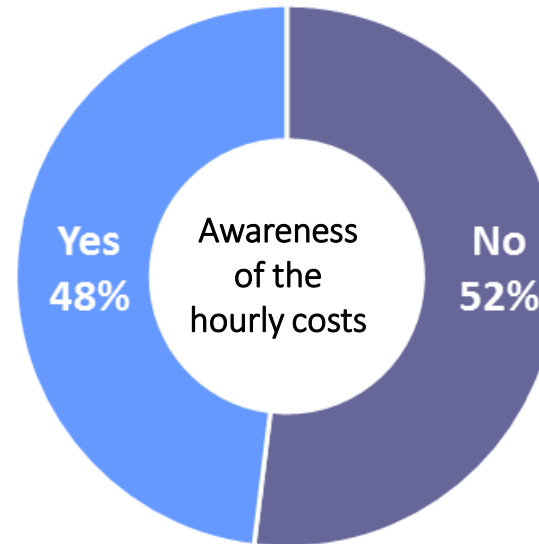
Are you aware of the prices and the
margins of the treatments/therapies?

Yes
21%

Business/
marketing
strategic
plan

No
79%

Yes
48%

Awareness
of the
hourly costs

No
52%

No
39%

Awareness of
the cost of
treatments
and markup

Yes
61%
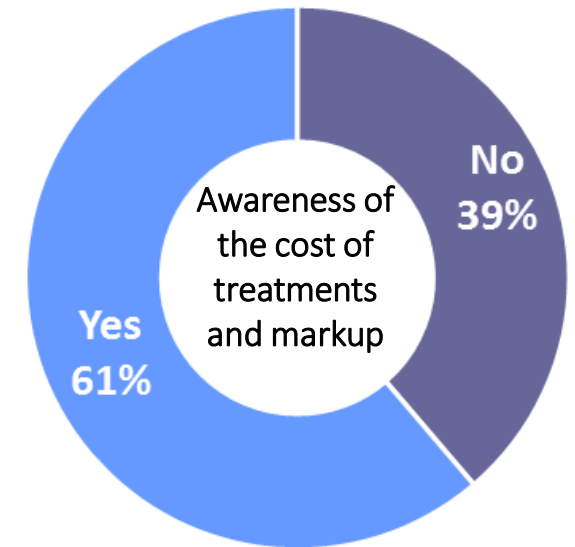
Base: 455 cases
Total sample

The world of Cad-Cam technology users

Overall scenario

Cad-Cam prostheses offering

Do you provide your patients with CAD-CAM indirect restorations produced at your practice or by suppliers/laboratories?

Pie chart:
- 31% Often
- 20% Regularly (Always or almost always)
- 22% Never
- 27% Seldom

Legend:
- ■ Never
- ■ Seldom
- ■ Often
- ■ Regularly (Always or almost always)

Italian dental practices: Digital workflow prosthesis offering

	y. 2017	y. 2016	y. 2015
Does not provide digital flow prostheses	22%	43%	64%
Provides digital flow prostheses	78%	57%	36%

Legend:
- ■ Provides digital flow prostheses
- ■ Does not provide digital flow prostheses

Base: 455 cases

Total sample

RANDOM SAMPLE

The weight of the practices offering digital workflow prosthesis is doubles in three years, even though for many of them still is an occasional solution.

KEY-STONE

Cad-Cam prostheses offering
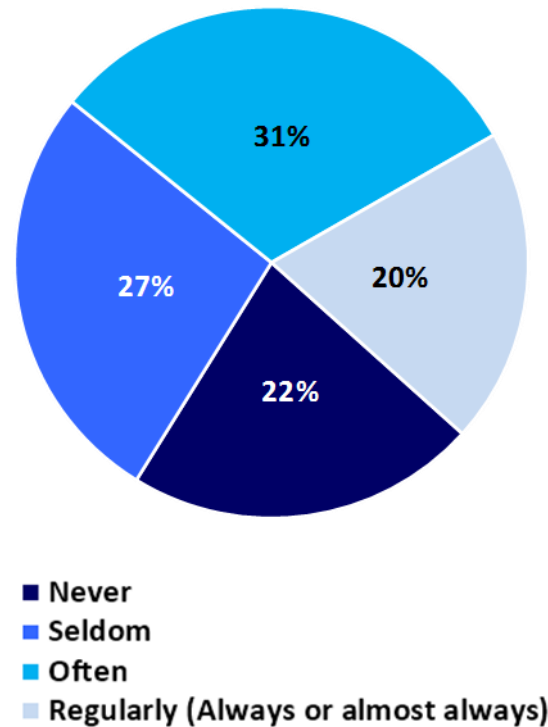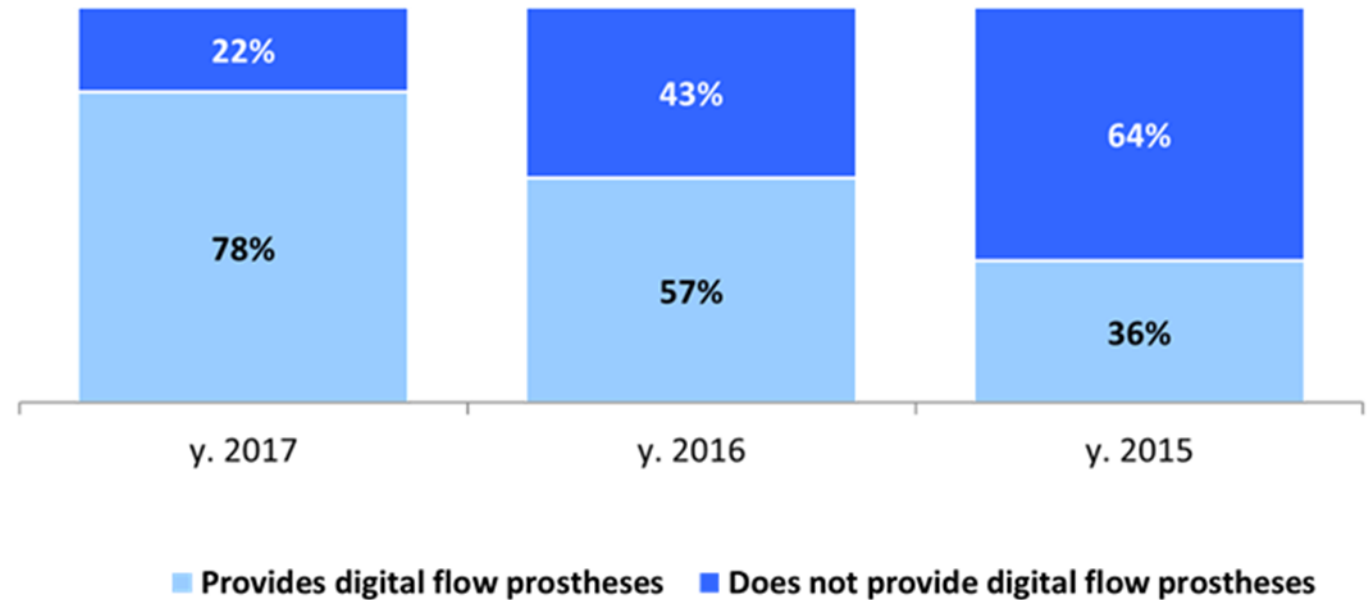
Do you provide your patients with CAD-CAM indirect restorations produced at your practice or by suppliers/laboratories?

Just 20% proposes regularly (always or almost always) digital workflow prostheses.

In the practices where the owner's age **is less than 45 years (28%)**.
In the practices **with more than 3 equivalent dentists (31%).**
Among dentists that answered to the questionnaire
 through Internet, the percentage increases slightly, while there are no differences based on the practice pricing policy.
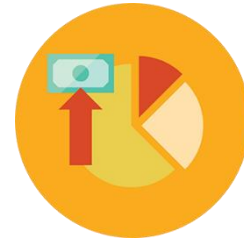
In the practices with higher performance increases the number of prostheses and restorations produced using Cad-Cam, in the practices whose monthly expense for materials is higher than 900 euros (26%) and in the practices where **more than 50 implants per year are placed (31%).**

In the practices with an improved business management the regular offer of prostheses and restorations produced using Cad-Cam is higher: in the **practices having a marketing plan (30%)** compared with practices that do not have it (17%).

Pie chart:
- 31%
- 20%
- 27%
- 22%

■ Never
■ Seldom
■ Often
☐ Regularly (Always or almost always)

Base: 455 cases
Total sample

RANDOM SAMPLE

How do you use CAD-CAM Technologies at your practice, according to the following modalities?

The ownership of this kind of equipment still is a marginal matter

86,6%

8,6%

4,8%
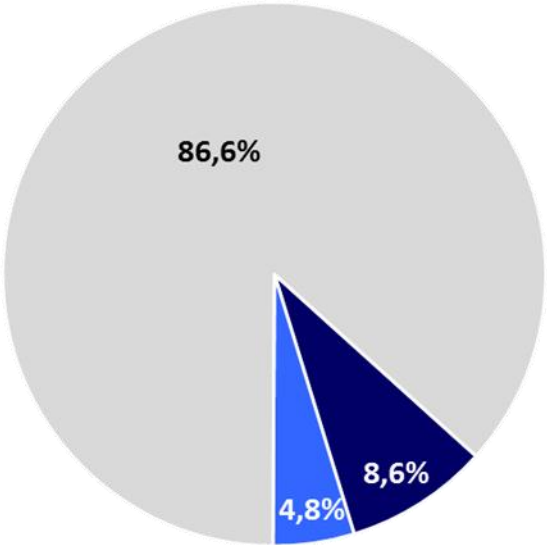
- ■ I have an intraoral scanner and I send the files to external partner (Partner-Lab, Milling Center, CAD-CAM Manufacturer)
- ■ I have an internal milling unit (and an intraoral scanner) and we directly produce indirect restorations
- I send the impressions or models to a provider (Partner Lab, milling center, CAD-CAM manufacturer)

Base: 354 cases

CAD-CAM restorations providers

RANDOM SAMPLE

The chairside milling is more present among **surgeries with more than 3 chairs (9%)**; the same trend features those having only the **intraoral scanner (17%). 79%** of the practices with more than 3 chairs send the **impressions and the model outside**, versus **95% of those practices with one chair**.
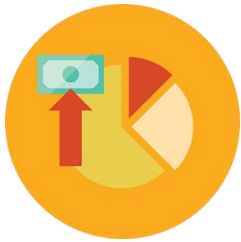
The trend to own an intraoral scanner and a chairside milling unit is a feature of practices with better performances, and respectively **21% and 11%** of practices in the last year have placed **more than 50 implants**.

In the **practices with an improved management**, the offer of prostheses produced through scanner only and chairside milling **is higher compared to the practices with a more traditional management**: respectively the sample stands at 11% and 7%.

KEY-STONE

Experience with the intraoral scanner

How long do you have the intraoral scanner?

About one third of the installed equipment seem to be purchased in the last year.
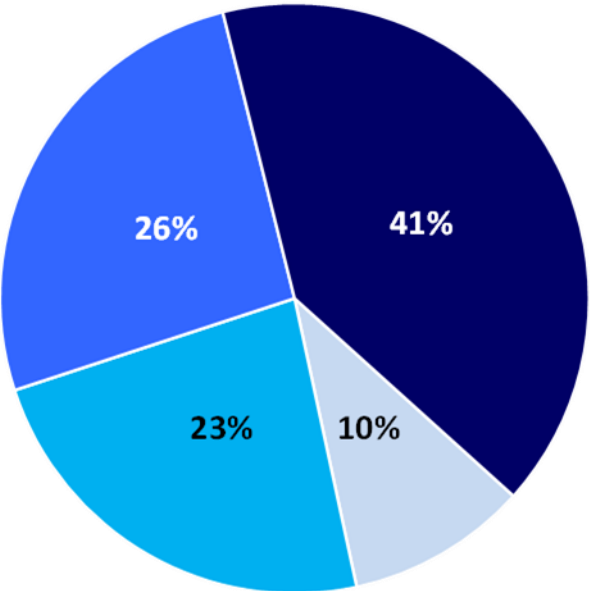
- Less than 6 months
- From 6-12 months
- From 1-2 years
- More than 2 years

41%
26%
23%
10%

The larger practices with a number of dental chairs higher than three, have purchased the intraoral scanner more than two years ago. The same phenomenon is observed with the number of dentists, where about **40%** of the practices with **more than 3 dentists** state to have purchased the intraoral scanner **more than two years ago**.
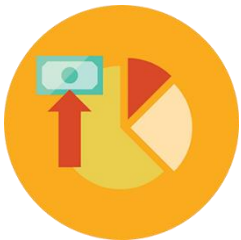
Basically, the practices **performing better purchased the intraoral scanner more than one year ago** (36% of the practices placing more than 50 implants per year).

Base: 45 cases
Scanner owners

15

Dentists' opinions towards digital technologies

Opinion regarding Cad-Cam technologies

What is your position with regard to the digital technologies (especially Intra-oral Scanning and/or Chairside Milling) according to the following definitions?

- 60%
- 1%
- 30%
- 9%
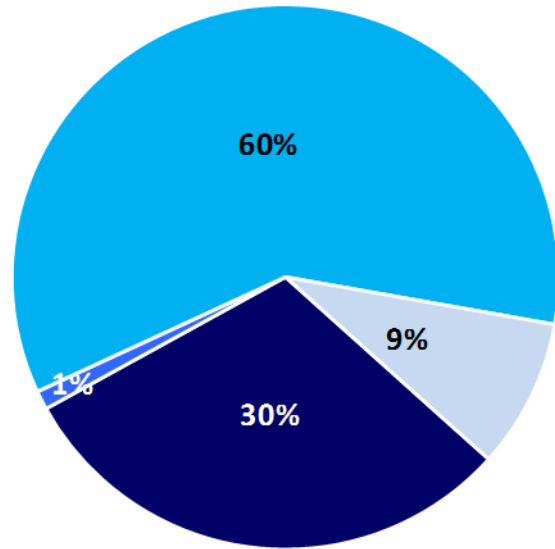
■ I feel uncomfortable and rather far from them

■ I am using CAD-CAM technologies (Intra-oral Scanning and Chairside Dental Milling) but I am not comfortable with it

■ I am getting closer to the digital world because I think it is the future of prosthetics

■ I am using CAD-CAM technologies (Intra-oral Scanning and Chairside Dental Milling) and I am comfortable with it

More discomfort:
In the practices where the practice's owner is **higher than 55 years** (38%)
In the **mono dental practices** or just two dental chairs (33% and 36%)
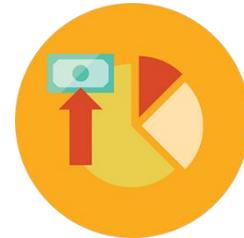
Among the **best performing practices the stance versus the Cad-Cam technologies improves**: the overall opinion is the need to get closer to keep the pace of the innovation.

Also among the **practices with a more evolved business management the opinion improves** in comparison to the surgeries with a more traditional management, in particular, for those stating to have a business development plan.

RANDOM SAMPLE

Base: 455 cases
Total sample

Opinion regarding Cad-Cam technologies

What is your position with regard to the digital technologies (especially Intra-oral Scanning and/or Chairside Dental Milling) according to the following definitions?

The discomfort is more present and seems to prevail regarding economical and conceptual matters.

43%	74%	89%
57%	26%	11%
No digital users	**Full outsourcing only**	**Digital tech owners**
Weight: 22%	**Weight: 68%**	**Weight: 10%**

■ Comfortable situation
■ Uncomfortable situation
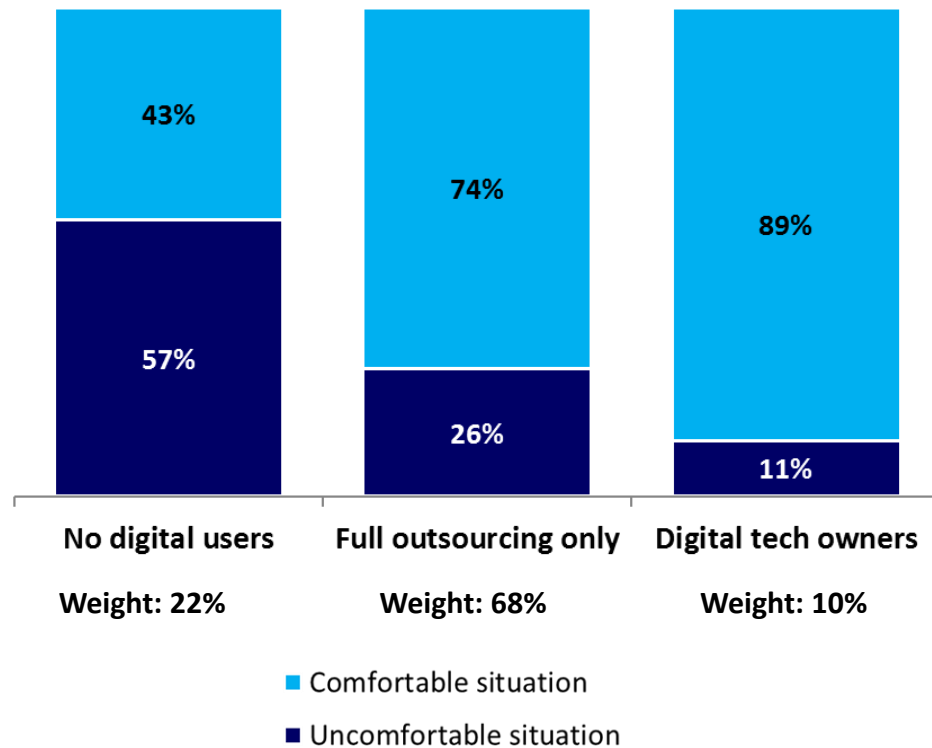
57% of those not offering digital work flow prosthesis, not even in outsourcing mode, named «No digital users» (weighting about one fourth of the sample), **feel discomfort** with the digital technologies.
Also those offering digital work flow prosthesis, even in outsourcing mode, at least one out of four (26%) feel discomfort, while **those having a digital technology - only one out of 10 - declare to have troubles** with that kind of technologies.

Base: 455 cases
Total sample

KEY-STONE

Influence of Cad-Cam technology for the production of the prostheses

How do you feel the digital technologies (CAD-CAM and 3D printing) will affect how the prostheses are performed?

59%

39%

2%
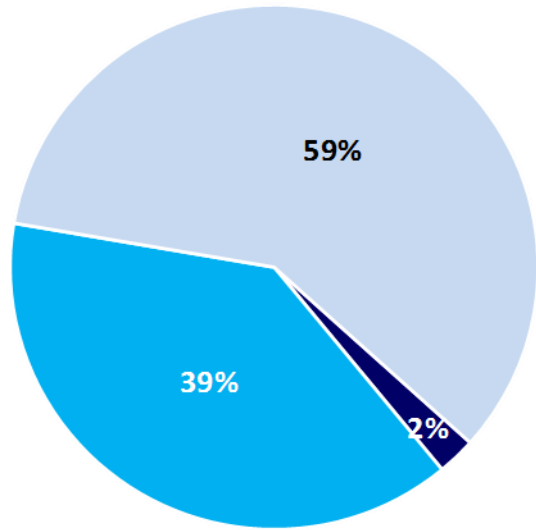
- ■ They will not play an important role because they will just affect a limited portion of the prosthetics

- ■ They will play an important role, but I feel the traditional prosthetics will still be relevant in the future

- ■ They will substitute most of the traditional prosthetics

Base: 455 cases

Total sample

RANDOM SAMPLE

There are no significant differences within the socio-demographic sample stratification.
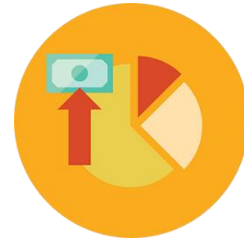
The practices with **higher performance** and with **a monthly expenditure higher than 900 euros** estimate that **the Cad-Cam technology will replace completely the traditional prosthesis** (69%).

Also regarding the stratification by kind of business management **doesn't show relevant statistical differences** versus the overall sample average.

Influence of Cad-Cam technology for the production of the prostheses

How do you feel the digital technologies (CAD-CAM and 3D printing) will affect how the prostheses are performed?

59%

39%

2%

- ■ They will not play an important role because they will just affect a limited portion of the prosthetics

- ■ They will play an important role, but I feel the traditional prosthetics will still be relevant in the future

- ■ They will substitute most of the traditional prosthetics

No digital users	Full outsourcing only	Digital tech owners
52%	59%	74%
47%	38%	24%
1%	3%	1%
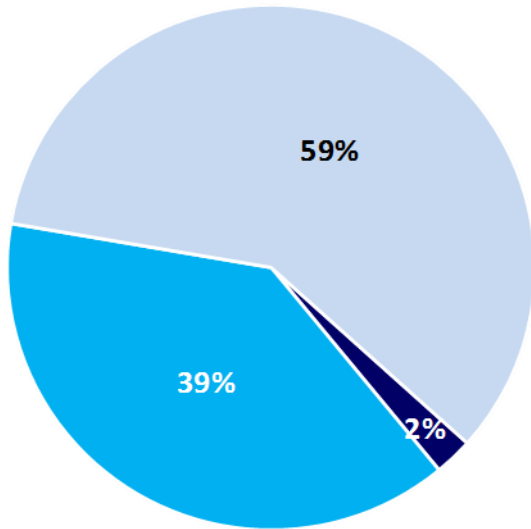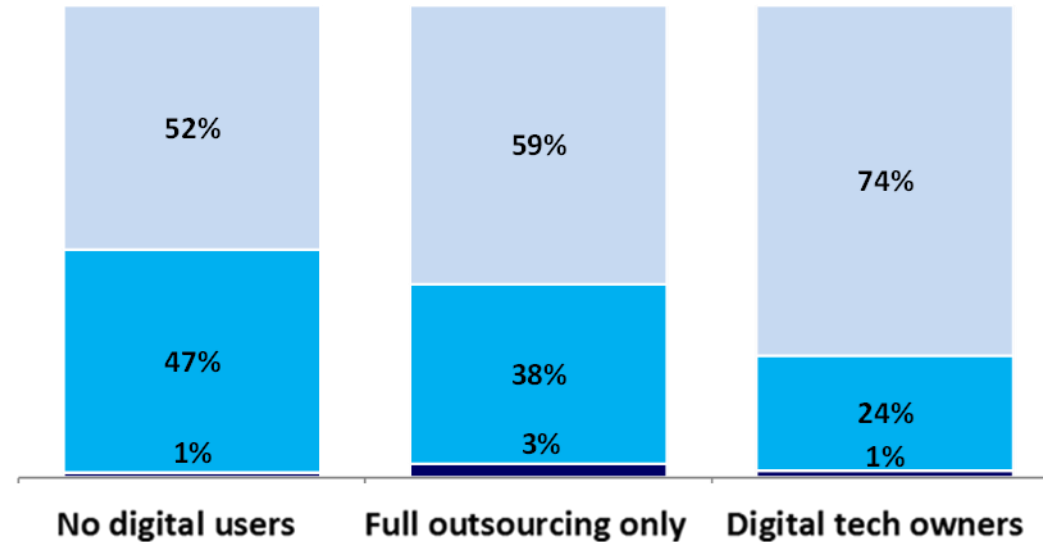
It's interesting to note how also among **«no digital users»**, that is no digital workflow, not even in outsourcing, **more than 50% state that the future will only be digital prosthetics**.

Base: 455 cases

Total sample

RANDOM SAMPLE

20

Influence of Cad-Cam technology for the production of the prostheses

How do you feel the digital technologies (CAD-CAM and 3D printing) will affect how prosthetics is performed?

They will play an important role, but I feel the traditional prosthetics will still be relevant in the future
- 59%
- 41%

They will substitute most of the traditional prosthetics
- 77%
- 23%

■ **Uncomfortable situation**
■ **Comfortable situation**

Base: 455 cases
Total sample

RANDOM SAMPLE
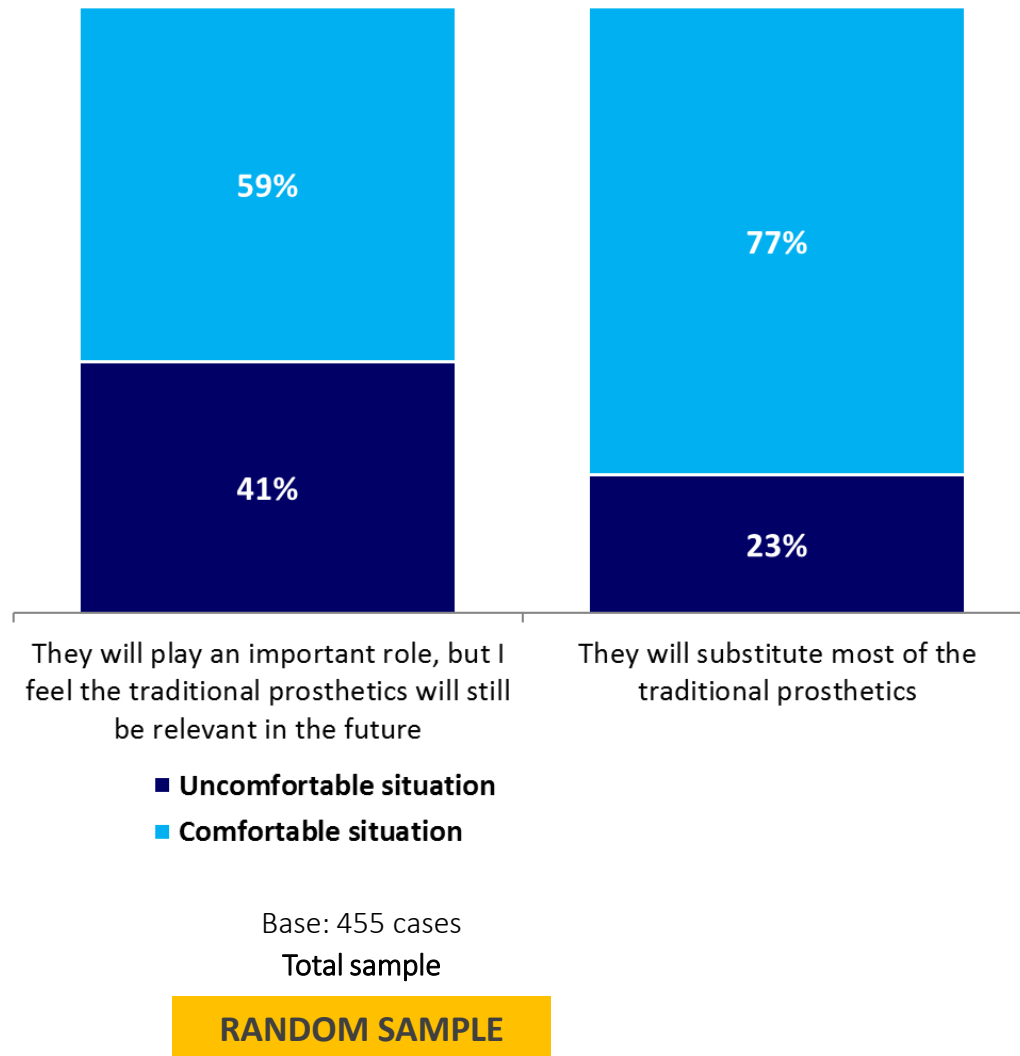
Without taking into account 2% of the sample which thinks that the future of the digital prosthesis will not prevail, and crossing the comfort situation with the perception regarding the future of the digital prosthesis, two main topics arise:

➢ Despite the digital work flow prosthesis will have an important role, even not completely replacing the traditional one, **more than 40% feel discomfort regarding the technologies**.

➢ Also among those thinking that the digital prosthesis **will completely replace the traditional one, one out of four feels uncomfortable about those technologies**.

In both situation, a possible frustration from the users can be highlighted. Those users may need help from both the manufacturers and the scientific world to ease the path towards a higher familiarity with the digital technologies.

Future purchase intention

Intention to buy

Are you willing/interested in buying an intraoral scanner or a CAD-CAM chairside milling within 2 years?

Excluding practices that already possess Cad-Cam technologies

Certainly yes + probably yes 33%

A higher attitude to purchase the Cad-Cam technology comes from both the clinics with dentists younger than 55 (38% for dentists younger than 45 and 36% for dentists aged between 45 and 55); and for practices with bigger size, with more than 3 chairs (47%).
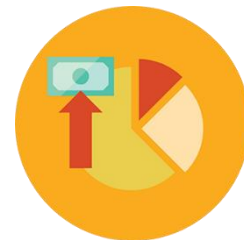
The practices with better performances declare a higher attitude to the purchase of a Cad-Cam system: practices spending more than 900€ a month (50%); those **placing more than 50 implants a year (53%)**.

32%
28%
34%
5%
2%

- Certainly no
- Probably no
- Probably yes
- Certainly yes
- Don't know, no answer

Base: 410 cases

Non owners

RANDOM SAMPLE

KEY-STONE

Intention to buy

Are you willing/interested in buying an intraoral scanner or a CAD-CAM chairside milling within 2 years?

Excluding practices that already possess Cad-Cam technologies

No digital users

- 2%
- 15%
- 29%
- 53%

Full outsourcing only

- 6%
- 32%
- 32%
- 28%

Legend:
- Don't know, no answer
- Certainly yes
- Probably yes
- Probably no
- Certainly no
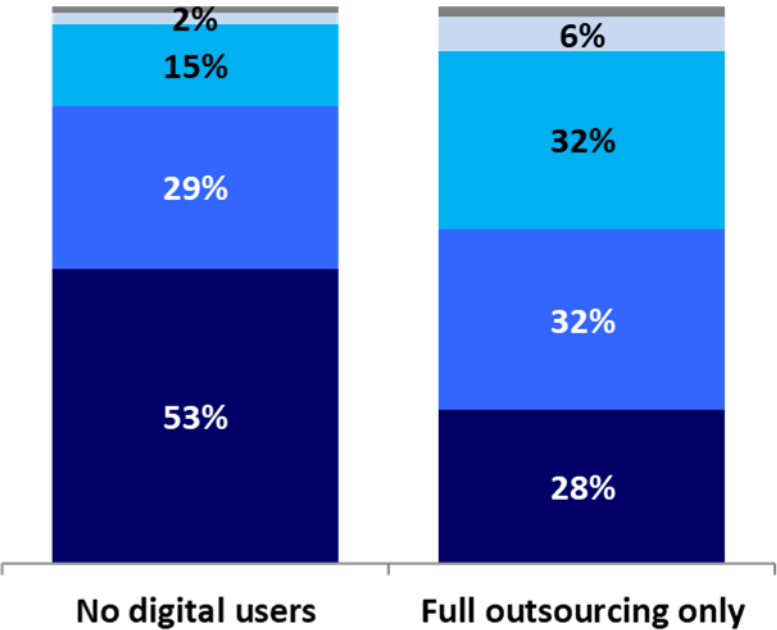
The purchase intention is double among those who already uses the full outsourcing, compared to those who do not offer digital work flow prostheses 38% vs 17%.

The analysis of the sample stratification allows for a precise profiling of the potential buyers to develop marketing activities on, in order to increase demand generation.

Base: 410 cases

Non owners

RANDOM SAMPLE

KEY-STONE

Intention to buy:
Intraoral scanner vs. Chairside milling unit

In the purchase intention for «certainly» and «probably» the difference is huge.

In those cases, it is the offer pulling on the demand
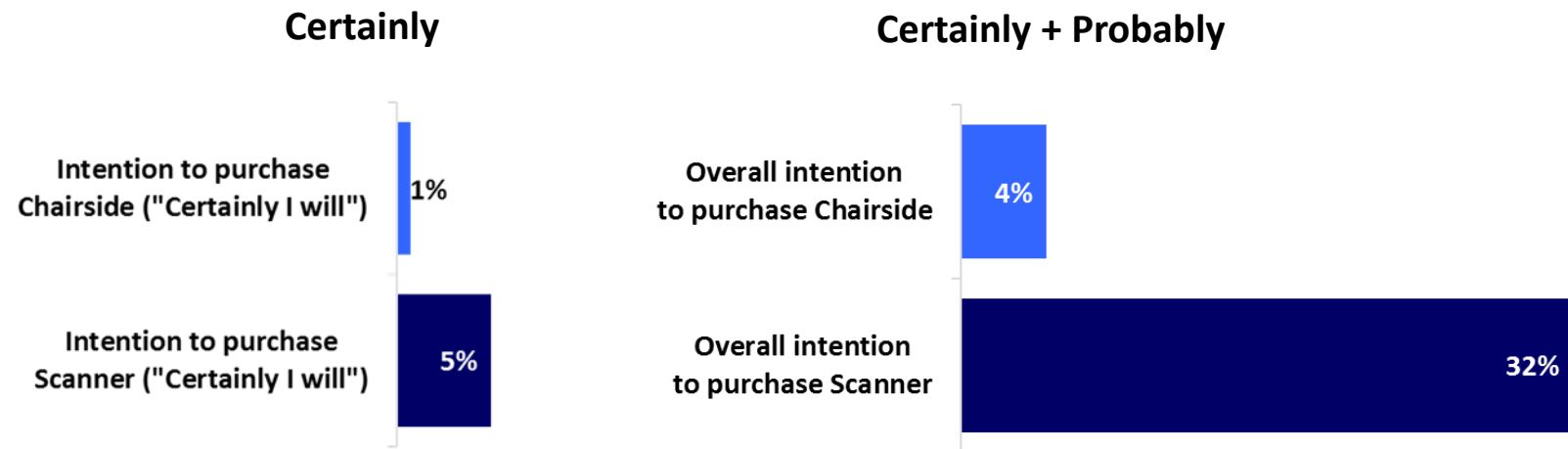
88%

12%

- Intraoral scanner
- Chairside milling

Base: 135 cases
Potential clients

Among those keen to invest in the Cad-Cam technologies, almost all of them declare their willingness to purchase an intraoral scanner in the next future.

Certainly

Intention to purchase Chairside ("Certainly I will") 1%

Intention to purchase Scanner ("Certainly I will") 5%

Certainly + Probably

Overall intention to purchase Chairside 4%

Overall intention to purchase Scanner 32%

Base: 410 cases
Non owners

25

KEY-STONE

Are you willing/interested in buying an intraoral scanner or a CAD-CAM chairside milling within 2 years? (Yes/no)

Primary target profile

They are basically **Web respondents** (double the intention to buy versus the phone respondents, slightly higher for the chairside milling), subscribers to sector newsletters, rather independent and with not loyal relationships with the dealers.

➢ The dentists from the **South of Italy** are those showing the higher interest, where, however, those technologies are less widespread, in particular the **chairside milling**, with an intention to buy which is double the average.

➢ **The target focus is between 46 and 55** years old, the younger ones (up to 45) are more oriented to the scanner and the older ones (more than 55) to the chairside milling. With specific regard to the **chairside milling**, the core target is the **practice open for more than 20 years**.

➢ Despite there is a direct correlation between the size and the intention to buy, the big sized practice with at least 3-4 chairs and several consultants is more oriented towards the purchase of a scanner and far less to the chairside milling, which seems to be more interesting to a mid-sized practice with 2-3 chairs, which in the future may recur to the partnership with an internal technician.

➢ **The specialized practices** seem to be more oriented to make the investment (47% specialized practices vs 25% general ones), in specific **Prosthetics and Implant dentistry** with more than 50 implants placed a year (52% vs 33% overall average). Those interested to the chairside milling do show a **lower attitude to the strategic planning**, which is contrary to those interested in the scanner.

➢ In the imagery of the dentists more oriented to the purchase, the **most quoted brands**, for those willing to buy a **scanner** are most of all **3M** followed by **3Shape** (even though Sirona is always the first one in the intention to buy), while among those keen to invest in a **chairside milling** the most quoted brand is **Sirona**.

RANDOM SAMPLE

Base: 410 cases
Non owners

Why you probably/certainly yes?

Why yes?

Future vs Performance

Base: 135 cases
Interested in purchasing

CAD-CAM is the future of the prosthetics	42%
Greater precision of the prosthesis	14%
To use more innovative materials	11%
Better quality/aesthetic results of the prostheses	11%
To offer my patients the restoration/prosthesis in one visit/day	9%
I would like to depend less upon the prosthetic lab	7%
Our patients have demanded this type of technology	3%
Offer materials with greater biocompatibility Metal Free	2%
I received a good financial offer	1%
Don't know, no answer	0%

The results indicate **two different attitudes towards the purchase**, having their roots in two very different system values: one of them has a **psychologic origin** (emotional) while **the other is more objective**, linked to the performance. Generally, the latter is more present in the life cycle of those products exiting from the "launch period" and entering into the "development" one.

KEY-STONE

Intention to buy: Chairside milling and Intraoral scanner

What scanner/chairside milling brands are you willing to purchase?

For both technologies is **rather high the weight of "don't know"**, and in the case of the chairside milling, also brands without Cad-Cam equipment are mentioned.

Scanner

Chairside milling

The **scanner** seems to be a **more competitive market** with the co-leaders evenly performing in the mental basket for the choice of the equipment.

Chairside milling bars:
- SIRONA — 49%
- 3M — 8%
- NOBEL BIOCARE — 6%
- CARESTREAM — 4%
- Don't know, no answer — 33%

Scanner bars:
- SIRONA — 20%
- 3SHAPE — 18%
- CARESTREAM — 10%
- 3M — 8%
- PLANMECA — 2%
- ALIGN TECHNOLOGY — 1%
- NOBEL BIOCARE — 1%
- CADBLUE DENTAL — 1%
- DENTAL WINGS — 1%
- Don't know, no answer — 40%

RANDOM SAMPLE

Base: 135 cases
Interested in purchasing

Demand for services to support the investment in CAD-CAM

What should a CAD-CAM technology manufacturer offer to enhance / improve the way you perform restorations and prosthetics in your clinic?

High affordability — 49%
Training courses — 39%
Guarantee continuous customer care service — 29%
Better financial conditions — 23%
"Pay per scan" option — 14%
Facilitate shared purchase, as a consortium — 14%
Marketing for the patient — 14%
Cooperate with other service providers — 11%
Don't know, no answer — 3%
Future value guaranteed in the event of re-purchase of a similar equipment at the expiration of financing/leasing — 3%
Higher reliability and precision — 2%
Open system — 0%
Simplify the planning — 0%
Product test — 0%
I'm not interested anyway — 15%

The spontaneous answers, among them the most quoted ones are affordability and better financial conditions, have been **aggregated according to their nature into five areas** and considering the responses instead of the respopndents as the base, with the exclusion of «don't know» and «not interested». This data processing allows for further comparison among the different clusters.

- Economic and financial conditions
- Training and support
- Consortiums and partnerships
- Marketing for the patient
- System improvement

Economic and financial conditions — 45%
Training and support — 35%
Consortiums and partnerships — 13%
Marketing for the patient — 7%
System improvement — 1%

RANDOM SAMPLE

Base: 455 cases
Total sample

Demand for services to support the investment in CAD-CAM

What should a CAD-CAM technology manufacturer offer to enhance / improve the way you perform restorations and prosthetics in your clinic?
AGGREGATED BASIS OF RESPONSE

RANDOM SAMPLE

Legend:
- ■ Economic and financial conditions
- ■ Consortiums and partnerships
- ■ System improvement
- ■ Training and support
- ■ Marketing for the patient
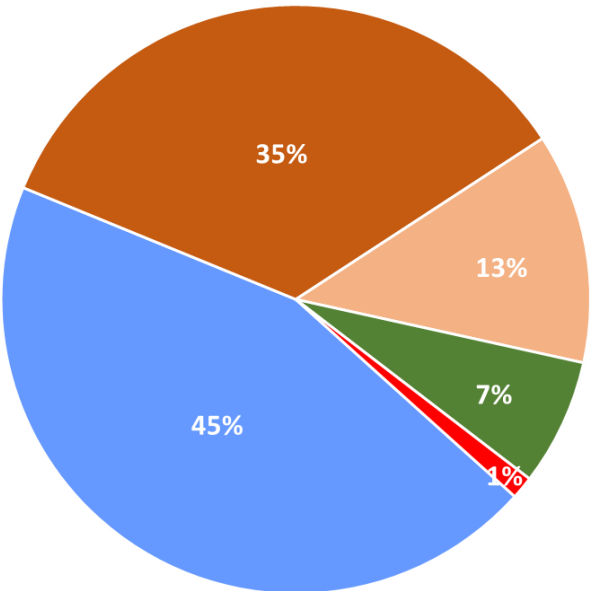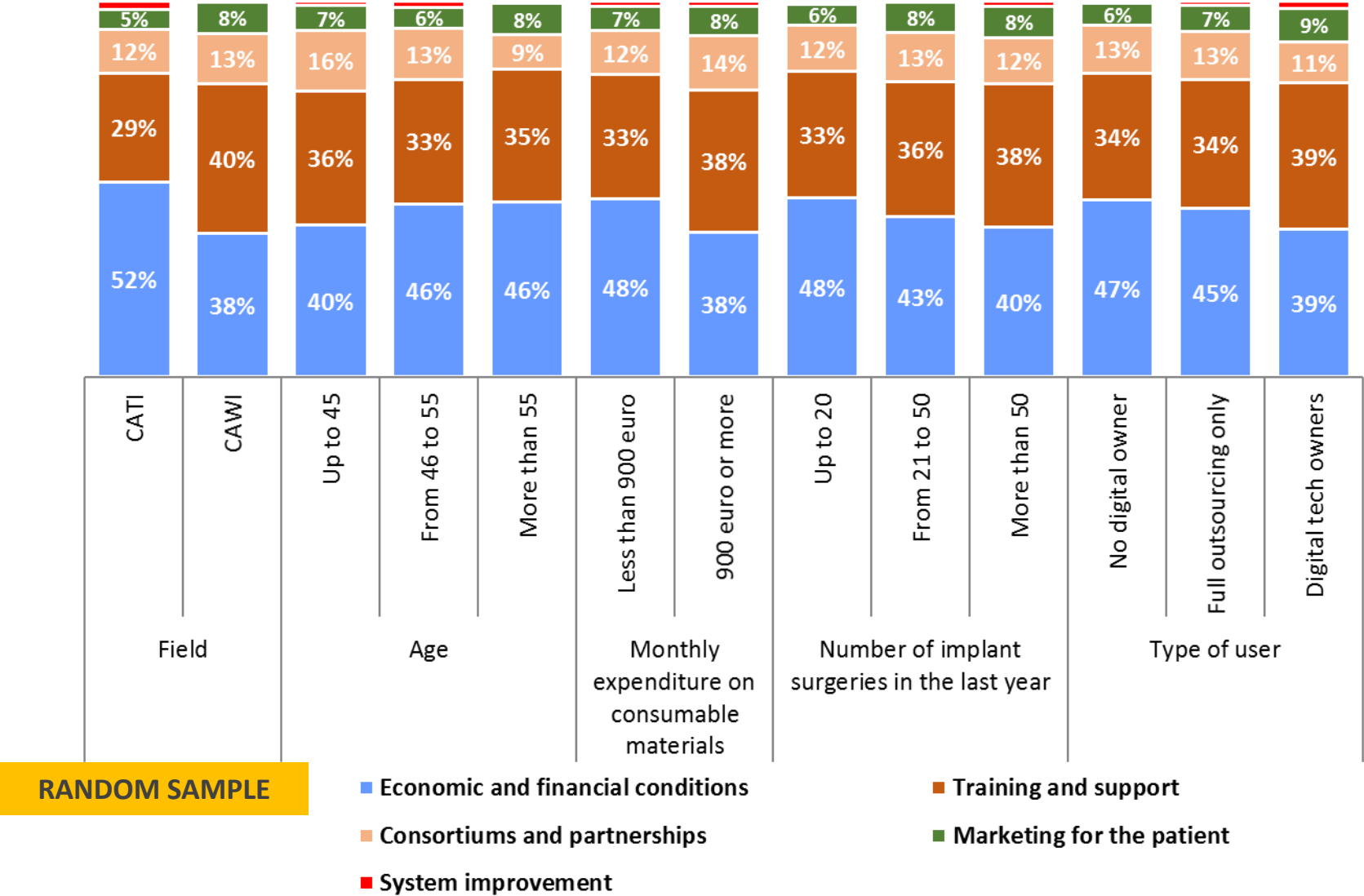
Very interesting to evaluate the different approach of the respondents via phone versus **those responding via web**. The latter ones (which show a bigger size) is **far less attentive to the economical aspect and more interested to the support and training**, other than marketing.

From a demographic and structural perspective, the **younger respondents** show a **higher interest in the economical matters**, which is also true for those showing a lower than average production performances.

It's interesting to note as the **attitude towards the use of the technologies increases**, the interest in the **support and marketing** increases as well, which a lower importance of the economical aspects.

Base: 455 cases

Total sample

Demand for services to support the investment in CAD-CAM

What should a CAD-CAM technology manufacturer offer to enhance / improve the way you perform restorations and prosthetics in your clinic?
AGGREGATED BASIS OF RESPONSE

	Yes	No	Intraolral scanner	Chairside milling
Marketing for the patient (green)	8%	6%	8%	13%
Consortiums and partnerships	13%	13%	13%	12%
Training and support	41%	28%	41%	40%
Economic and financial conditions	38%	51%	38%	36%

Intention to buy | Technology of Interest

Legend:
- **Economic and financial conditions**
- **Training and support**
- **Consortiums and partnerships**
- **Marketing for the patient**
- **System improvement**
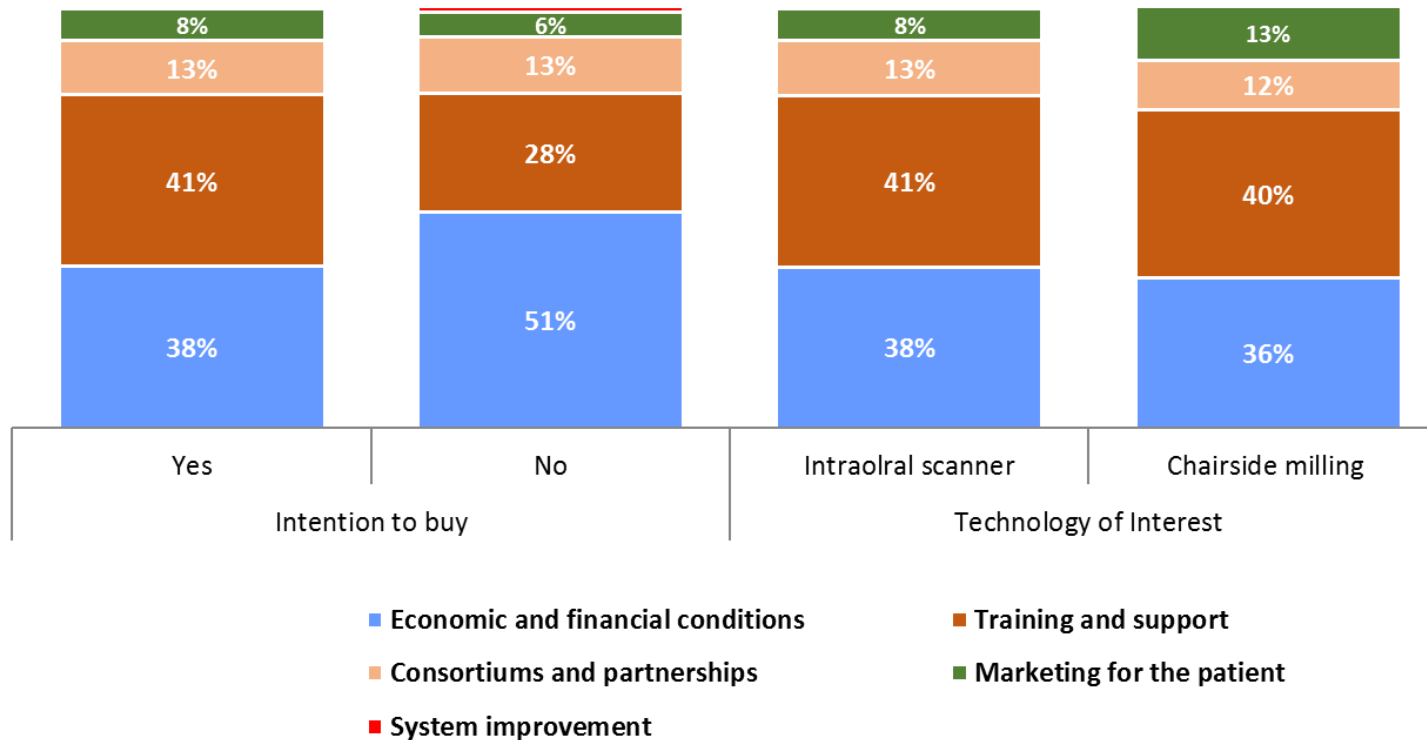
The **analysis on the investment attitude**, some interesting points emerge, because **among those declaring an interest to the purchase, the attention to the economical aspects greatly reduces**, while increases that on **support and training** (65% versus 26% of the rejectors) and a higher demand for assistance in practice from those thinking about a possible purchase (46% vs 18%).

This is even more evident among those interested in the purchase of a **chairside milling**. Also, they are more interested in the **marketing support** (almost double versus the ones interested in the purchase of the scanner only) to foster the demand from the patients.

As for the economical matters, those interested in the **chairside milling** don't ask for a price reduction, but **easier financial conditions** or "Pay per use" options.

Base: 135 cases
Interested in purchasing

Brand awareness analysis

Cad-Cam manufacturers: Unaided awareness

What manufacturers of digital technologies (Scanners, CAD-CAM, 3D Print, etc.) come to your mind?

The comparison between «Unaided awareness" and "Top of mind" highlights relevant differences in the ability of a brand to represent its own product family, which is shown by the ratio called "Prominence".

A **higher Prominence value** means a **higher ability to represent the analysed product family**: this in fact is the ratio between the first mentioned brand "Top of mind" and the "Unaided awareness".

The sum of "Unaided awareness" responses represents the average number of brands mentioned by each interviewees: in this case the sum of percentages is 145%, that means the interviewees have mentioned about 1,5 brands.

It's interesting to note that about **50%** of the interviewees **did not mention any brand**, which is a clear sign of this market being a rather immature one, almost a niche.

Sirona is **absolute brand awareness leader** in this segment.

Base: 455 cases
Total sample

RANDOM SAMPLE

Chart data:

Brand	Unaided Awareness	Top of Mind	Prominence
SIRONA	36%	27%	0,74
3SHAPE	13%	7%	0,50
3M	11%	5%	0,48
CARESTREAM	8%	2%	0,27
KAVO	5%	2%	0,48
NOBEL BIOCARE	3%	2%	0,55
ZIRKONZAHN	2%	1%	0,29
PLANMECA	2%	1%	0,33
DENTAL WINGS	2%	0%	0,22
IVOCLAR VIVADENT	2%	1%	0,73
Other	14%		
Don't know, no answer	47%		
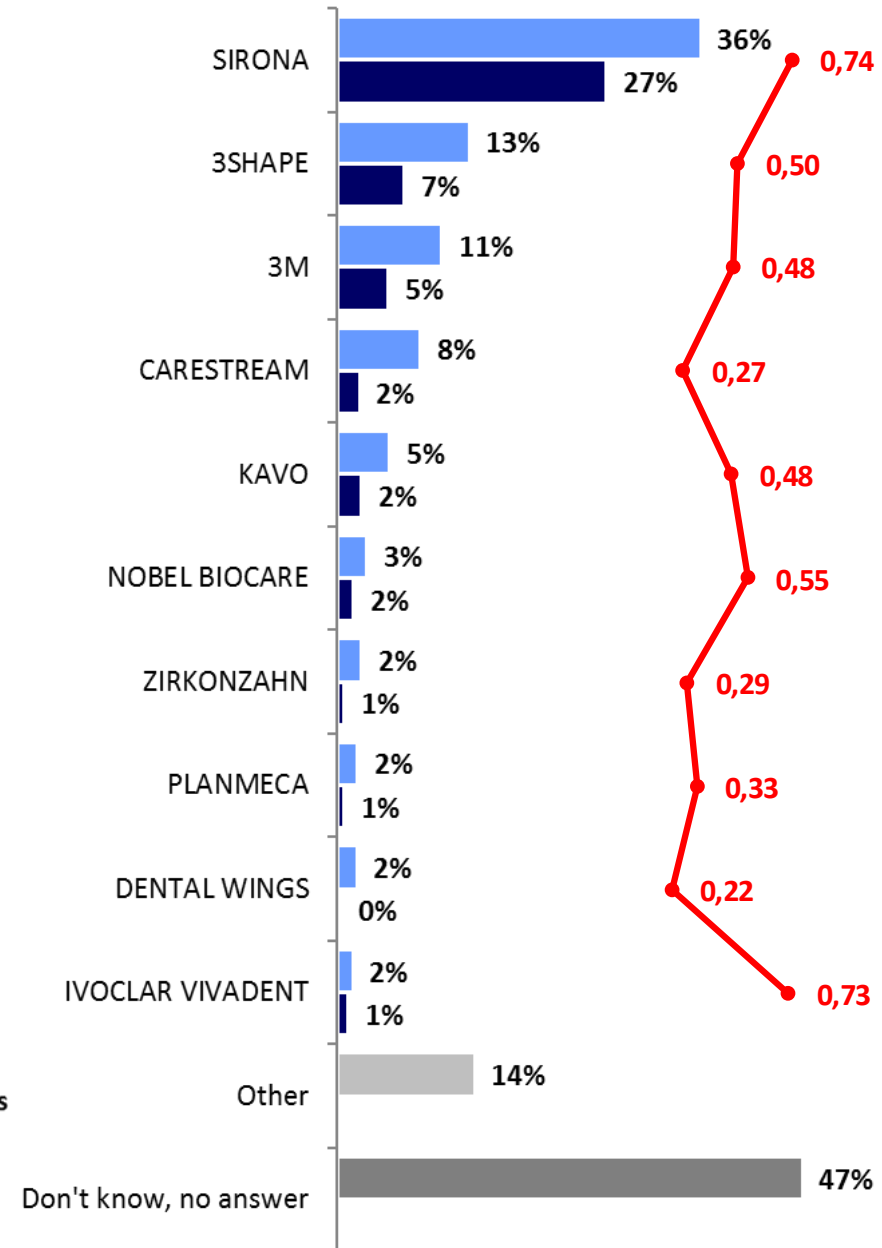
34

Cad-Cam manufacturers: Unaided awareness

What manufacturers of digital technologies (Scanners, CAD-CAM, 3D Print, etc.) come to your mind?

SEGMENTATION ACCORDING TO TECHNOLOGY ORIENTATION

The low **brand awareness** is a specific feature **of Cad-Cam non-owners** and in particular, it belongs to those not even using the full outsourcing methodology.
Among the owners, the **weight of the four top brands increases relevantly**.

	No digital users	Full outsourcing only	Digital tech owners
SIRONA	20%	38%	64%
3SHAPE	4%	13%	40%
3M	7%	10%	22%
CARESTREAM	4%	8%	19%
KAVO	3%	6%	2%
NOBEL BIOCARE	1%	4%	
ZIRKONZAHN	1%	3%	
PLANMECA	1%	3%	
DENTAL WINGS		2%	8%
IVOCLAR VIVADENT		2%	2%
Other	5%	14%	30%
Don't know, no answer	67%	45%	11%

Base: 455 cases
Total sample

RANDOM SAMPLE

35
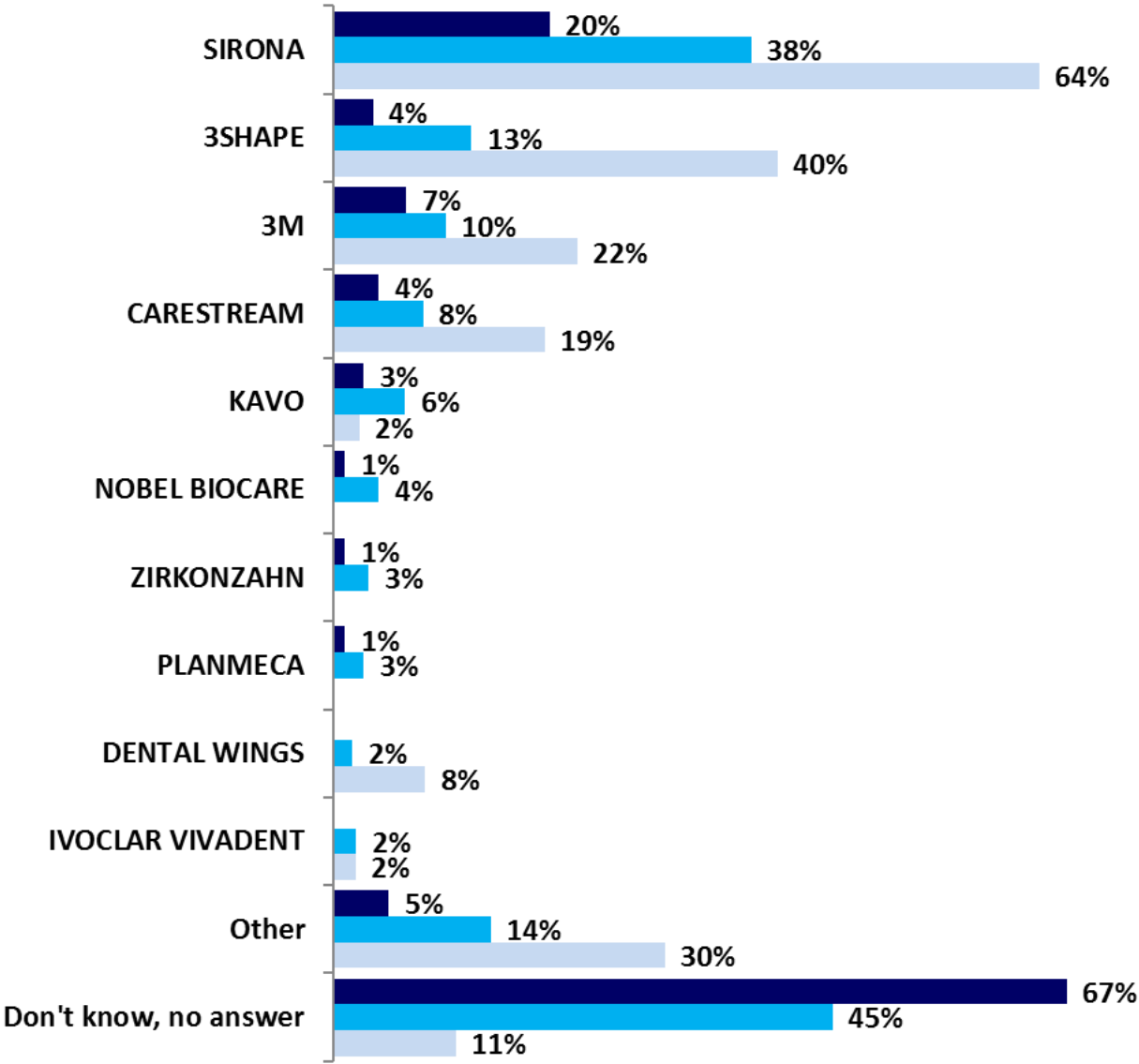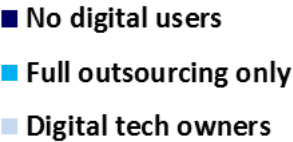
Cad-Cam manufacturers: Total awareness

Please tell me if you know the following brands?

As for the **total awareness**, the values increase a lot, in particular for **the brands with a relevant business also in other product categories**.

The relevance index (it is the relationship between unaided awareness and the total one) it is important because highlights the **brand's ability to be recalled spontaneously by the respondents in connection to the category**, so is potentially very influential when they need to take a buying decision. The **low relevance indexes** shows the **scarce ability of all brands** to be associated to the Cad-Cam segment.

Base: 455 cases
Total sample

RANDOM SAMPLE

Brand	Unaided awareness	Total awareness	Relevance
SIRONA	36%	93%	0,39
3SHAPE	13%	47%	0,28
3M	11%	79%	0,13
CARESTREAM	8%	58%	0,14
PLANMECA	2%	75%	0,03
ALIGN TECHNOLOGY	1%	21%	0,03

- Total awareness
- Unaided awareness
- Relevance
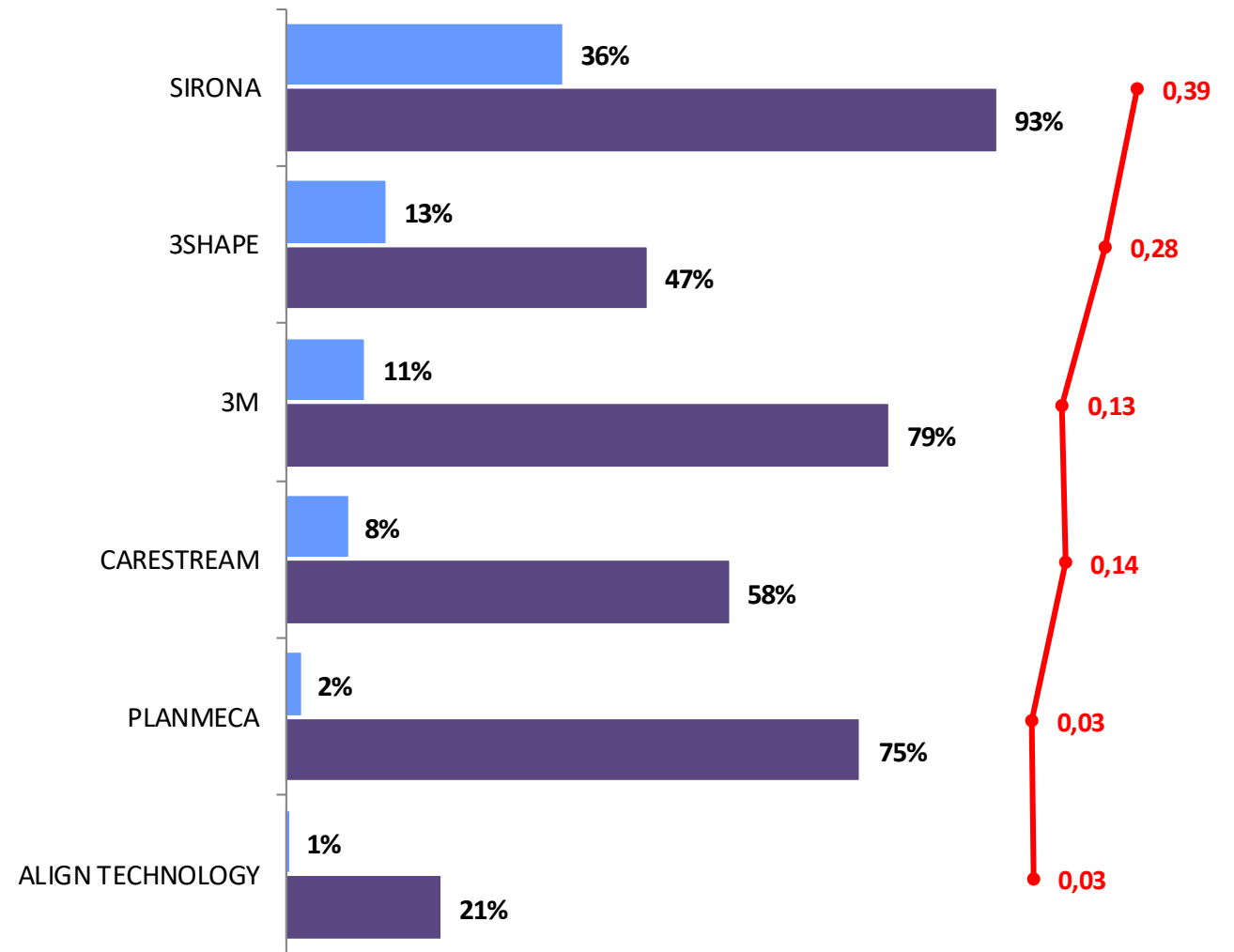
Cad-Cam manufacturers: Relevance vs. Prominence

The map of Relevance/Prominence highlights the brand's capacity to come to the dentist's mind when talking about a given product category (Relevance) and the brand's ability to be mentioned spontaneously (Prominence). In the b2b market, the prominence is closely linked to the use of the products, while the Relevance expresses the probability of a brand to be considered in the purchase process.

Therefore, in the upper right side of the map there are brands with above average ability to be recalled spontaneously and more representative of the Cad-Cam category.

In the lower right side of the map there are brands with a lower than average ability to be spontaneously recalled to mind (generally less wide spread), but compared to the average, they are more associated with the category in analysis.

Base: 455 cases

Total sample

RANDOM SAMPLE

+

● SIRONA

● 3SHAPE

Relevance (strength of the brand in the category)

● CARESTREAM

● 3M

● PLANMECA

● ALIGN TECHNOLOGY

-

- Prominence (capacity of the brand to represent the product category) +

Brand Awareness, market category association
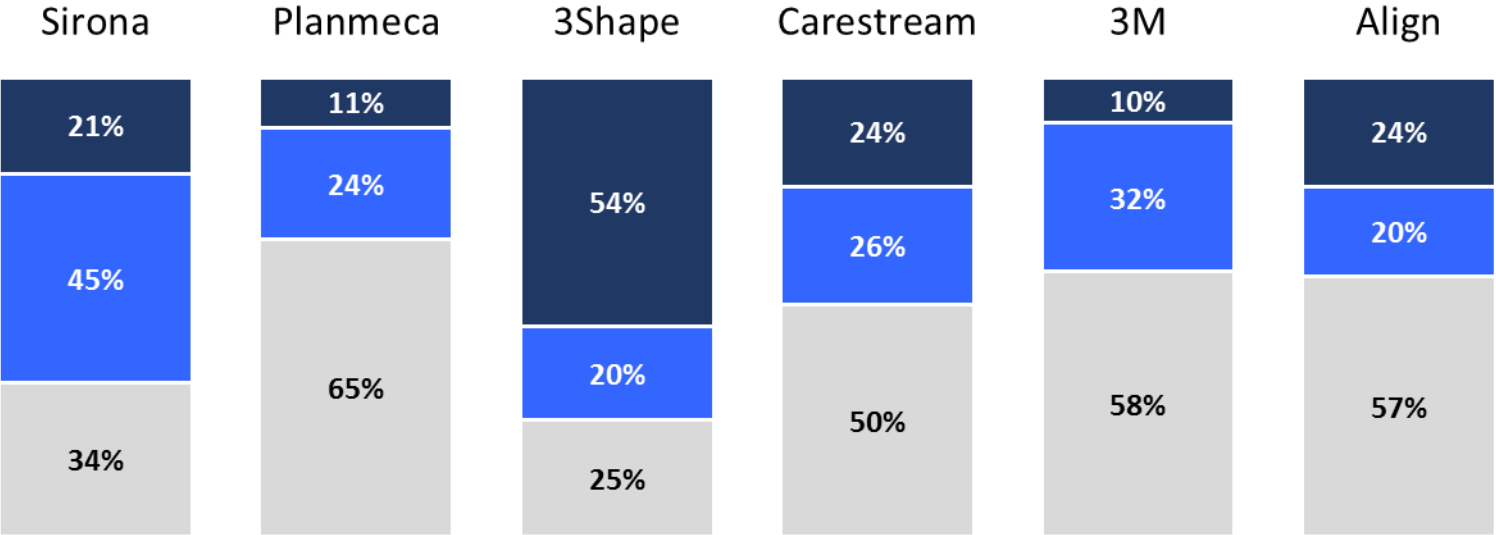
Only 3Shape resulted to be almost **completely linked to the Cad-Cam segment**, while for other important international brands, such as Planmeca, Carestream, 3M, etc. **more than half of the sample don't know that they produce Cad-Cam equipment**.

Brand	Manufacturer of products different from CAD CAM	Both CAD CAM and other products	CAD-CAM equipment
Sirona	34%	45%	21%
Planmeca	65%	24%	11%
3Shape	25%	20%	54%
Carestream	50%	26%	24%
3M	58%	32%	10%
Align	57%	20%	24%

I know this brand as a manufacturer of products which are different from CAD CAM equipment

I know this brand as a manufacturer of both CAD CAM equipment and other products

I know this brand as a manufacturer of CAD-CAM equipment

RANDOM SAMPLE

Base:
For each brand, those having mentioned it spontaneously

38

Brand Awareness, market category association

Brand Association index to the category of Cad-Cam

OVERALL SCENARIO

The representativeness of the segment is very relevant when a big portion of the potential demand is still to fully develop, so that a secondary data processing has been performed, which evaluated with a different weight the three possible options:

➢ I know this brand as a manufacturer of Cad-Cam equipment (high representativeness)

➢ I know this brand as a manufacturer of both Cad-Cam equipment and other products (medium representativeness)

➢ I know this brand as manufacturer of products which are different from Cad-Cam equipment (no representativeness)

Thanks to this processing it is possible to show a map where the information regarding the capability of a brand to be associated to the Cad-Cam segment is shown.

The size of the bubbles represents the brand's capacity to be associated to the Cad-Cam sector.

RANDOM SAMPLE

Base:
For each brand, those having mentioned it spontaneously

KEY-STONE

Brand positioning

Cad-Cam manufacturers

Numeric distribution: intraoral scanner and chairside milling

What model and brand of intraoral scanner you use to take digital impressions?

Numeric distribution

It is the percentage of clients that mentioned to use a certain product / brand, or to get delivered by a certain supplier, not necessarily in an exclusive way.

This section is placed in the brand perception because it is heavily affected by the brand penetration.

Please consider that on the **random sample**; **only 45 scanners users** have been found, for this reason the numeric distribution is shown **for qualitative purposes only**.

As for the **chairside milling**, **only 17 users** have been found in the random sample, so that it is not possible to investigate the numeric distribution, even though **80% of the users quoted Sirona**.

Base: 45 cases
Owners Scanner

Numeric distribution intraoral scanner

Brand	%
SIRONA	39%
3SHAPE	24%
CARESTREAM	11%
MHT	4%
ALIGN TECHNOLOGY	2%
KAVO	2%
ZFX	2%
Don't know, no answer	14%

KEY-STONE

Brand image

How much do you agree the following statements are relevant to the brands that I'm going to read out to you? Please, use a scale where 1 stands for "Completely disagree" and 10 stands for "Completely agree".

TOTAL SAMPLE (370 quotes)

Statement	Don't know	Completely disagree	Rather disagree	Rather agree	Completely agree
Well renowned brand	5%	7%	18%	37%	33%
Cutting edge and innovative	5%	5%	18%	44%	27%
Leading company in the segment	6%	5%	23%	36%	30%
Very trustworthy	14%	4%	18%	44%	20%
Too expensive	13%	9%	19%	32%	27%
Recommendable to colleagues	19%	10%	19%	32%	19%
Make my daily practice easier	19%	11%	23%	31%	16%
Customer Service oriented	24%	12%	20%	33%	11%
Approachable, friendly	12%	27%	29%	25%	6%

SIRONA (154 quotes)

Statement	Don't know	Completely disagree	Rather disagree	Rather agree	Completely agree
Well renowned brand	5%	5%	18%	42%	31%
Cutting edge and innovative	6%	5%	16%	49%	24%
Leading company in the segment	7%	4%	18%	41%	30%
Very trustworthy	17%	4%	19%	43%	17%
Too expensive	15%	6%	18%	34%	27%
Recommendable to colleagues	26%	11%	17%	29%	16%
Make my daily practice easier	21%	13%	19%	32%	15%
Customer Service oriented	30%	8%	20%	33%	9%
Approachable, friendly	14%	29%	29%	23%	6%

MEAN

Statement	Mean
Well renowned brand	8,3
Cutting edge and innovative	8,3
Leading company in the segment	8,2
Very trustworthy	8,2
Too expensive	8,2
Recommendable to colleagues	7,8
Make my daily practice easier	7,6
Customer Service oriented	7,5
Approachable, friendly	6,3

TOTAL — SIRONA

Legend:
- Completely agree
- Rather agree
- Rather disagree
- Completely disagree
- Don't know, no answer

The charts show the difference between the total sample responding to this question and those who know Sirona. With a high number of quotes, **Sirona performance** can be considered **quite similar** to that of the **overall random sample**.

Clusters
10 Completely agree
8-9 Rather agree
6-7 Rather disagree
1-5 Completely disagree

RANDOM SAMPLE

KEY-STONE

Brand image

How much do you agree the following statements are relevant to the brands that I'm going to read out to you? Please, use a scale where 1 stands for "Completely disagree" and 10 stands for "Completely agree".

TOTAL SAMPLE (370 quotes)

Statement	Don't know	Completely disagree	Rather disagree	Rather agree	Completely agree
Well renowned brand	5%	7%	18%	37%	33%
Cutting edge and innovative	5%	5%	18%	44%	27%
Leading company in the segment	6%	5%	23%	36%	30%
Very trustworthy	14%	4%	18%	44%	20%
Too expensive	13%	9%	19%	32%	27%
Recommendable to colleagues	19%	10%	19%	32%	19%
Make my daily practice easier	19%	11%	23%	31%	16%
Customer Service oriented	24%	12%	20%	33%	11%
Approachable, friendly	12%	27%	29%	25%	6%

3SHAPE (55 quotes)

Statement	Don't know	Completely disagree	Rather disagree	Rather agree	Completely agree
Well renowned brand	7%	7%	16%	37%	34%
Cutting edge and innovative	5%	2%	17%	35%	42%
Leading company in the segment	6%		26%	30%	37%
Very trustworthy	18%	3%	15%	40%	24%
Too expensive	12%	7%	9%	30%	42%
Recommendable to colleagues	20%	6%	18%	35%	21%
Make my daily practice easier	15%	5%	31%	27%	21%
Customer Service oriented	17%	19%	18%	36%	10%
Approachable, friendly	14%	31%	28%	21%	5%

MEAN

Statement	TOTAL	3SHAPE
Well renowned brand	8,3	8,3
Cutting edge and innovative	8,3	8,8
Leading company in the segment	8,2	8,5
Very trustworthy		8,2
Too expensive	8,1	8,6
Recommendable to colleagues	7,8	8,1
Make my daily practice easier	7,6	
Customer Service oriented	7,1	7,5
Approachable, friendly	6,0	6,0

Legend:
- ■ Completely agree
- ■ Rather agree
- ■ Rather disagree
- ■ Completely disagree
- ■ Don't know, no answer

The charts show the difference between the total sample responding to this question and those who know **3Shape**. The **scores** of the brand image, on average, **looks higher than the overall** scores, but for a few items, namely Customer service oriented and Approachable, Friendly.

Clusters
10 Completely agree
8-9 Rather agree
6-7 Rather disagree
1-5 Completely disagree

RANDOM SAMPLE

KEY-STONE

Brand image

How much do you agree the following statements are relevant to the brands that I'm going to read out to you? Please, use a scale where 1 stands for "Completely disagree" and 10 stands for "Completely agree".

TOTAL SAMPLE (370 quotes)

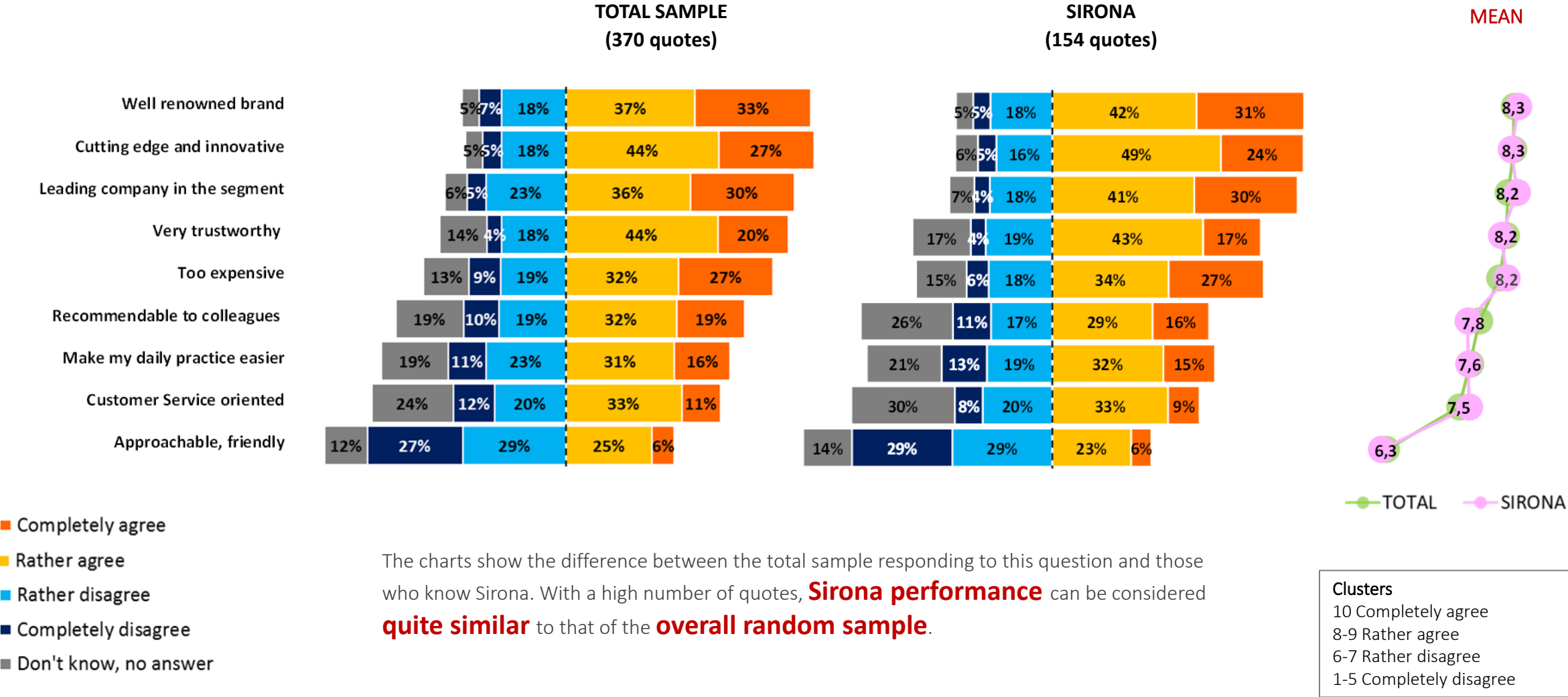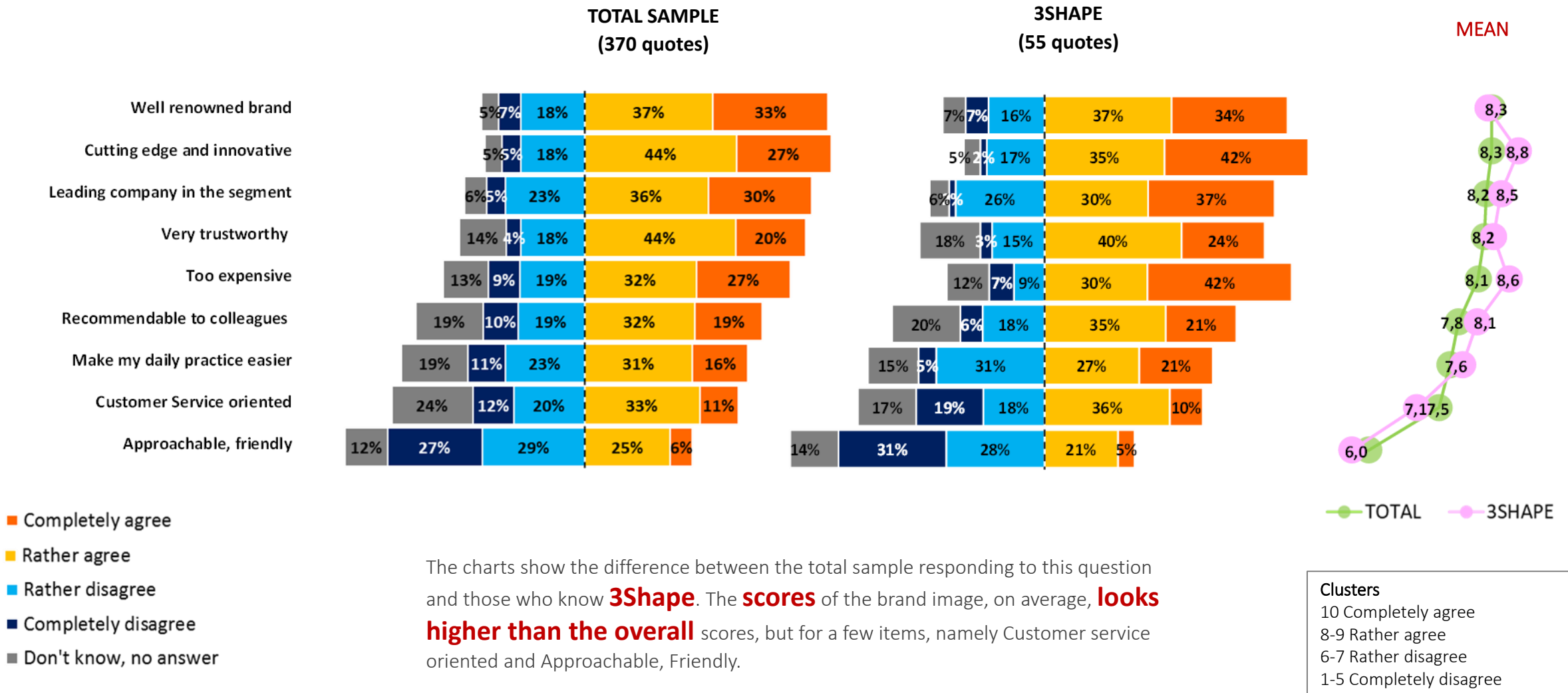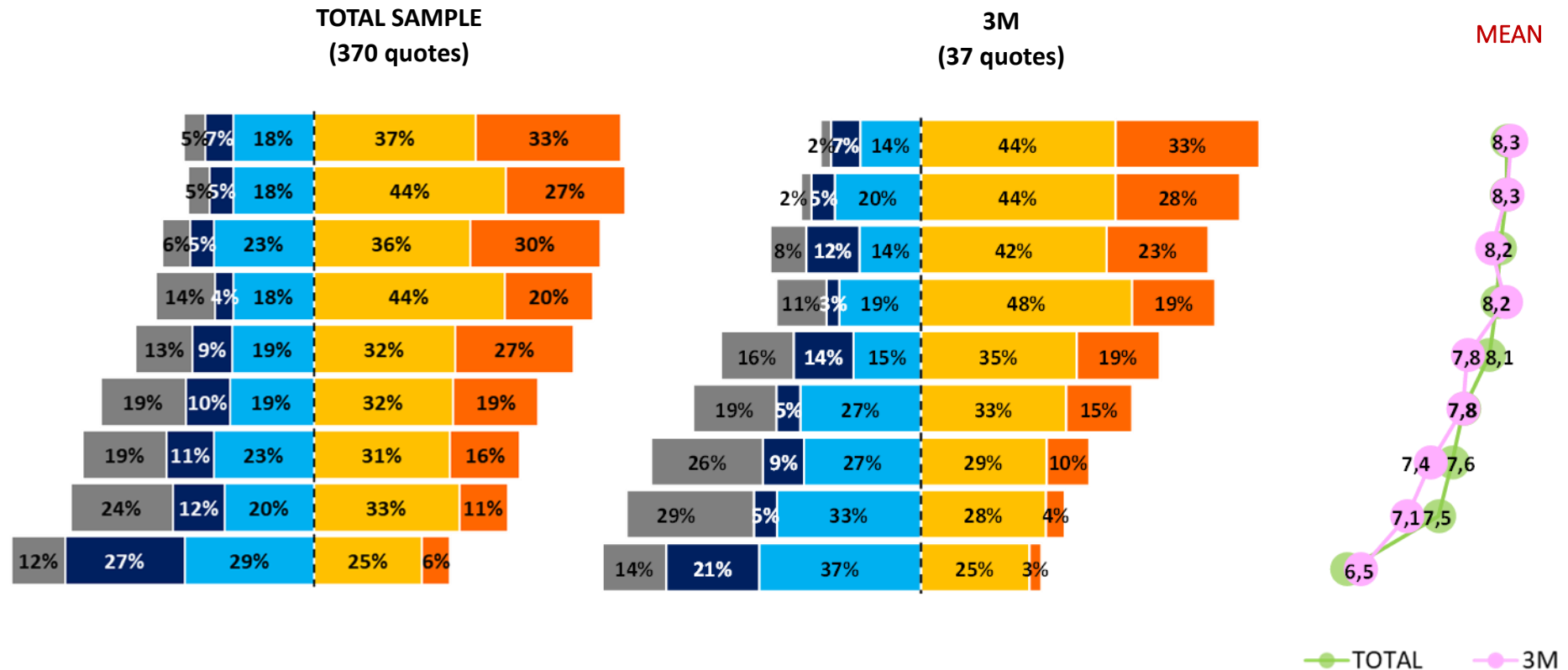|	Don't know	Completely disagree	Rather disagree	Rather agree	Completely agree
Well renowned brand	5%	7%	18%	37%	33%
Cutting edge and innovative	5%	5%	18%	44%	27%
Leading company in the segment	6%	5%	23%	36%	30%
Very trustworthy	14%	4%	18%	44%	20%
Too expensive	13%	9%	19%	32%	27%
Recommendable to colleagues	19%	10%	19%	32%	19%
Make my daily practice easier	19%	11%	23%	31%	16%
Customer Service oriented	24%	12%	20%	33%	11%
Approachable, friendly	12%	27%	29%	25%	6%

3M (37 quotes)

	Don't know	Completely disagree	Rather disagree	Rather agree	Completely agree
Well renowned brand	2%	7%	14%	44%	33%
Cutting edge and innovative	2%	5%	20%	44%	28%
Leading company in the segment	8%	12%	14%	42%	23%
Very trustworthy	11%	3%	19%	48%	19%
Too expensive	16%	14%	15%	35%	19%
Recommendable to colleagues	19%	5%	27%	33%	15%
Make my daily practice easier	26%	9%	27%	29%	10%
Customer Service oriented	29%	5%	33%	28%	4%
Approachable, friendly	14%	21%	37%	25%	3%

MEAN

	TOTAL	3M
Well renowned brand	8,3	8,3
Cutting edge and innovative	8,3	8,3
Leading company in the segment	8,2	8,2
Very trustworthy	8,2	8,2
Too expensive	8,1	7,8
Recommendable to colleagues	7,8	7,8
Make my daily practice easier	7,6	7,4
Customer Service oriented	7,5	7,1
Approachable, friendly	6,5	6,5

Legend:
- ■ Completely agree
- ■ Rather agree
- ■ Rather disagree
- ■ Completely disagree
- ■ Don't know, no answer

The charts show the difference between the total sample responding to this question and those who know **3M**. The respondents gave a **higher evaluation** to the concept of **Reputation** but a weaker position can be seen regarding the pricing, the ease of use and in the customer orientation.

Clusters
10 Completely agree
8-9 Rather agree
6-7 Rather disagree
1-5 Completely disagree

KEY-STONE

Brand image

Factor analysis

The factor analysis is a multi-variate statistical analysis used to investigate and give explanation of the correlations among a given number of variables. Thanks to a given number of known variables (in this case **the brand perception**), the factor analysis finds out some latent factors being able to statistically summarize the explicit variables.

	Prestige Leadership	Product excellence	Approachable friendly	Too expensive
World-renowned brand	0,872			
Leading company in the segment	0,825			
Cutting edge and innovative		0,819		
Make my daily practice easier		0,745		
Very trustworthy		0,634		
Approachable, friendly			0,883	
Customer Service oriented			0,630	
Too expensive				0,974

POSITIONING DRIVERS

1. **Prestige leadership**: it includes the items linked to the reputation and prestige. This factor is far from the other items investigated, even if rather correlated to innovation and reliability.

2. **Product excellence**: this factor is featured by the innovation in particular, which is strongly correlated to the concept of simplification of the daily practice and to the reliability.

3. **Approachable, friendly**: the nature of this factor is not only economical, but also technical, and it is a good indicator of a given focus on the client perceived by the market.

4. **Too expensive**: it just shows one item, and it classify the brand as "too expensive" in comparison to the benefits given, but it resulted to be a not important factor in this market and also the regression analysis shows a not relevant weight on the recommendation.

The **propensity to be recommended**, is a crucial element of the brand image and, in this case, it is across the first three factors, but strongly influenced by the second one, the **Product excellence**. This **new way of thinking about the quality** in dentistry, with innovation, easiness and reliability, clearly prevail on the market leadership.

key-stone

Brand image

Factor analysis

All factors have mean zero and standard deviation 1, the histograms shows the average scores of the factors for the shown information.

The chart shows the means for the main known brands, as a matter of fact, this is a brand perception mapping.

Sirona, with the vast majority of the quotes, is clearly **close to the average**, even if it received **lower scores for the Product excellence**. As the number of cases lowers, the values get far from the average, and some distinctive features can be highlighted for the main brands.

Interesting are the results from **3Shape** on **Product excellence**, less positive is on Approachable, friendly. As for **3M**, only **Prestige leadership** shows a positive score.

Legend: ■ Prestige leadership ■ Product excellence ■ Approachable, friendly ■ Too expensive

BUYING BEHAVIOR

Focus on Cad-Cam owners

Purchase process

Regarding the moment you took the decision to buy your equipment, among the following statements, which is the closest to the way you took such a decision?

39%

61%
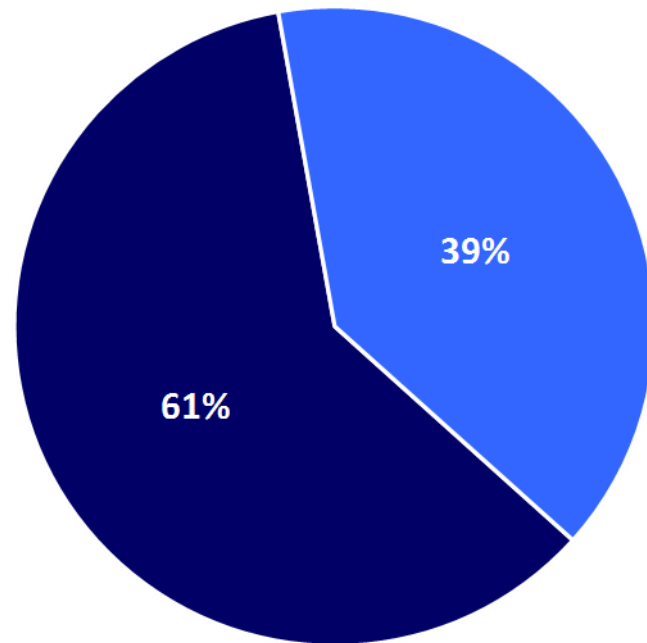
■ We got in contact with the product and took the decision because we felt it was time to make it

■ We have carefully evaluated benefits and costs, and the payback times in particular

Base: 105 cases

Owners

OWNERS SAMPLE

The emotional/impulsive purchase showed to be very strong in this business

Cad-Cam owners have been asked to describe their purchasing process. Even if the cost is high, in 61% of the cases the decision was an almost emotional one.
On another hand, 39% of the respondents declared to have carefully evaluated benefits and costs, therefore a rational purchase.

The behavior of those **aged more than 55** resulted to be **more emotional**, while the younger ones declared to have carefully evaluated benefits and costs. The emotional approach is slightly higher for the chairside milling and slightly less for the purchase of a scanner.

Instinct purchase are **less common among those having a business plan**.

Purchase process, influencers

Who provided advice/consultation before the purchase?
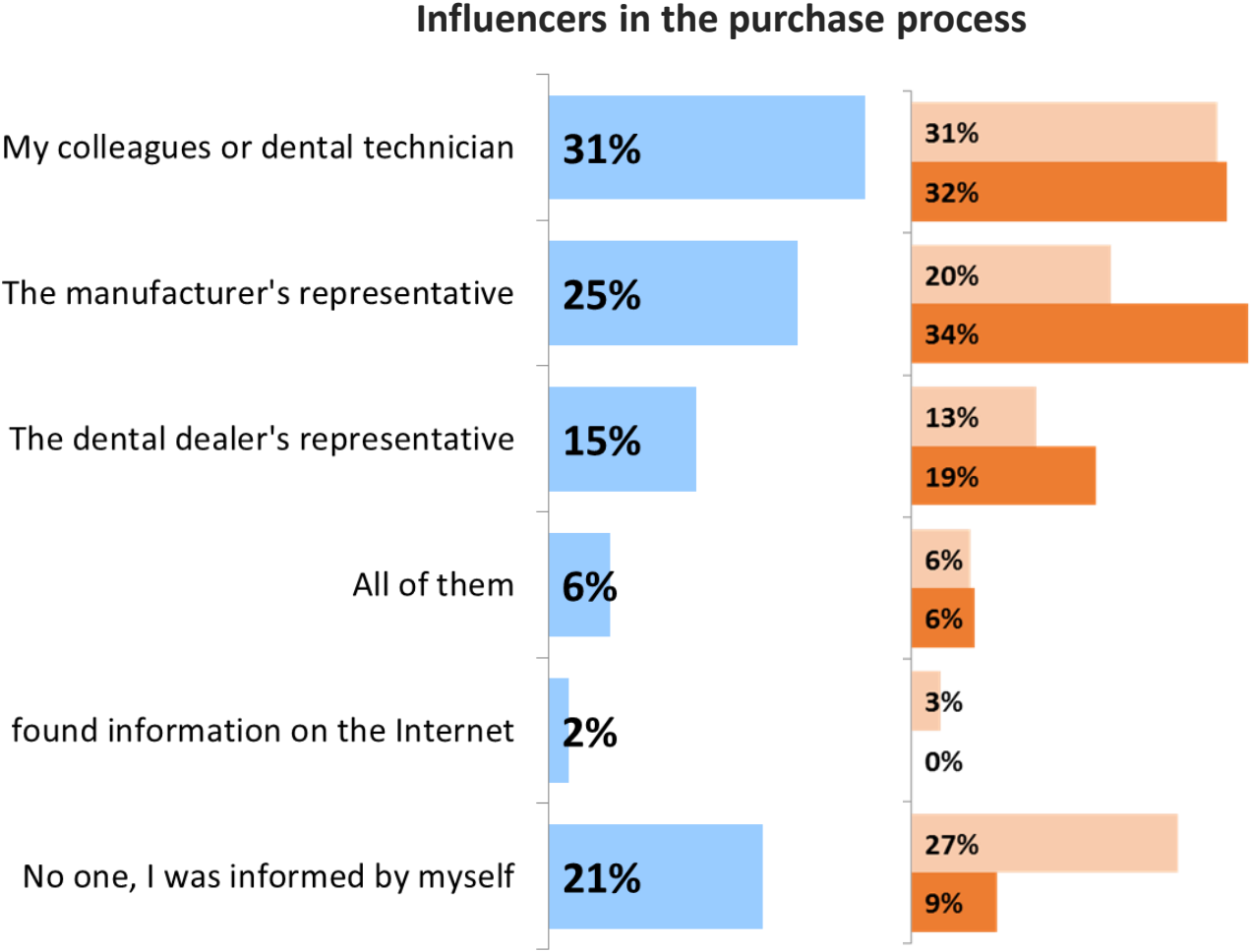
High weight of the word of mouth and sales rep. for the chairside milling.

Influencers in the purchase process

My colleagues or dental technician: 31% | 31% | 32%

The manufacturer's representative: 25% | 20% | 34%

The dental dealer's representative: 15% | 13% | 19%

All of them: 6% | 6% | 6%

I found information on the Internet: 2% | 3% | 0%

No one, I was informed by myself: 21% | 27% | 9%

■ Scanner users only
■ Chairside users

30% of the Cad-Cam users sample declared to have received **advice from colleagues** or from the technician. So it is clear the strategic role of the customer care and after sales processes and loyalty strengthening.

In general, the **advice from the manufacturer sales rep. is preferred** over the distributor one's.
It is high the percentage of those who **got information by their own** but this is true almost only **for the intraoral scanner**.

In the **chairside milling** purchase process it is **fundamental the role of the manufacturer sales rep.** (very high most of all among those responding via web), while it decreases steadily the autonomous information collection.

OWNERS SAMPLE

Base: 105 cases
Owners

49

Reasons to buy – spontaneous statements

What was the main reason that made you decide to buy a CAD-CAM equipment?

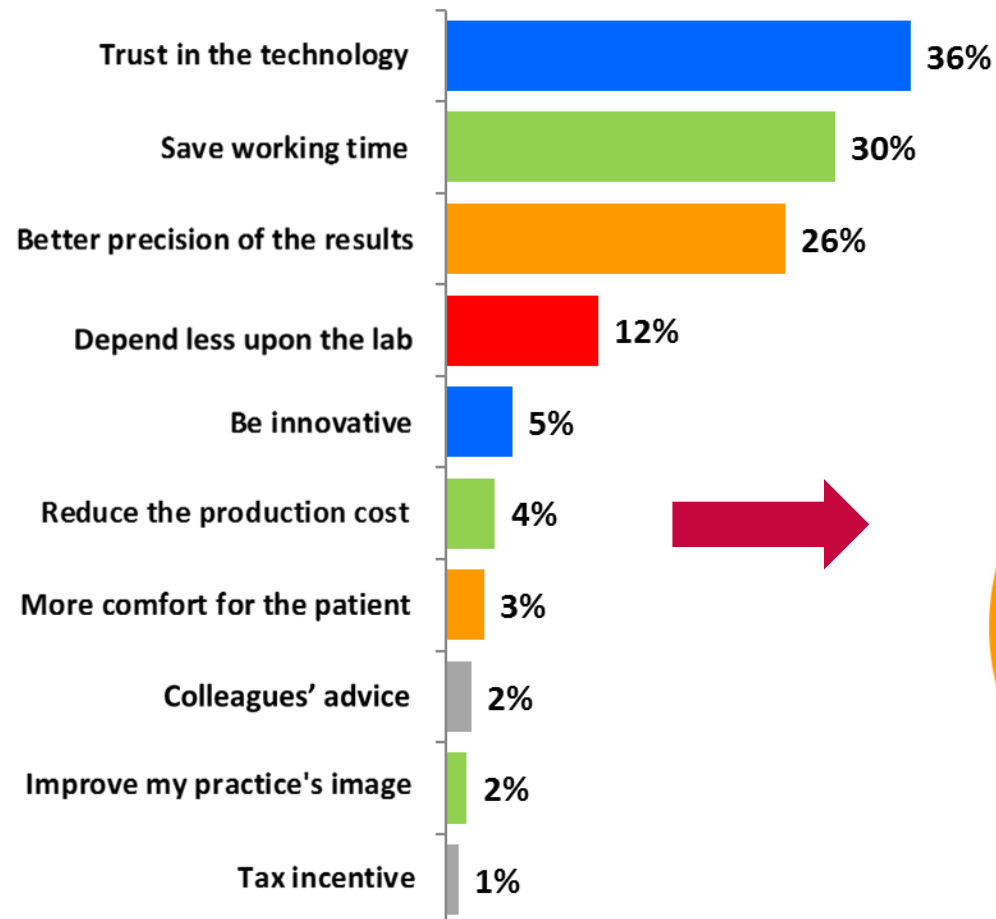Among the different unaided answers the trust in the future prevails, but also some practical aspect (time reduction and higher accuracy). **The answers have been aggregated according to their own nature and into four different areas**, whose data processing have been made on the sum of answers.
This aggregation allows for some further interesting consideration .
Please note again that 70% of the sample owns a chairside milling.

Trust in the technology	36%
Save working time	30%
Better precision of the results	26%
Depend less upon the lab	12%
Be innovative	5%
Reduce the production cost	4%
More comfort for the patient	3%
Colleagues' advice	2%
Improve my practice's image	2%
Tax incentive	1%

Base 126 responses
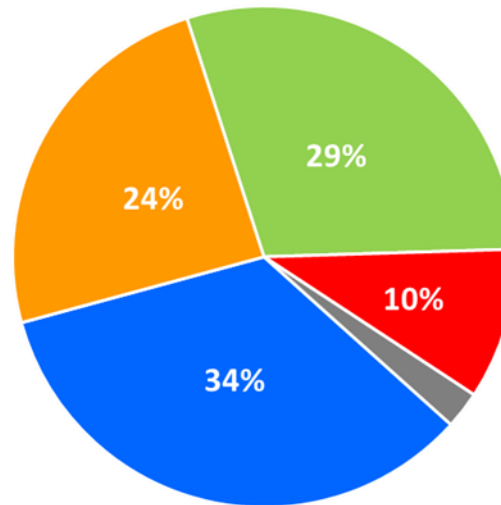
Pie chart:
- Innovation 34%
- Quality of results 24%
- Increase of the productivity /performance 29%
- Independence from the lab 10%
- Other

The **most prevailing motivations** are a kind of subjective ones, linked to an "**Innovation**" concept (trust in the technology and willingness to be at the forefront).
A relevant weight is also from the aspects related to the **performance improvement** and the **quality of the results**.
Less relevant is the desire of independence from the laboratory, not very high among scanners users.

OWNERS SAMPLE

Base: 105 cases
Owners

50

Reasons to buy – objective analysis on the proposed items

How much do you agree with the following statements about the moment you decided to invest in a CAD-CAM? Please give me a score from 1 to 10, where 1 stands for strongly disagree and 10 stands for totally agree.

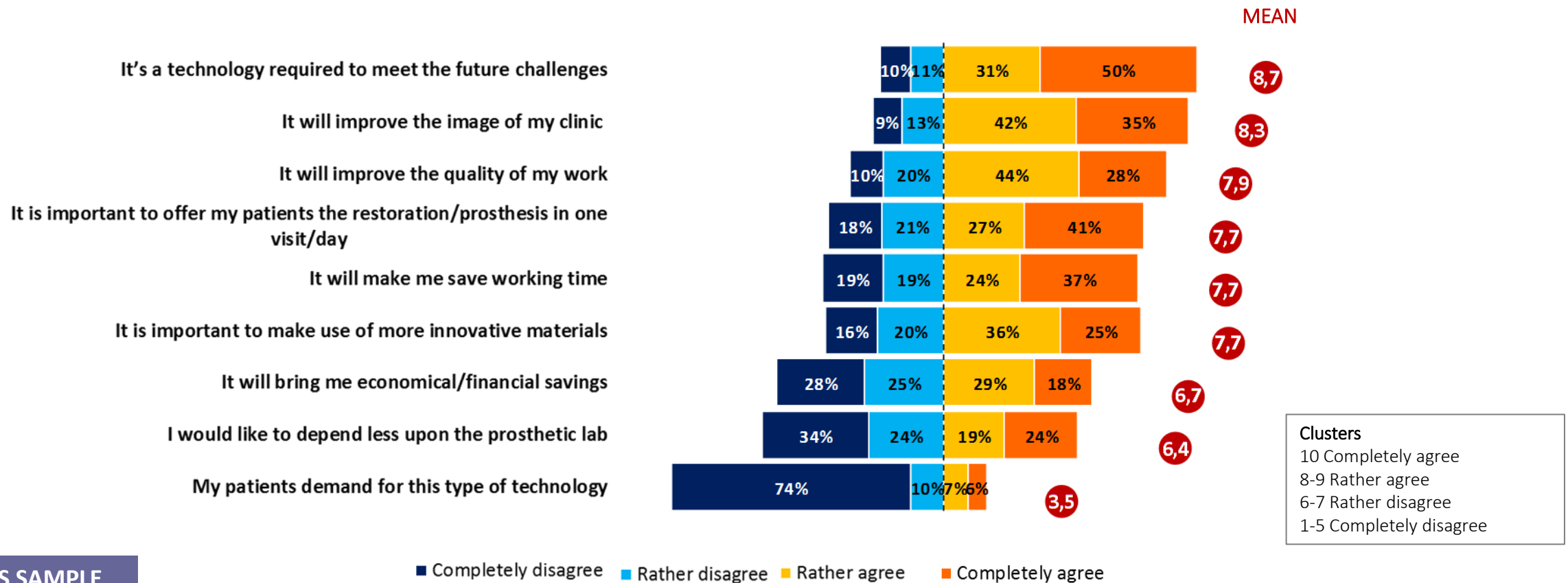Following the unaided answers, some items have been investigated, which allowed the **selection** of true **purchasing drivers**. Also in this case, the **emotional approach of the "orientation to the future" prevails** . It is a typical attitude of the pioneers belonging to a newly born product segment.

MEAN

Statement	Completely disagree	Rather disagree	Rather agree	Completely agree	Mean
It's a technology required to meet the future challenges	10%	11%	31%	50%	8,7
It will improve the image of my clinic	9%	13%	42%	35%	8,3
It will improve the quality of my work	10%	20%	44%	28%	7,9
It is important to offer my patients the restoration/prosthesis in one visit/day	18%	21%	27%	41%	7,7
It will make me save working time	19%	19%	24%	37%	7,7
It is important to make use of more innovative materials	16%	20%	36%	25%	7,7
It will bring me economical/financial savings	28%	25%	29%	18%	6,7
I would like to depend less upon the prosthetic lab	34%	24%	19%	24%	6,4
My patients demand for this type of technology	74%	10%	7%	6%	3,5

■ Completely disagree ■ Rather disagree ■ Rather agree ■ Completely agree

Clusters
10 Completely agree
8-9 Rather agree
6-7 Rather disagree
1-5 Completely disagree

Base: 105 cases
Owners

KEY-STONE

Reasons to buy a Cad-Cam equipment

Factor analysis

The factor analysis is a multi-variate statistical analysis used to investigate and give explanation of the correlations among a given number of variables. Thanks to a given number of known variables (in this case **the reasons to buy**), the factor analysis finds out some latent factors being able to statistically summarize the explicit variables.

	Better performance	Image and innovation	Patient care	Independence from the lab
The acquisition of a CAD-CAM will reduce the working time	0,79			
The acquisition of a CAD-CAM will bring me economical/financial savings	0,64			
It will improve the quality of my work	0,75			
It's a technology required to meet the future challenges		0,66		
It will improve the image of my clinic		0,76		
It is important to make use of more innovative materials		0,77		
My patients demand for this type of technology			0,78	
It is important to offer my patients the restoration/prosthesis in one visit/day			0,73	
I would like to depend less upon the prosthetic lab				0,94

The factor analysis identified 4 latent factors for the reasons to buy a Cad-Cam equipment.

➤ **Better performance**: Represents the performance improvement seen as economic benefits and increased productivity.

➤ **Image and innovation**: This factor summarizes the feeling that owning a Cad-Cam equipment improves the image of the clinic to the eyes of the patients.

➤ **Patient care**: Owning a Cad-Cam technology allows to treat the patients in less time than traditional methods, improving their comfort.

➤ **Independence from the Lab**: A Cad-Cam allows the practice to be independent from the lab.

OWNERS SAMPLE

Base: 105 cases
Owners

KEY-STONE

Reasons to buy a Cad-Cam equipment

Demographic and structural stratification

All factors have mean 0 and standard deviation 1, the histograms shows the average scores of the factors for the shown information.

Age:
Basically the elders resulted to be less sensitive to the performance improvement.

Size structure:
The smallest practices seem to be more influenced by the improvement of the reputation of the practice.

Value of purchases in materials:
The segment with a lower than average expenditure are more sensitive to the image and also to the increased independence from the lab.

Implantology:
This is the segmentation showing the biggest differences in the purchasing behaviour.

Up to 55	More than 55	Up to 2	3 or more
Age of the practice owner		Number of dental chairs	

Less than 900 euro   900 euro or more
Monthly expenditure on consumable materials

Up to 50   More than 50
Number of annual implants

■ **Better performance**   ■ **Image and innovation**   ■ **Patient care**   ■ **Independence from the lab**
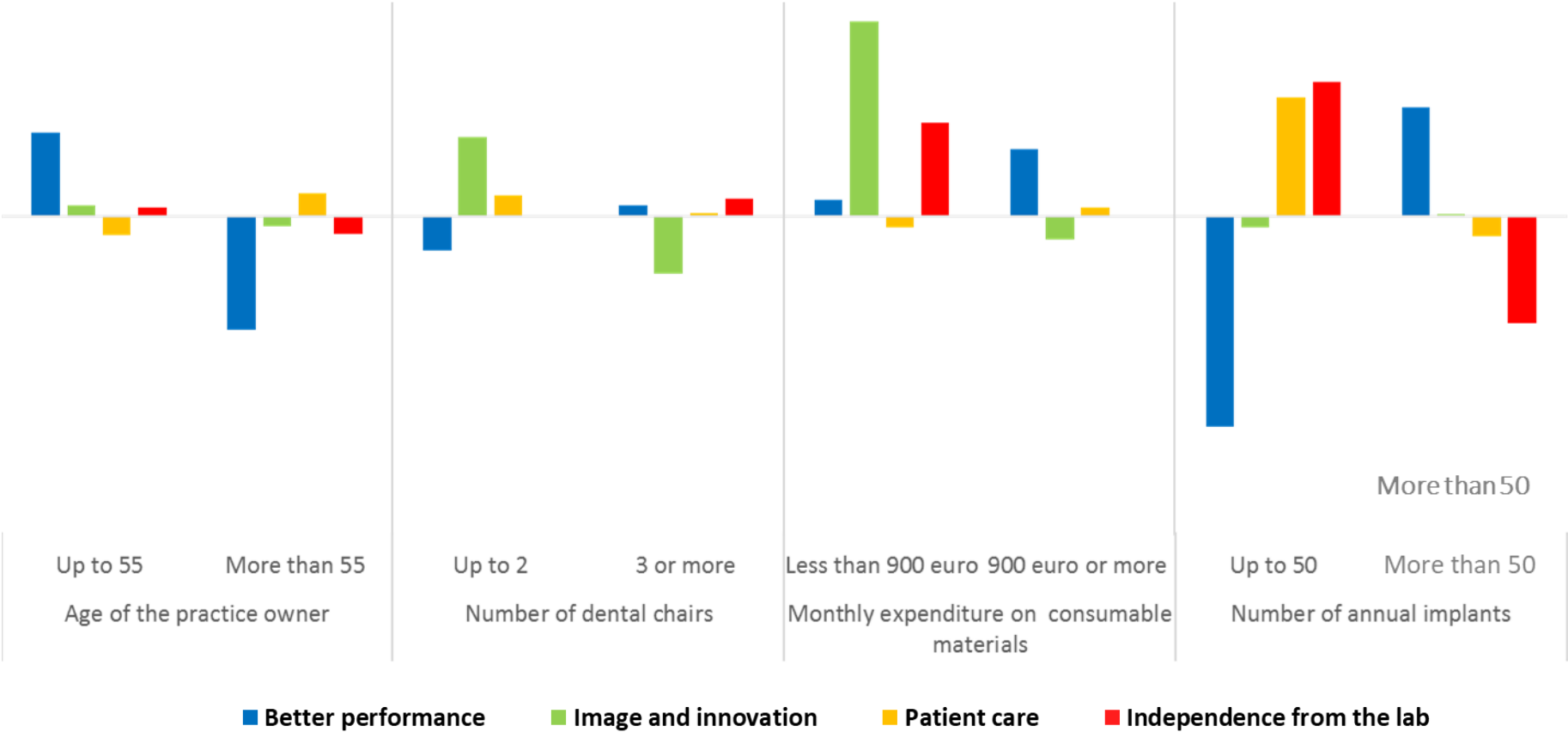
Base: 105 cases
Owners

Reasons to buy a Cad-Cam equipment

Stratification type of practice management

All factors have mean 0 and standard deviation 1, the histograms shows the average scores of the factors for the shown information.

Strategic plan
Those having a strategic business plan resulted to be more interested in the performance and far less to the independence from the lab. The other 2 drivers did not show statistically relevant differences.

Type of technology
The kind of technology used shows a different mapping: to the only scanner users, the image and innovation perspective prevail, while the chairside milling users seem to be motivated by the independence from the lab and a higher attention to the patient care.

Other significant aspects
Those having purchased the equipment in an emotional way is strongly influenced by the image and not interested at all to the independence from the lab.
The Cad-Cam frequent users are more oriented to the performance and the image.

No	Yes	Scanner users only	Chairside users
Business plan or strategic marketing	USERS
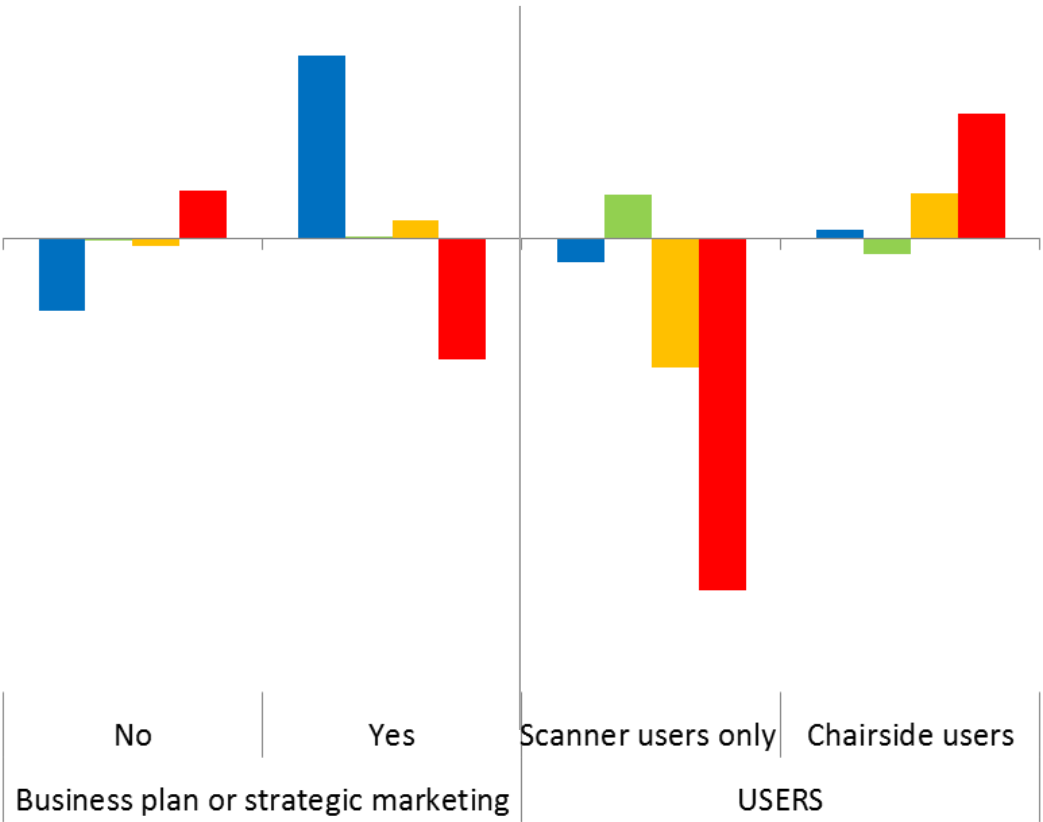
■ **Better performance**   ■ **Image and innovation**   ■ **Patient care**   ■ **Independence from the lab**

OWNERS SAMPLE

Base: 105 cases
Owners

54

SATISFACTION AND LOYALTY ANALYSIS
Cad-Cam

Intraoral scanner benefits – spontaneous statements

What are the most important benefits in using the intraoral scanner?

The most quoted advantage, with more than 50% of the quotes, is the "Reduction of working times", related to the **improvement of the productivity and the performance**.

The second most quoted advantage is the high precision of the digital impression, which is related to the aspects of **precision and quality of the performance**.

Benefit	%
Reduction of working time	64%
High precision of the digital impression	36%
Easy of use	15%
More comfort for the patient	13%
Improve the image of the clinic	9%
Repeatability	7%
Freedom from traditional impression	7%
Visual feedback	4%
Don't know, no answer	2%
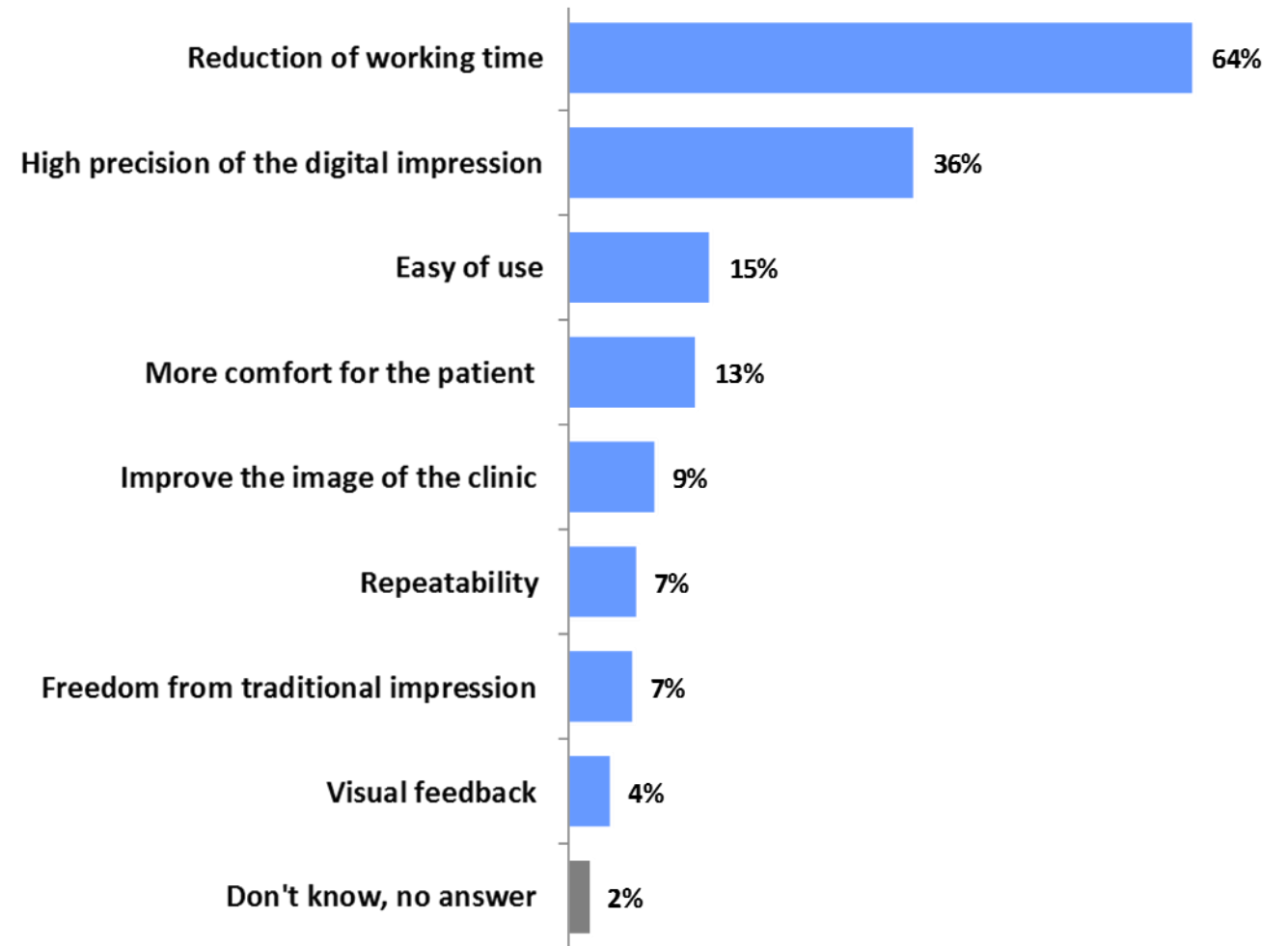
Base: 45 cases
Scanner owners

RANDOM SAMPLE

KEY-STONE

Chairside milling unit benefits – spontaneous statements

What are the most important benefits in using the chairside milling unit?

The main quoted benefit is the "**Reduction of working times**", linked to the aspects of the surgery performance.

The second quoted advantage is the possibility to make "**Indirect restorations in one single visit**".

Considering that the third quoted advantage (Depend less upon the lab), is partially linked to the surgery performance, the main advantage in the use of the chairside milling are related to the **increase of the productivity and the performance**.

Benefit	%
Reduction of working time	39%
Indirect restorations in a single session	16%
Depend less upon the lab	12%
More aesthetic	8%
Lower cost per patient	8%
Quality of materials usable	6%
Cost reduction	6%
High precision of the digital impression	4%
Don't know, no answer	33%
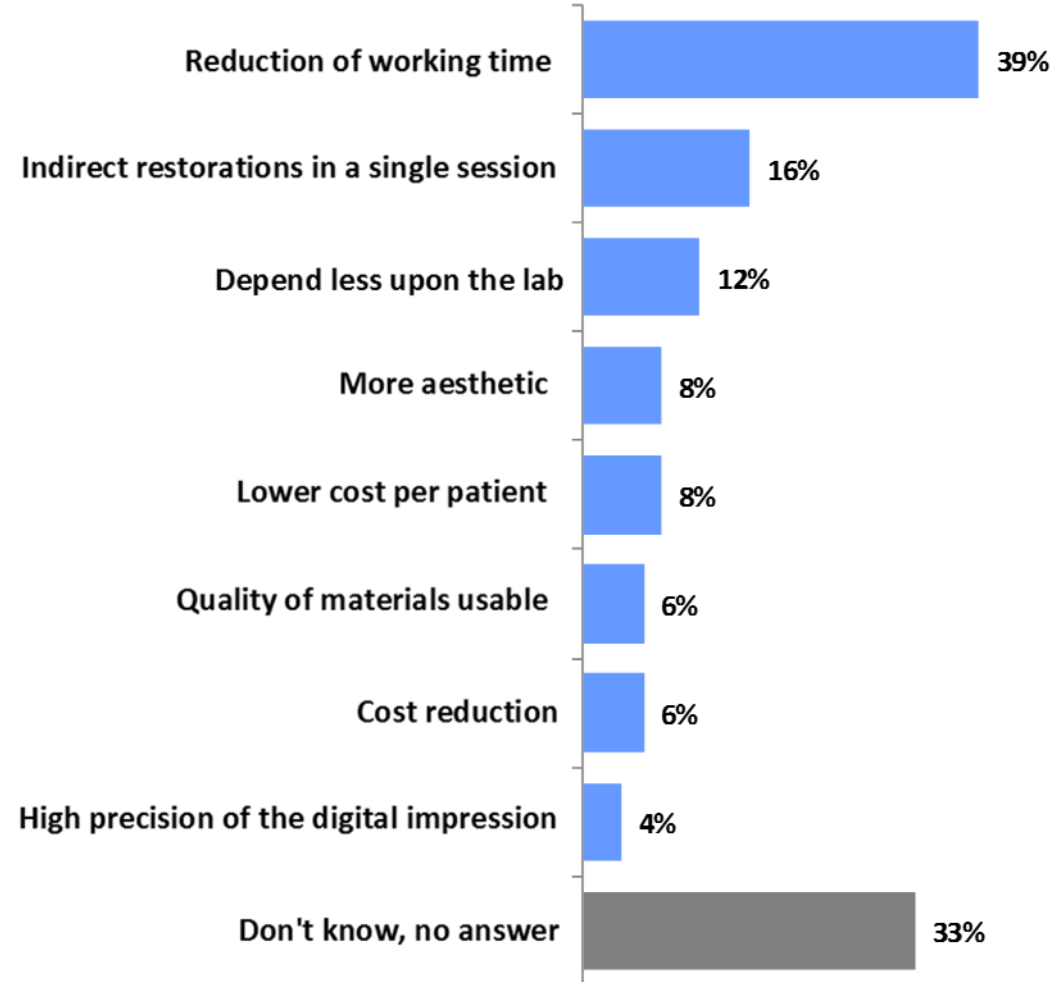
RANDOM SAMPLE

Base: 17 cases
Chairside milling owners

"LOYALTY METRICS"
Cad-Cam

SATISFACTION ANALYSIS

Evaluate the overall experience with a brand and how much the customer needs are met.

PERCEIVED VALUE

The utility and benefit of a product relative to the price paid for that product.

ADVOCACY

The willingness of a user to recommend a company to colleagues is a key driver of revenue and profit growth in most industries.

REPURCHASE INTENTION

The likelihood a user will continue to use a company's products in the near future.

Brand Advocacy Score (B.A.S.)

Respondents are categorized as either "advocates", "neutrals", or "detractors" for each brand. The BAS subtracts the percent share of detractors from the percent share of advocates, to show net impact on word-of-mouth referrals.

Loyalty Metrics

| Overall Satisfaction |
| Perceived Value |
| Likelihood to Recommend |
| Repurchase Intention |
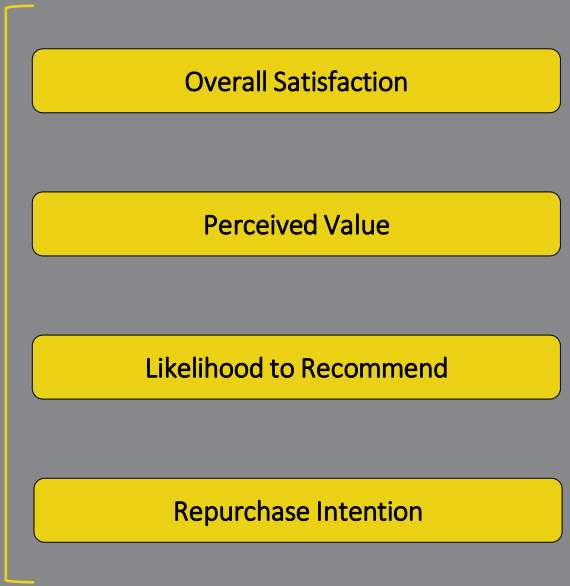
How likely are you to recommend the following company brands to a colleague?

Brand Advocacy Score

| Advocates | Neutrals | Detractors |

"Neither unlikely Nor likely"

"Extremely likely"
"Likely"

"Unlikely"
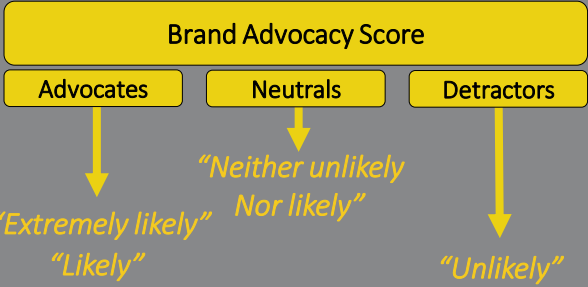
Loyalty metrics

Perceived Value

How much would you agree that the CAD-CAM products of the following manufacturers are worth their purchase price?

	Completely disagree	Rather disagree	Rather agree	Completely agree	MEAN
ALL Users	42%	20%	32%	7%	6,2
Chairside	43%	11%	36%	10%	6,6
Scanner	41%	23%	30%	6%	6,0

SCORES

- 10 — Completely agree
- 8-9 — Rather agree
- 6-7 — Rather disagree
- 1-5 — Completely disagree
- Don't know, no answer

Even if the perceived value is negative, this item does not impact on the attitude to recommend or on the repurchase intention. This is to confirm once again the low weight of the price in the real experience.

Brand advocacy

How likely are you to recommend the CAD-CAM products of the following companies to a colleague?

					MEAN	B.A.S.*
ALL Users	12%	24%	42%	22%	7,7	-14%
Chairside	13%	20%	43%	24%	7,9	-9%
Scanner	11%	25%	42%	22%	7,6	-15%

SCORES

- 10 — Extremely likely — **Advocates**
- 8-9 — Rather likely — **Neutrals**
- 6-7 — Rather unlikely
- 1-5 — Extremely unlikely — **Detractors**
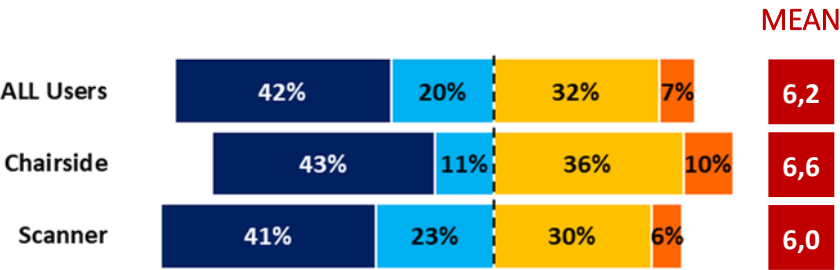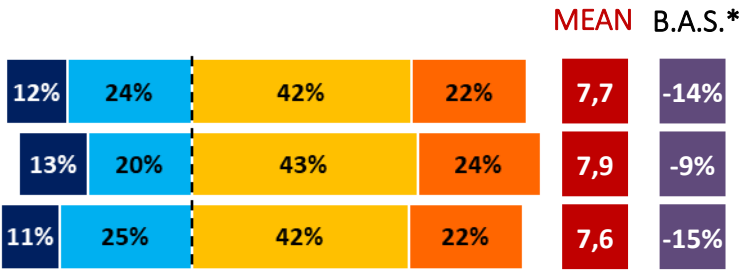- Don't know, no answer

* Brand Advocacy Score (B.A.S.)
The interviewees are rated as "advocates", "neutral" or "detractors" of each brand. For each brand, B.A.S. subtracts the distribution percentage of detractors from the distribution percentage of the advocates, to show the actual impact of the word of mouth.

Repurchase intention

If you were to replace your current CAD-CAM system, how likely are you to buy the same brand again?

					MEAN
ALL Users	15%	22%	34%	15%	7,4
Chairside	12%	17%	40%	12%	7,7
Scanner	16%	24%	32%	16%	7,3

SCORES

- 10 — Definitely will purchase the same brand
- 8-9 — Probably will purchase the same brand
- 6-7 — Probably will not purchase the same brand
- 1-5 — Definitely will not purchase the same brand
- Don't know, no answer

The risk of abandonment derives from the assumption that a low repurchase intention may mean a risk that, in the future, the product may not be purchased again. Lower repurchase intention scores have a higher risk of abandonment, while higher values mean that a current customer will likely still be using this product in the future.

RANDOM SAMPLE   Base: 52 quotes

KEY-STONE

Loyalty metrics

Brand advocacy

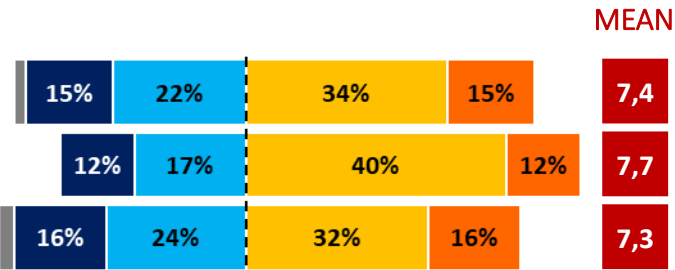*How likely are you to recommend the CAD-CAM products of the following companies to a colleague?*

					MEAN	B.A.S.*
ALL Users	16%	21%	37%	24%	7,5	-13%
Chairside	17%	20%	37%	25%	7,5	-13%
Scanner	16%	22%	38%	24%	7,5	-14%

SCORES

10	■ Extremely likely
8-9	■ Rather likely
6-7	■ Rather unlikely
1-5	■ Extremely unlikely
	■ Don't know, no answer

Advocates
Neutrals

Detractors

* Brand Advocacy Score (B.A.S.)
The interviewees are rated as "advocates", "neutral" or "detractors" of each brand. For each brand, B.A.S. subtracts the distribution percentage of detractors from the distribution percentage of the advocates, to show the actual impact of the word of mouth.

Repurchase intention

If you were to replace your current CAD-CAM system, how likely are you to buy the same brand again?

					MEAN
	18%	22%	29%	18%	7,4
	18%	21%	29%	18%	7,4
	18%	23%	29%	18%	7,4

SCORES

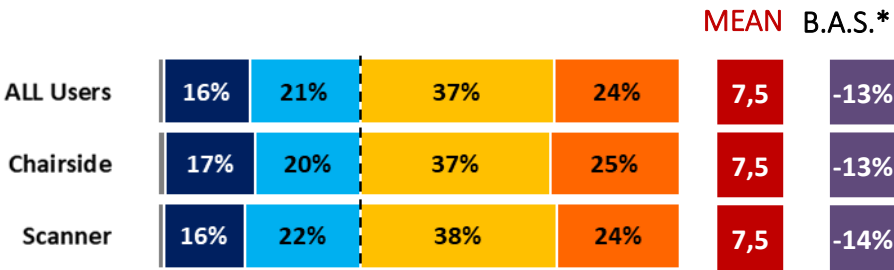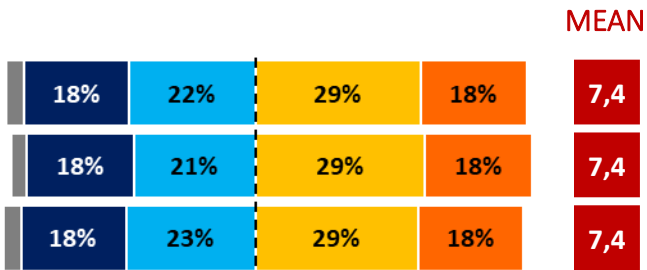|	
10	■ Definitely will purchase the same brand
8-9	■ Probably will purchase the same brand
6-7	■ Probably will not purchase the same brand
1-5	■ Definitely will not purchase the same brand
	■ Don't know, no answer

The risk of abandonment derives from the assumption that a low repurchase intention may mean a risk that, in the future, the product may not be purchased again. Lower repurchase intention scores have a higher risk of abandonment, while higher values mean that a current customer will likely still be using this product in the future.

Base: 172 quotes

KEY-STONE

Satisfaction Analysis – differentiation of scanner and chairside milling

How do you rate your satisfaction with the following Cad-Cam (intraoral scanner and chairside milling unit) brands? Please use a scale of 1 to 10, where 1 stands for "Completely not satisfied" and 10 stands for "Completely satisfied"

Scanner owner (98 quotes) / **Chairside milling owner (74 quotes)** / **MEAN**

	Scanner owner	Chairside milling owner	MEAN
Accuracy and quality of the restorations	9% / 21% / 52% / 18%	11% / 24% / 47% / 18%	7,9
Reliability	11% / 22% / 53% / 13%	11% / 26% / 55% / 8%	7,8
Wide range of materials	11% / 25% / 44% / 19%	11% / 30% / 41% / 18%	7,7
Handiness and Ease of use	12% / 31% / 46% / 11%	9% / 35% / 42% / 13%	7,6
Overall satisfaction	12% / 30% / 45% / 13%	12% / 32% / 43% / 12%	7,6
Ease of use of the CAD/CAM software	10% / 35% / 32% / 8%	12% / 32% / 38% / 9%	7,3
Overall operating costs	23% / 38% / 33% / 6%	26% / 39% / 27% / 8%	6,6
Frequency of software updates	29% / 29% / 28% / 8%	32% / 28% / 26% / 8%	6,6
Start-up training	26% / 31% / 35% / 7%	28% / 36% / 30% / 5%	6,5
Availability and flexibility in case of specific needs	34% / 31% / 28% / 7%	39% / 29% / 24% / 7%	6,3
Technical assistance in case of repair	29% / 24% / 28% / 8%	33% / 24% / 25% / 7%	6,2
Technical support	35% / 26% / 29% / 7%	40% / 27% / 25% / 5%	6,2
Management of the learning period by the manufacturer	28% / 35% / 22% / 4%	34% / 36% / 17% / 5%	6,1
Business development support	48% / 23% / 22% / 6%	49% / 27% / 15% / 8%	5,6
Cost of software updates	46% / 22% / 16% / 7%	47% / 25% / 13% / 5%	5,5

Legend:
- ■ Completely satisfied
- ■ Rather satisfied
- ■ Rather not satisfied
- ■ Not satisfied at all
- ■ Don't know, no answer

—●— Chairside   —●— Scanner

OWNERS SAMPLE

The **main differences between scanner and chairside milling** are related to the **after sales area**, not exactly for what regards the mean scores, but the **weight of the respondents involved by the dissatisfaction** instead, which goes from 30% to 50%.

Clusters
10 Completely satisfied
8-9 Rather satisfied
6-7 Rather not satisfied
1-5 Not satisfied at all

STATISTICAL NOTE

Bivariate correlation analysis

The bivariate correlation analysis is a technique that helps to identify and measure the influence of the independent variables on the dependent one (in this case, the overall satisfaction). The bivariate correlation analysis has been used to quantify the relation between the score on the single satisfaction items and the rating on the overall satisfaction.

Therefore, it is possible to retrieve a "hierarchy of importance" from the individual statements and to display them in a chart, and then on a map. The vertical axis always shows the satisfaction ratings that the different factors have received, on average, while the horizontal axis shows their influence on the overall satisfaction. In this way, its obtained an "estimated importance" of each item proposed to the interviewees, which results a bit different from the one explicitly stated. The analysis of the weight of each of the factors, and not only of the declared importance, allows for some interesting considerations. The items have a different meaning according to the point of view with which they are considered:

▪ **Satisfaction related to the whole market**

Here, some prerequisites are highlighted (upper-right corner of the map, where almost all the competitors satisfy the market), some key factors of success (lower-right corner of the map, where companies are not always able to satisfy customers with regard to strategic issues), and indifference areas (lower-left side of the map) which become waste/not efficient areas when a company decides to invest in those items belonging to the upper-left side of the map, since they tend to satisfy the market but they actually don't affect the overall satisfaction at all.

▪ **Satisfaction related to a specific company/product**

Here the scheme is the same, but we can highlight the strength points in the upper-right side of the map, which can determine inefficiency or indifference if placed in the left side of the map. In the lower-right we can note an improvement area, where we can find the weak points of a certain company (higher than average weight on the company satisfaction but lower than average satisfaction score).
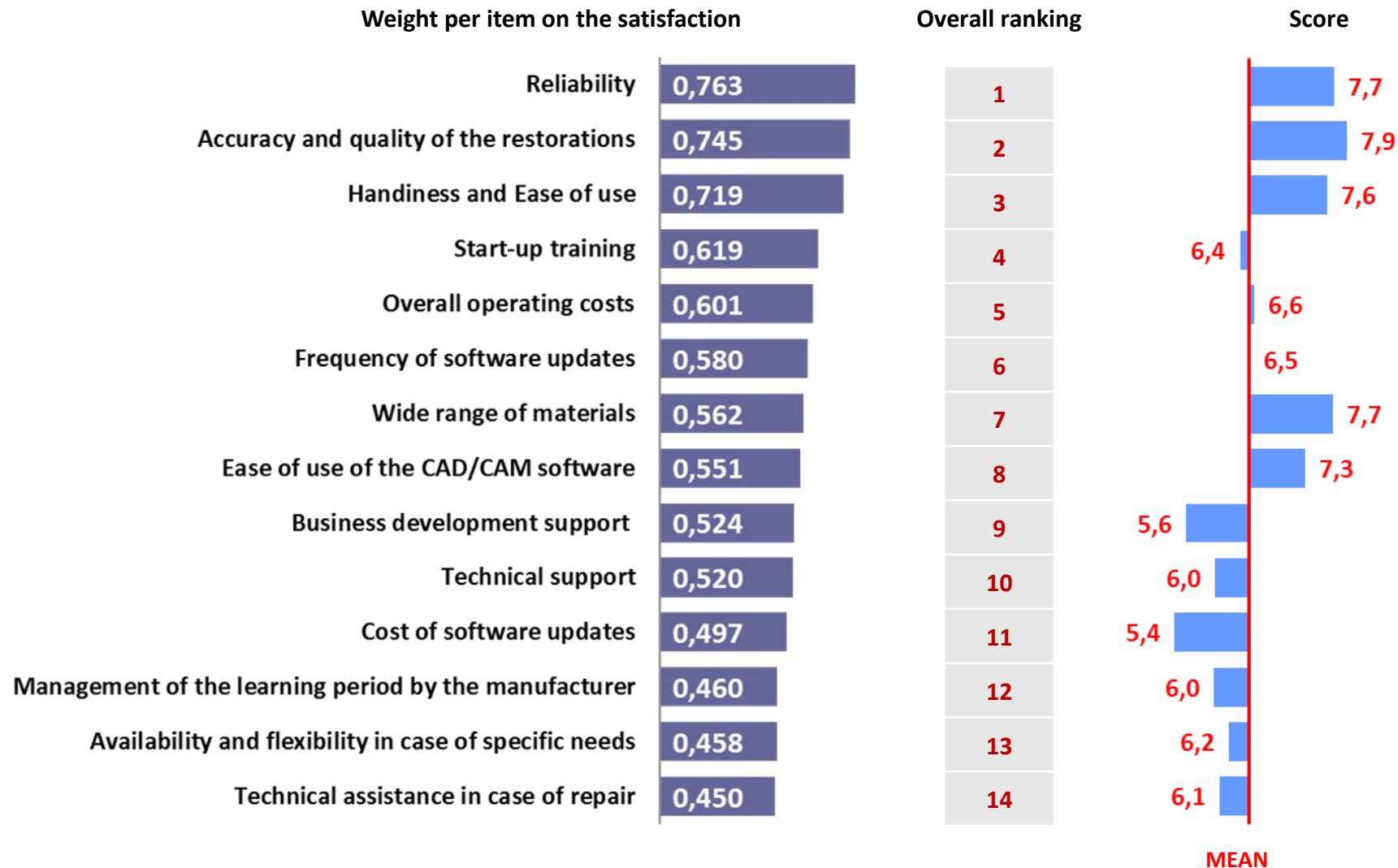

63
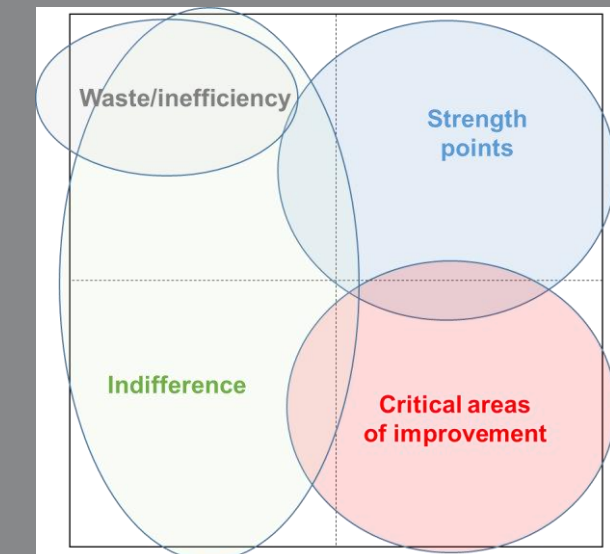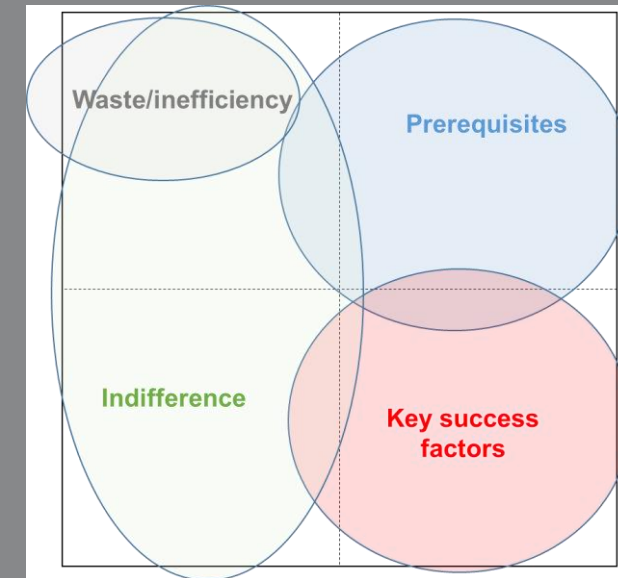
Satisfaction Analysis – ranking of importance of items

Ranking of importance of items. Whole Sample

WHOLE SAMPLE (172 quotes)

Weight per item on the satisfaction		Overall ranking	Score
Reliability	0,763	1	7,7
Accuracy and quality of the restorations	0,745	2	7,9
Handiness and Ease of use	0,719	3	7,6
Start-up training	0,619	4	6,4
Overall operating costs	0,601	5	6,6
Frequency of software updates	0,580	6	6,5
Wide range of materials	0,562	7	7,7
Ease of use of the CAD/CAM software	0,551	8	7,3
Business development support	0,524	9	5,6
Technical support	0,520	10	6,0
Cost of software updates	0,497	11	5,4
Management of the learning period by the manufacturer	0,460	12	6,0
Availability and flexibility in case of specific needs	0,458	13	6,2
Technical assistance in case of repair	0,450	14	6,1

MEAN

In this chart the correlation of the individual items with the overall satisfaction of Cad-Cam equipment is presented. It takes into account the **Total sample**.

Some items with a low correlation score might not be useful to the construction of the satisfaction and vice versa.
Only **Start up training** resulted to be **particularly critical** in the analysed model, in addition to the **issues on the update and management**.
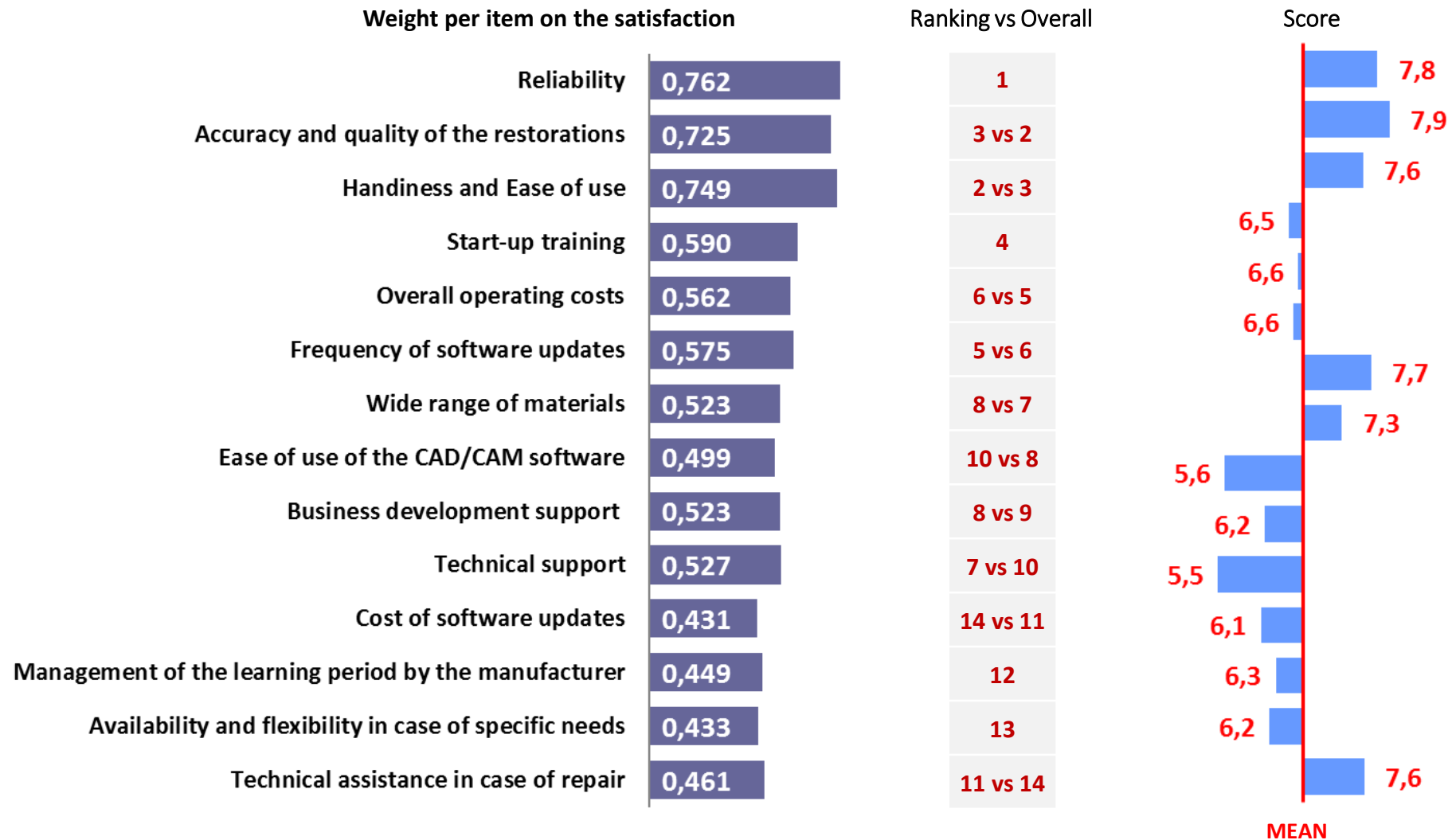
Satisfaction Analysis – ranking of importance of items

Ranking of importance of items. Scanner only

SCANNER USERS (98 quotes)

Weight per item on the satisfaction		Ranking vs Overall	Score
Reliability	0,762	1	7,8
Accuracy and quality of the restorations	0,725	3 vs 2	7,9
Handiness and Ease of use	0,749	2 vs 3	7,6
Start-up training	0,590	4	6,5
Overall operating costs	0,562	6 vs 5	6,6
Frequency of software updates	0,575	5 vs 6	6,6
Wide range of materials	0,523	8 vs 7	7,7
Ease of use of the CAD/CAM software	0,499	10 vs 8	7,3
Business development support	0,523	8 vs 9	5,6
Technical support	0,527	7 vs 10	6,2
Cost of software updates	0,431	14 vs 11	5,5
Management of the learning period by the manufacturer	0,449	12	6,1
Availability and flexibility in case of specific needs	0,433	13	6,3
Technical assistance in case of repair	0,461	11 vs 14	6,2
			7,6

MEAN

In this chart the correlation of the individual items with the overall satisfaction of Cad-Cam equipment is presented. It takes into account the **intraoral scanner**.

In the column "Ranking" it is possible to see the item ranking in comparison with its position in the overall evaluation (right figure).
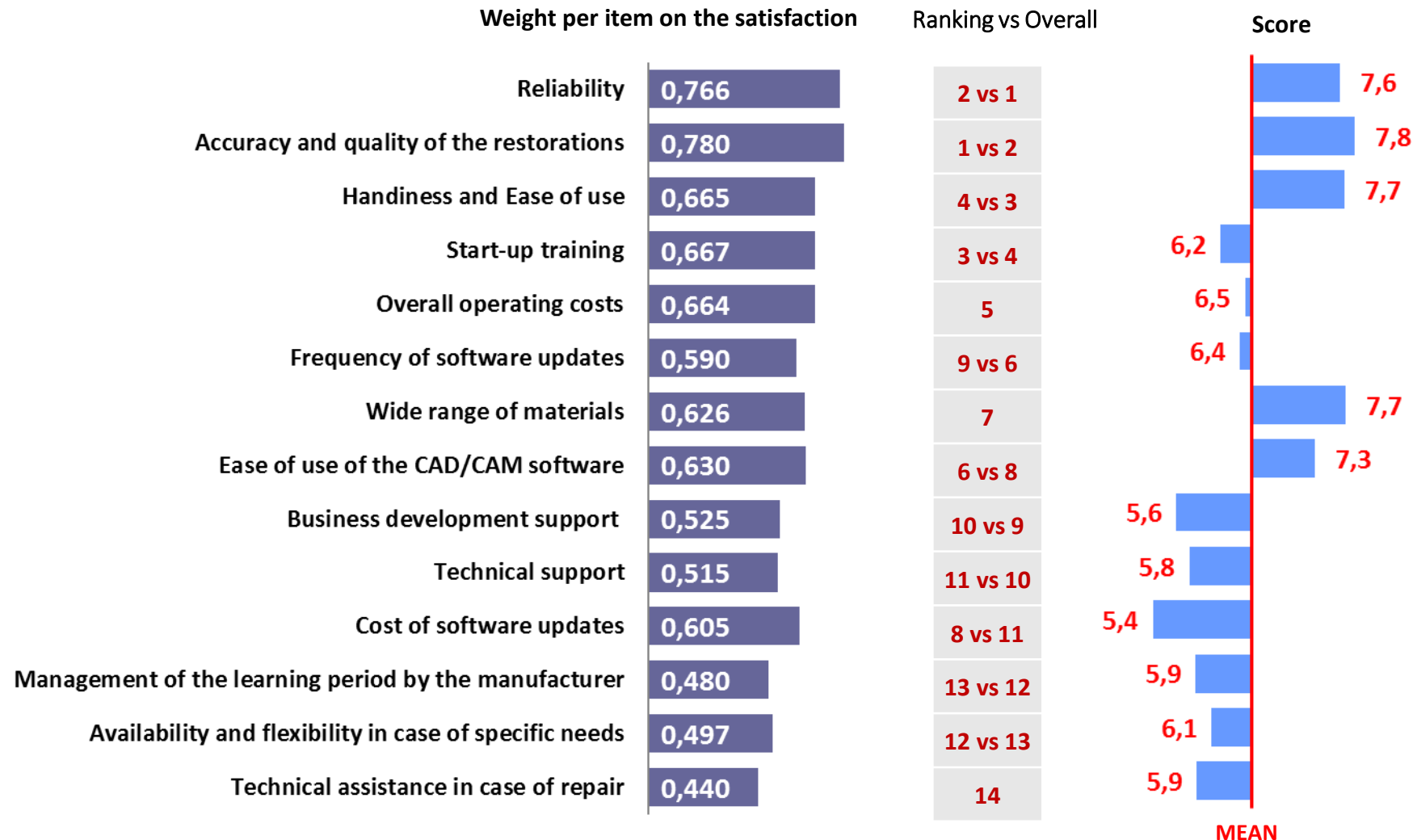
The correlation level of the satisfaction for the scanner highlight a ranking similar to the overall one, even though some items resulted to be more important, such as the **handiness**, the **updates** and, partially, the business development support and, most of all, the **technical support**. Far less correlated the aspects linked to the software.

Satisfaction Analysis

Ranking of importance of items. Chairside milling owner

CHAIRSIDE MILLING OWNER (74 quotes)

Weight per item on the satisfaction		Ranking vs Overall	Score
Reliability	0,766	2 vs 1	7,6
Accuracy and quality of the restorations	0,780	1 vs 2	7,8
Handiness and Ease of use	0,665	4 vs 3	7,7
Start-up training	0,667	3 vs 4	6,2
Overall operating costs	0,664	5	6,5
Frequency of software updates	0,590	9 vs 6	6,4
Wide range of materials	0,626	7	7,7
Ease of use of the CAD/CAM software	0,630	6 vs 8	7,3
Business development support	0,525	10 vs 9	5,6
Technical support	0,515	11 vs 10	5,8
Cost of software updates	0,605	8 vs 11	5,4
Management of the learning period by the manufacturer	0,480	13 vs 12	5,9
Availability and flexibility in case of specific needs	0,497	12 vs 13	6,1
Technical assistance in case of repair	0,440	14	5,9

MEAN

In this chart the correlation of the individual items with the overall satisfaction of Cad-Cam equipment is presented. It takes into account the **chairside milling**.

In the column "Ranking" it is possible to see the item ranking in comparison with its position in the overall evaluation (right figure).

Contrary to what seen for the scanner, in the satisfaction model of the **chairside milling**, the "**Accuracy and quality of the results**" shows a **higher importance than the product reliability**.
Far **more important** the aspects linked to the **training, software use and cost updates**.
Lower importance for the frequency of the software updates.
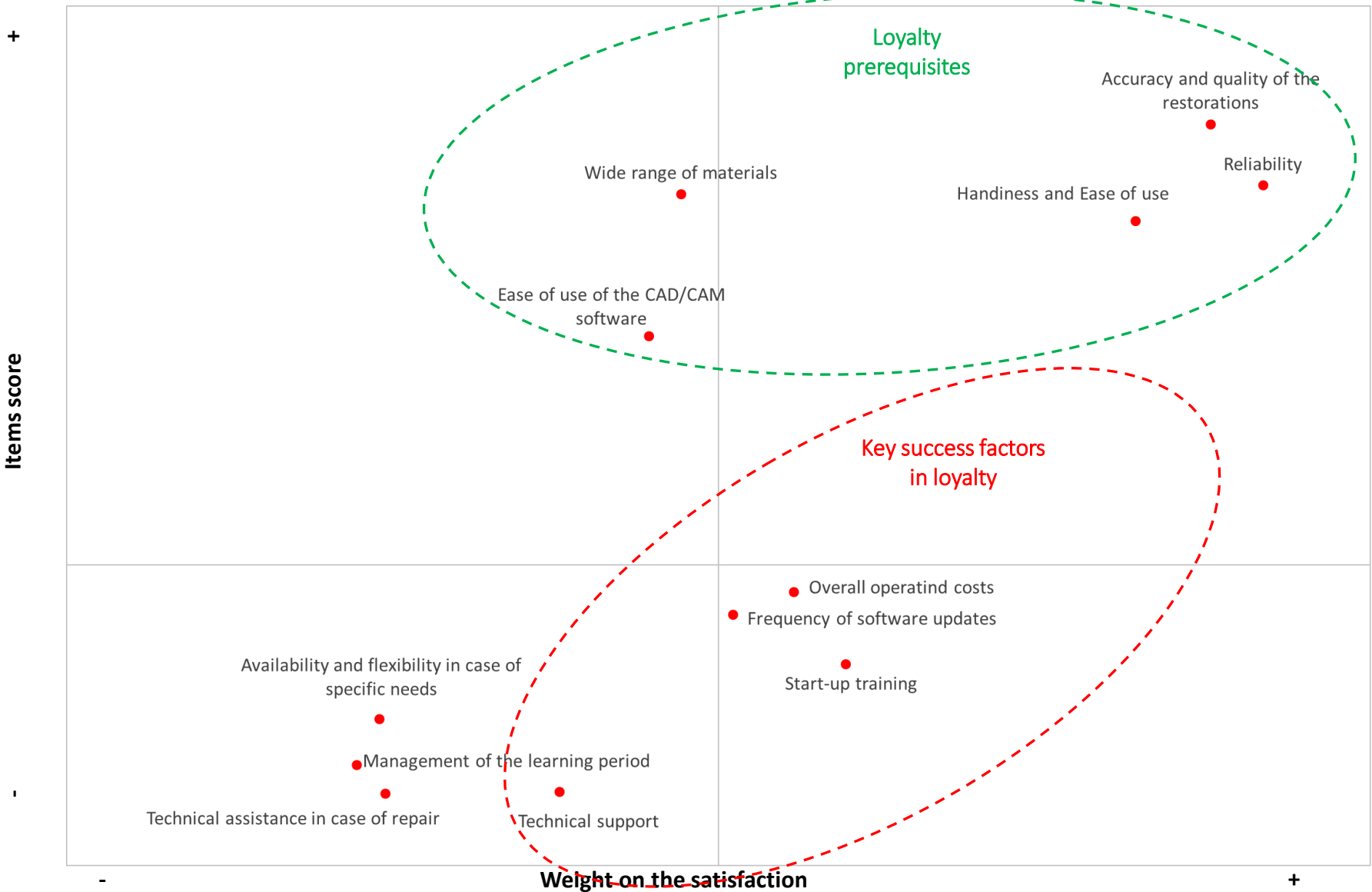
Satisfaction Analysis

WHOLE SAMPLE

The map is the visual synthesis of the charts seen in previous slides.

The **horizontal axis** is the **weight on the satisfaction** (that is, the correlation score) of each item; the **vertical axis** is the **average satisfaction scores** of the different items.

The satisfaction items are positioned so that: a) the items in the upper right side of the map are important in terms of both overall satisfaction and b) the respondents are more than average satisfied.

In the **lower right side** of the map there are the items that: a) are very important in the construction of the overall satisfaction and b) the respondents are less satisfied than average, **this is a critical zone** because it represent an improvement area, with a high impact on the satisfaction and a poor performance of the product/brand.
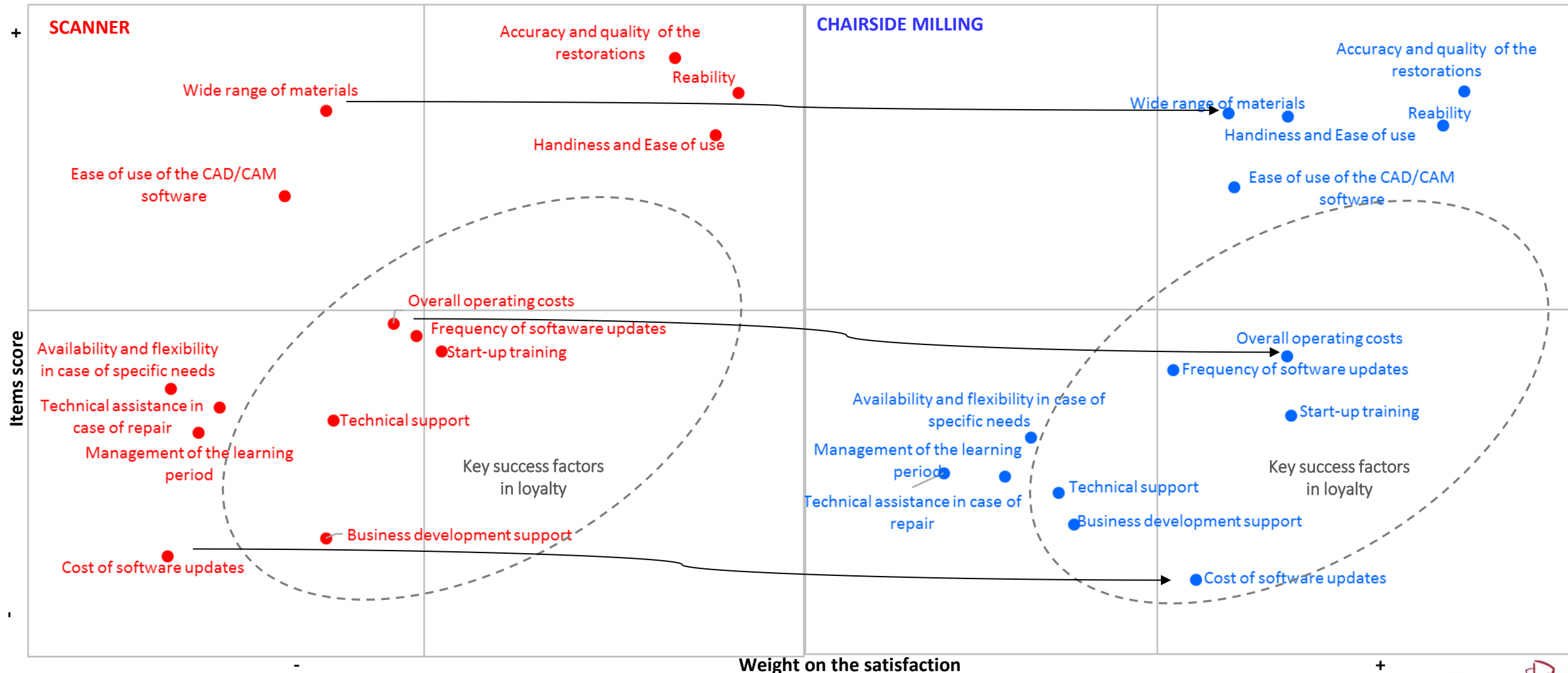
Satisfaction Analysis

SCANNER VS CHAIRSIDE MILLING

The two **satisfaction models Scanner vs Chairside milling**, **are very similar**, even though in overall **a higher weight of the items for the Chairside milling can be noted** (therefore higher expectations), in particular the greater relative importance of two areas: the **wide range of materials** (prerequisite for the Chairside milling) and the **Overall operating costs** (including software updates) which are instead critical points and represent an area of opportunity for the companies.

SCANNER

CHAIRSIDE MILLING

Accuracy and quality of the restorations

Reability

Wide range of materials

Handiness and Ease of use

Ease of use of the CAD/CAM software

Overall operating costs

Frequency of softaware updates

Start-up training

Availability and flexibility in case of specific needs

Technical assistance in case of repair

Technical support

Management of the learning period

Key success factors in loyalty

Business development support

Cost of software updates

Accuracy and quality of the restorations

Wide range of materials

Reability

Handiness and Ease of use

Ease of use of the CAD/CAM software

Overall operating costs

Frequency of software updates

Start-up training

Availability and flexibility in case of specific needs

Management of the learning period

Technical assistance in case of repair

Technical support

Key success factors in loyalty

Business development support

Cost of software updates

Items score

Weight on the satisfaction

KEY-STONE

Satisfaction Analysis

Factor analysis

The factor analysis is a multi-variate statistical analysis used to investigate and give explanation of the correlations among a given number of variables. Thanks to a given number of known variables (in this case **the reasons to buy**), the factor analysis finds out some latent factors being able to statistically summarize the explicit variables.

	Product quality	Customer support services	Running costs	Training
Reliability	0,833			
Better precision and quality of the prosthesis	0,756			
Wide range of materials	0,678			
Handiness and Ease of use	0,657			
Ease of use of the CAD/CAM software	0,573			
Technical support		0,817		
Availability and flexibility in case of specific needs		0,802		
Technical assistance in case of repair		0,777		
Business development support		0,697		
Cost of software updates			0,838	
Overall operating costs	0,509		0,613	
Frequency of software updates			0,578	
Management of the learning period by the manufacturer				0,723
Start-up training				0,716

The factor analysis allows to find out 4 latent factors:

1. **Product quality**: the factor is characterized by those items that relate on one side to the practical usage of Cad-Cam and, on the other, the aspects of the software and the ease of use of the interface. It partially includes the operating costs that are partially experienced as an integral part of quality.
2. **Customer support services** : includes all aspects of the relationship between the company and the user regarding the technical service and after sales.
3. **Running cost**: Refers to the aspects not related to the purchase cost but to the overall running costs for the use of the equipment and the software over time.
4. **Training**: the factor refers to the education and training of the dentist and the support in the use of the equipment after the purchase.
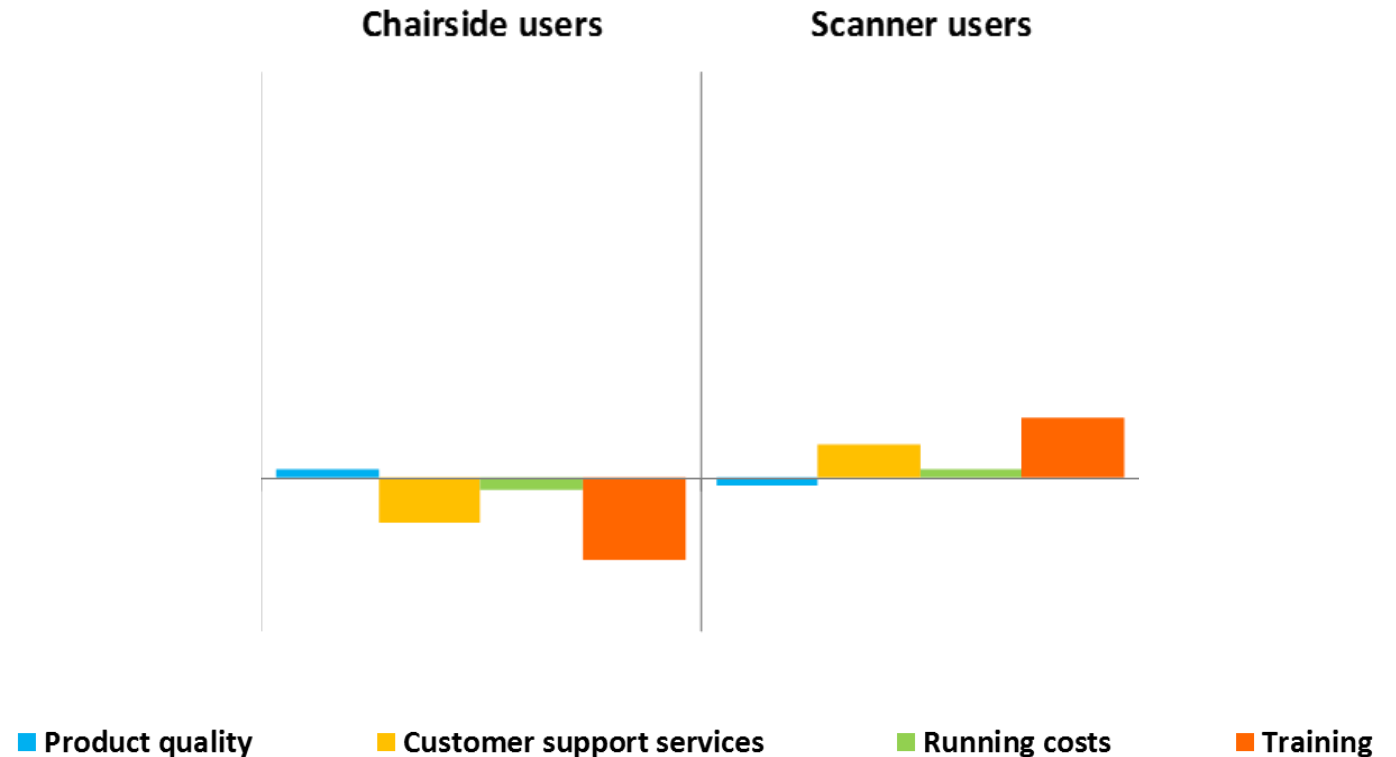
Satisfaction Analysis

Users stratification

All factors have mean 0 and standard deviation 1, the histograms shows the average scores of the factors for the shown information.

As anticipated in the correlation analysis, the satisfaction model for both technologies resulted to be reliable.
The analysis on the factors scores show an overall less **satisfactory situation** for the **chairside milling**.
Particularly critical are the **Training** and the **customer support services**.

Chairside users　　　**Scanner users**

■ **Product quality**　　■ **Customer support services**　　■ **Running costs**　　■ **Training**

It is a matter of **understanding**, thanks to specific deepening, **if the chairside milling critical points are to be attributed to weak spots in the manufacturer service, the distribution system or specific difficulties in the world of the chairside systems**.
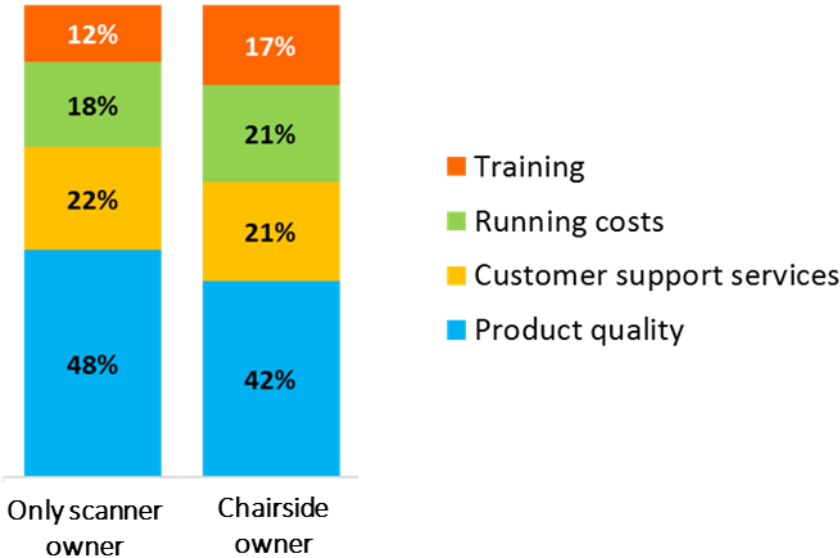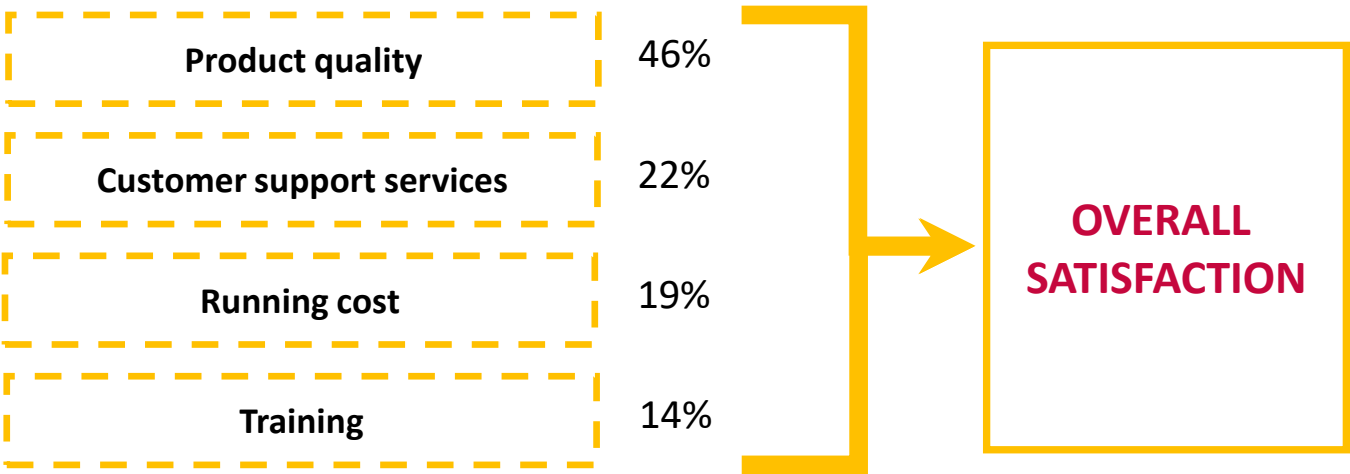
Satisfaction Analysis

Linear regression

The linear regression is a statistical technique whose aim is to find out if a causal relationship exists between one or more independent variables (in this case the factors derived from the factor analysis on the satisfaction) and one dependent variable (in this case the overall satisfaction). The linear regression requirement is that a linear relationship exists between the variables so that this relationship can be explained with a straight line.

The linear regression allows to understand the intensity of the relationship between the independent and the dependent variables and to what extent each factor affects the overall satisfaction. The linear regression model shows a value "R^2=0,777" (R-squared), this means that about 78% of the satisfaction is explained by this model.

Product quality	46%	
Customer support services	22%	**OVERALL SATISFACTION**
Running cost	19%	
Training	14%	

Legend:
- Training
- Running costs
- Customer support services
- Product quality

Only scanner owner: 12% Training, 18% Running costs, 22% Customer support services, 48% Product quality

Chairside owner: 17% Training, 21% Running costs, 21% Customer support services, 42% Product quality

The **Product quality** has the **highest weight** on the satisfaction, both in the overall model and for the scanner users.
With regards to the other **Chairside milling**, the **Running costs** and the **Training** show the highest weight.

71

KEY-STONE
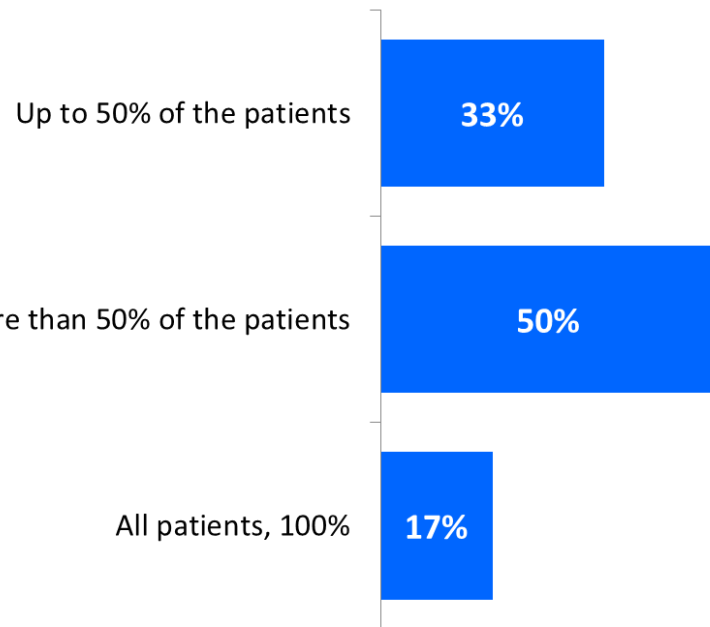
Chairside milling users focus

Quantitative aspects

Out of the total precision impressions done in your practice, what is the percentage of impressions done with the digital work flow?

Among the chairside milling users, about two thirds of all prosthetic cases are made with the digital work flow.

Percentage of practices vs percentage of cases from digital work flow prostheses

Up to 50% of the patients — **33%**

More than 50% of the patients — **50%**

All patients, 100% — **17%**

Taking into consideration the chairside milling owners only (oversampling on users), **only one third** of them carry out **less than half of the prosthetic cases with digital work flow**, while **17%** of them declare to **make prosthesis only with digital work flow** (not necessarily all of them carried out with the chairside milling). Basing on the quotes, the total **prosthetic cases carried out with digital work flow is 68%**.

68% **32%**

- Digital flow prostheses
- Traditional prostheses
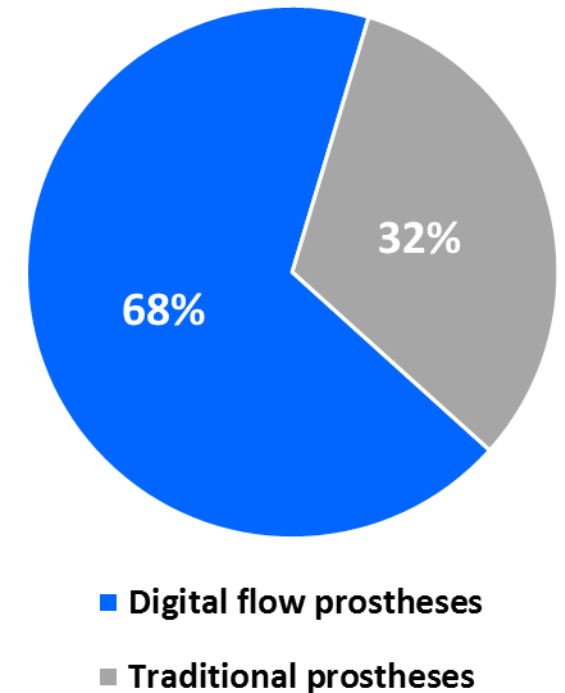
CHAIRSIDE MILLING OWNERS SAMPLE
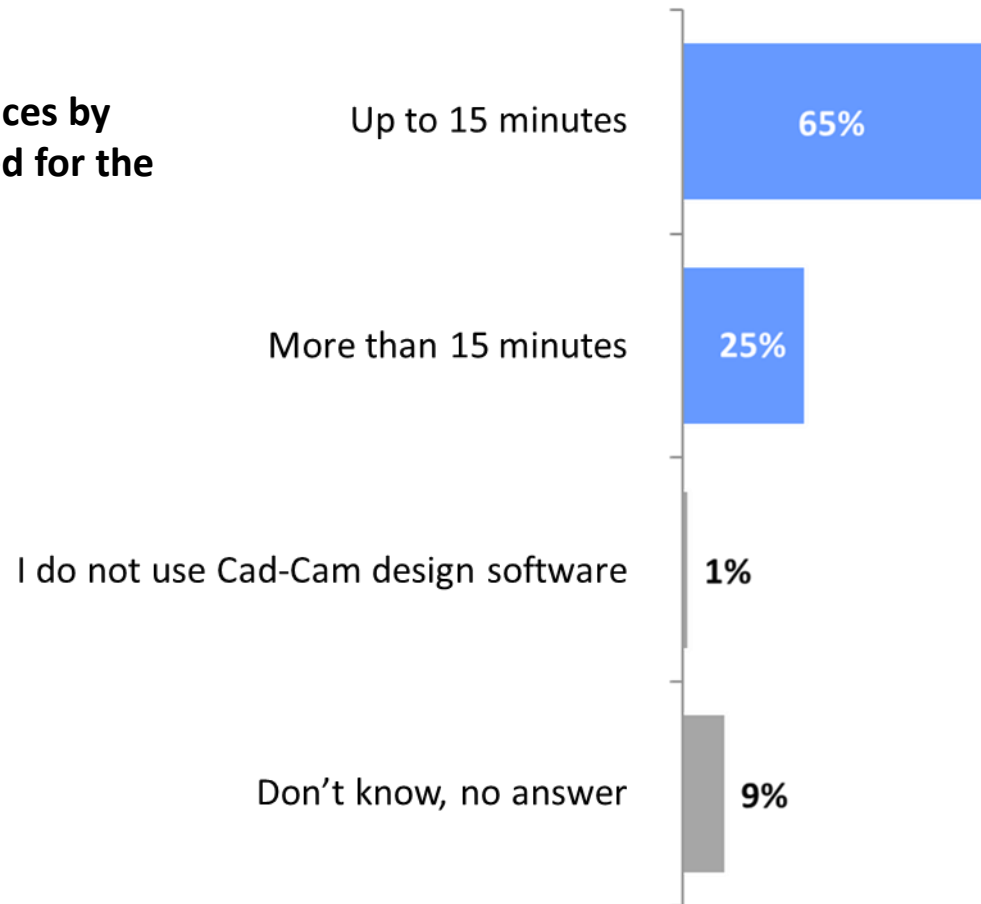
Base: 60 cases
Total sample

73

Focus on chairside milling users – Minutes required for digital design

How many minutes do you need in general for the digital design with the CAD/CAM software per patient?

16 minutes it is the average time for the digital design.

Percentage of practices by classes of time required for the digital design

Up to 15 minutes	65%
More than 15 minutes	25%
I do not use Cad-Cam design software	1%
Don't know, no answer	9%

Only one fourth of the chairside milling users sample **declares it takes more than 15 minutes** for the digital design with a Cad-Cam software.
The **overall mean** is **16 minutes**, with a **good homogeneity** throughout the cases.

CHAIRSIDE MILLING OWNERS SAMPLE
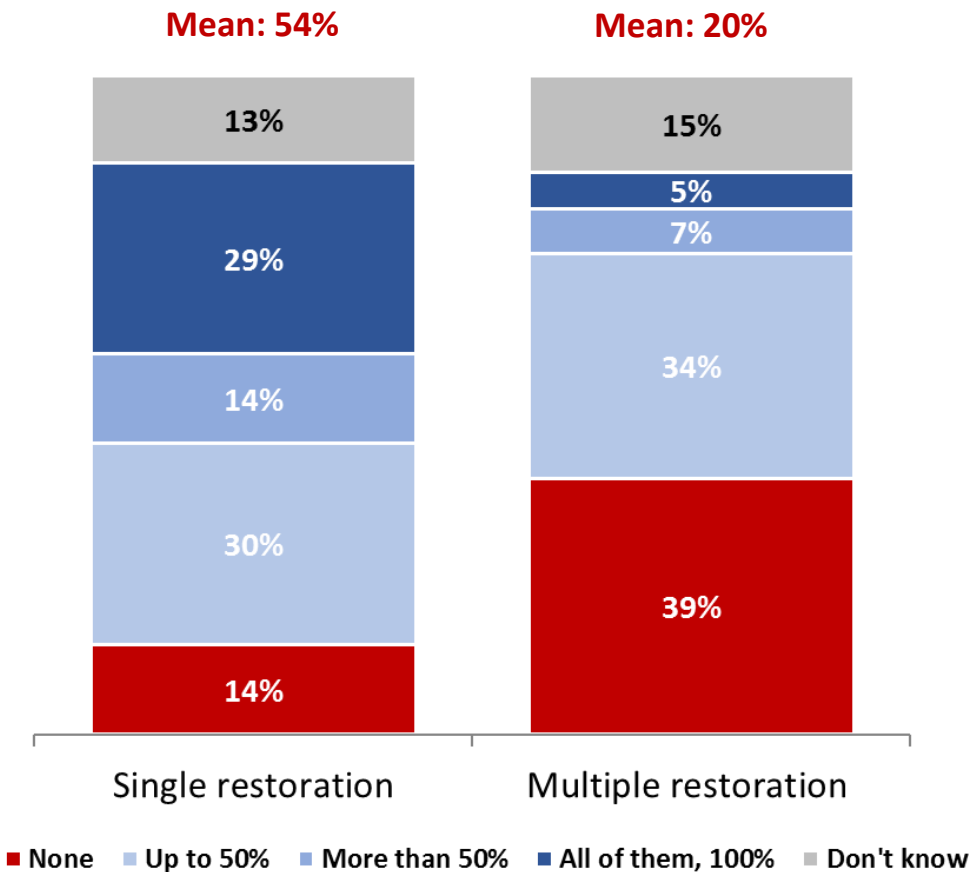
Base: 77 cases
Total sample

KEY-STONE

How many indirect restorations are done in your practice, in an average week? In percent, how many of your single restorations are performed in one appointment? In percent, how many of your multiple restorations are performed in one appointment?

Percentage of practices by classes of production in one single visit

Among chairside milling users, about two thirds of indirect restorations are done in one single appointment.

In the chairside milling users sample **only 14% of them don't carry out indirect restorations in one single appointment**. This percentage goes up to 40% for the multiple restorations. **29%** of them declares to carry out **100% of the single restorations in one single appointment**. The percentages steeply decrease for multiple restorations.

In overall, about **54%** of the **single restorations** have been carried out in **one appointment**, while the percentage goes down to **20%** for the **multiple restorations**.

Mean: 54%   **Mean: 20%**

Single restoration:
- 13%
- 29%
- 14%
- 30%
- 14%

Multiple restoration:
- 15%
- 5%
- 7%
- 34%
- 39%

Single restoration   Multiple restoration

■ None ■ Up to 50% ■ More than 50% ■ All of them, 100% ■ Don't know

CHAIRSIDE MILLING OWNERS SAMPLE

Base: 77 cases
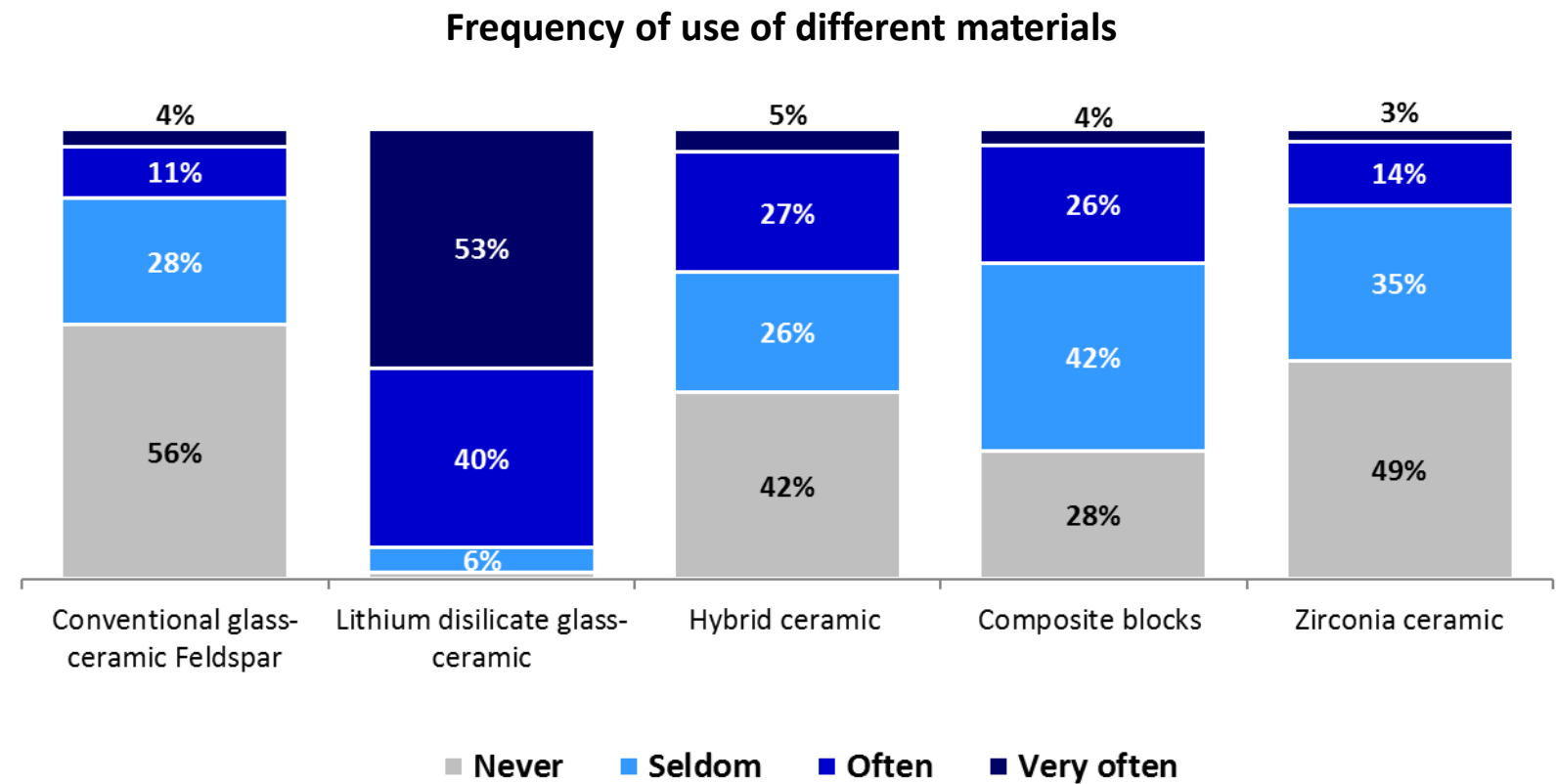
Total sample

75

KEY-STONE

Focus on chairside milling users– Used materials

How often do you use the following consumable Cad- Cam materials in your practice?

Almost all respondents declare to use the lithium disilicate glass-ceramics.

Only 1% declares not to use this material.

Frequency of use of different materials

	Conventional glass-ceramic Feldspar	Lithium disilicate glass-ceramic	Hybrid ceramic	Composite blocks	Zirconia ceramic
Very often	4%	53%	5%	4%	3%
Often	11%		27%	26%	14%
Seldom	28%	6%	26%	42%	35%
Never	56%	40%	42%	28%	49%

■ Never ■ Seldom ■ Often ■ Very often

CHAIRSIDE MILLING OWNERS SAMPLE

Base: 77 cases

Total sample

76

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