

Personalised Nutrition

A category exploration of Personal Nutrition services



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Introduction



Introduction

Personalised Nutrition (PN) allows individuals to use personal information as a basis for nutrition.

Consumers provide personal information and, on this basis, receive a product or service that aims to improve their nutrition and health in a tailor-made way.

PN is a young and growing field. However, for it to become successful, consumers need to become invested: spend time, effort, money and provide personal information. There needs to be trust that the information is handled securely and ethically, but also that the result is worth the amount of effort required.

PN could be a great candidate in engaging consumers to follow healthier diets, in a way that general, one-size-fits-all advice fails to do. In order to make PN a success, we need to explore how food system actors can turn consumer perceptions into consumer preference.

The goal of this study is to explore and obtain insights on how consumers perceive Personalised Nutrition, to enable actors in the food chain to develop effective go-to-market strategies and tailored consumer-centric product propositions and campaigns.

Personalised Nutrition defined

In 2021 [Foodvalley](#), in collaboration with 53 stakeholders have proposed a business definition of the field in their [Personalised Nutrition position paper](#):

“Personalised nutrition could be a service or a product. It uses individual-specific information, is founded in evidence-based science and has the goal to give consumers control and promote a positive, sustainable dietary behavioural change. This may then result in measurable benefits for personal goals like health improvement and health maintenance, or disease specific benefits.”

There are many variations of personalised nutrition.

The input can be based on lifestyle/behavioural (e.g., exercise, weight), phenotypical (e.g., blood sample), or microbiome information (e.g., stool sample). It can be static (e.g., having an allergy), change over time (e.g., fat percentage) or measured continuously (e.g., glucose level). The quality of the data, the sensitivity of the information and intrusiveness of the data collection can vary. The output can be a tailor-made service (personalised advice, recipe and meal plan) or product (personalised supplements, meal kits).



Key takeaways



Key takeaways I

Consumers are generally aware of Personalised Nutrition

- Most consumers are aware of what Personalised Nutrition is and what it does. Consumers have different expectations depending on the level of personalisation of different tools, but they believe in the capabilities of PN to help their long-term health.
- Currently few consumers are making use of PN. Those that are very health-conscious, active with exercise, or are unhappy with certain (appearance-related) health conditions are most likely to already be using Personalised Nutrition tools.

Two categories of Personalised Nutrition tools were determined. These are tools that:

- Help consumers collect/analyse their own lab results, leading to in-depth knowledge of their health
- Help consumers determine what lifestyle changes they need to make to achieve specific health goals.

Important for both categories of Personalised Nutrition tools:

- Data privacy: most consumers are concerned with how much data is collected, who will have access to it and how this is all kept secure. This is the most important consumer complaint that can be addressed.
- Validity of effectiveness needs to be supported by independent scientific evidence. Consumers want to be assured that this is not a marketing gimmick, but a real health service.
- Need for human connection: many are concerned with the lack of contact with 'real' healthcare professionals if they were to use a tool instead of going to the doctor/dietician/nutritionist in person. Connection with their care providers give them a sense of trust and security. Many consumers also still have higher trust in the expertise of humans than software.
- Flexibility: While consumers want to receive advice, they do not want it to be inflexible. There needs to be flexibility in the advice they receive, so that they have freedom to make a choice that feels right at that moment.
- Links to improving mental health are desired: health needs to be viewed holistically.
- Cost concerns: consumers assume that any PN tool would be expensive, causing them to steer clear of such tools before finding out the cost.

Key takeaways II

For tools that help consumers collect/analyse their own lab results:

- Consumers are keen to get to know themselves and their health in detail. Out of curiosity, they want to know their health status and health indicator levels (e.g. glucose, vitamins) and where they can improve, so these kinds of tools are very appealing to consumers.
- However, consumers are worried that the test may be too complex to complete by themselves, without the guidance of an expert. Furthermore, as consumers may doubt their own abilities to accurately conduct 'lab tests' at home, giving confidence that it is not complicated will help assuage concerns. Because PN is communicated as being very precise, consumers can feel that there is no space for making any mistakes in their measurements.

For tools that help consumers determine what lifestyle changes they need:

- Consumers are generally interested, but especially those that want to 'perfect' their lifestyles or have aspects about themselves that they do not like (e.g., appearance) find tools in this category intriguing. Consumers also find it important that health ailments are taken into account when advice is given.
- Consumers recognise that there will be a difference between using wearables or having to manually fill in their own data – this is for the accuracy of the received advice, but also for convenience. It is more convenient to wear a wearable than to have to recall, for example, how many hours someone slept.
- A large group is concerned that commercial interests will be prioritised above health interests. This is one of the main pains that need to be addressed, and tools should be careful with the partnerships they have in promoting lifestyle products.

Communication recommendations: Benefits to emphasise I

The added benefit of Personalised Nutrition is that it's all about me and I will learn about myself

Consumers want to get to know themselves well, and personalised measurements and advice gives them this experience. Not unlike tests such as 'Ancestry', PN based on lab outcomes gives them new information and helps them understand themselves better.

Everyone's different, so advice will vary significantly

Consumers don't want to hear generic advice, so they also want to know that the advice they receive differs from what others receive. Emphasise the extent to which a person's specific characteristics are taken into account, and how that information is directly used to tailored advice for them. It needs to be different enough from that of others' and this needs to be made known. Avoid communicating that algorithms are used to find similarities with other consumers and use that to give advice (at least in the first moments of contact). This takes away the feeling of individuality and being special.

Communication recommendations: Benefits to emphasise II

Science-based, not only marketing

Consumers need to believe that nutritional science has their back and that this is not a gimmick that will be discredited. While these products can be commercial, consumers need to believe that they have a solid scientific basis and are not just the next heavily-marketed health trend.

Mental health improves with physical health

Awareness of the importance of mental health is increasing. As mental health improves with a better diet, this needs to be communicated as well, if only as a secondary benefit.

Communication recommendations: Concerns to take away I

What happens to my data?

Consumer trust needs to be won here. Handling of data, guarantee that there will not be any data breaches as well as what clear information on what exactly will happen to protect their data needs to be communicated.

Will my measurements be accurate?

Consider including video footage as well as precise instructions on how to take the tests so consumers can feel secure in their measurements.

What will I pay?

Make price transparent from the beginning to take away concerns of overall price being too high.

Who will be there for me?

Besides the possibility of making mistakes, consumers also feel like with personalised testing at home they will miss out on a human connection that would be present if they went to a medical professional, or nutritionist – regardless of whether they are discussing positive or negative news. Build and stimulate personal connection with professionals that provide the insights to consumers. This personal attention by a human may play an important role in truly personalising nutrition.

Do I need to wait long?

Communicate the time between signing-up, testing and receiving results and advice

Other recommendations

Other recommendations for Personalised Nutrition companies:

- Companies which are developing tools to help consumers collect their own lab results at home would likely benefit from providing an additional function for consumers to 'chat' or connect with the professionals that process their data. It is good for consumers to have a contact point for questions and reassurances.
- Consumers want advice, but it should be framed in a way that they don't feel forced or too limited in their food choices or lifestyle.
- Next to nutrition advice, consumers would like to get advice on how improving their physical health will benefit their mental wellbeing.
- Developers of PN tools need to make their costs clear and easy to find.

Recommendations for authorities:

- Data privacy needs to be very tightly and clearly regulated and consumers need to be reassured that this is happening.
- Scientific basis of PN can be endorsed by authorities to increase consumer trust. For example, by health ministries, or national nutrition centres.
- PN is viewed by some as a solution on the individual level, but that does not take away the need for public health. Consumers view a potential collaboration here, so that PN is accessible.

Key takeaways: Personalised nutrition or physical activity plan offered through work

- This was the least preferred payment option by participants, following the program being financed by an external private company.
- For many, the idea of participating in a health plan in their workplace feels like another thing on their to-do list. It is negatively charged, as it is seen as an extra work responsibility.
- Many individuals see this as an attempt by their employer to invade their private lives.
- Individuals who are athletic and enjoy exercise find this a positive and encouraging idea. On the other hand, individuals who do not exercise regularly, feel threatened by the possibility of being socially forced into participating, as to not be labelled 'spoilsports' or being difficult. Some even express fears of bullying.

Recommendations

- Employers need to think very well about the framing of setting up a personalised wellness program for their employees.
- They need to consider how to assure their employees that a lack of participation will not be "socially punished" (e.g. ridicule, sarcasm, criticism, disapproval, and exclusion). For employees to feel empowered and not pressured into participating a positive and flexible work culture around such a program needs to be developed.

Key takeaways: Personalised nutrition or physical activity plan offered through health insurer

- Health insurers paying for a personalised nutrition plan is perceived to be less threatening than a plan offered by an employer, likely because this entity is already associated with health.
- The fact that insurances benefit from having healthy individuals is perceived as a win-win scenario, where providing a health service can decrease their costs as well as increase participants' health.
- Another benefit for healthy individuals is that they feel like they finally get more value for the money they pay the insurance (since they rarely get something covered).
- Those who have doubts, are very mistrusting and concerned about the chance that the health insurer will make decisions about them based on their private health data (e.g. not offer coverage).

Recommendations for health insurance companies:

- Emphasise how such a program would be a win-win. Individuals do not want to be taken advantage of, but when both parties win it is perceived as a fair deal.
- Find a way to guarantee that premiums will not go up for individuals who refuse to participate or who have negative scores.

Awareness and knowledge around Personalised Nutrition



Consumers generally know about Personalised Nutrition

Participants were asked to share a definition of PN without looking up information online. The large majority gave a good definition, although it is also clear that PN is perceived as a broad and somewhat vague concept.

Participants mostly gave similar answers to each other, agreeing that PN is about diets, nutrition and health that is adapted to fit a particular person's needs.

"Personalised nutrition is the concept that one size doesn't fit all. It is created for one person." **Petra, 45, Czechia**

- Some were able to give more details and information than others. For example, a couple of participants mentioned how each person's metabolism is different, which is why nutrition should be personalised. A couple others believe that PN is particularly for those living with allergies or diseases.
- Only a small minority have no idea what PN is or what it's for.

"Nutrition based on your genes ?? I really have no idea. I wonder if this is real science or just a marketing gimmick" **Joe, 22, Netherlands**

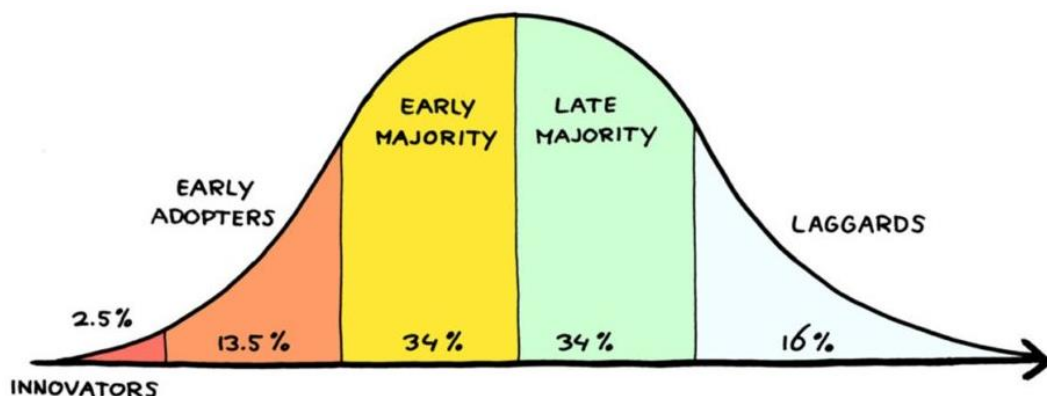
"I think that a personalised diet is a diet studied for each person, like some low in fat, others low in sugar, others low in calories, etc..." **Sophie, 39, France**

Personalised Nutrition is in the 'early adopters' phase

A large group of participants has heard of PN before, but not many have experience with using PN tools or receiving PN advice.

Quite a few participants that have health problems (like diabetes, cancer) have experience going to the doctor for nutrition and exercise advice. They consider this Personalised Nutrition too, and see health professionals as a Personalised Nutrition service. While not necessarily linked to an innovation, it illustrates that consumers with health problems are looking to improve their health with support and advice from experts. This group recognise they cannot achieve their health goals on their own.

Others have experience with wearables (Apple watch, Fitbit, etc.) and some have dieting apps (e.g., weight watchers). The majority do not yet use PN tools.



Rogers (2003). *Diffusion of Innovations, 5th Edition* Simon and Schuster. ISBN 978-0-7432-5823-4.
Image credit: fractal.com.au

Personalisation can happen at different levels

Almost all participants are aware that they need to provide (or think about) personal data to get personalised nutrition advice. When participants were asked for a definition of PN, most only thought of basic health data such as height and weight, but others thought about very intricate data that is hard to acquire yourself, like genetic data.

- A large group of participants found PN to be particularly relevant for weight loss. This is also the group that associate PN with more basic health data.
- A couple of participants did not associate the term PN with sharing data, but expressed how it is like a diet planner that can be self-managed. So even without sharing data, and by being more aware of one's own situation, nutrition can already be personalised.

So, PN is perceived as an umbrella term for a variety of levels of personalisation, ranging from a basic level to an extreme level of personalisation.

"I think of diet personally tailored for the individual in relation to a health principle or weight loss." Tommy, 45, Denmark

PN is linked to health professionals

Many participants expect PN advice to come from health professionals, specifically naming doctors, dieticians and nutritionists. Only few mentioned advice coming from apps or websites.

*"I think about nutritionists and how they can help us. In a positive way I think of willpower, consistency and resilience."
Rodrigo, 22, Portugal*

This seems to be linked to participants having a **positive first impression** of what PN is, associating PN with professional and trustworthy advice.

"For me, personalised nutrition is a diet created by a dietician or nutritionist. The positive thing is that you are followed and therefore you know which foods to eat and which not to eat. You know the quantities. The downside is that you would always feel like you're on a diet." Lorena, 49, Italy

Consumers have indicated that generalised health advice, for example nutritional or for weight-loss, has often been ineffective. The fact that this advice is personalised receives a positive impression.



The right audience for Personalised Nutrition

Not beginners, but optimisers

Consumers view these programs as being more relevant to people who are already interested in health and have tried other advice. This level of tools is not perceived as a beginner's program because of how specific it is and because of the cost. This can be people who are very healthy and interested in optimizing, but also those who have tried different diets that have not worked.

"I see myself in this statement because I started to care about nutrition when I started lifting and I want to learn more and more things so I can give better and better things to my body"
Filip, 23, Czechia

For those with money to spare

As these lab tests are perceived as expensive (especially compared to following generic food and health advice), these programs are seen as meant for those who have enough money to spare. Adjacent to this, it is not for those who are concerned with poverty and fairness of the food and health system. These consumers may be put off by personalised nutrition and perceive it as a tool for those who already have access to healthy food and information.

"Also, I think it is a person that has the financial means to be able to support it." Daniel, 34, Czechia

For the tech-savvy

Being reasonably comfortable with apps, technology, and similar tools was also associated with these programs. Consumers who are familiar with using technology are seen as the kinds of people who would be interested in such a tool over going to a nutritionist in person.

"I think more for young people who are more into the digital world." Pieter, 42, Netherlands

For the introverted

A few participants also mentioned that personalised nutrition via an app can be interesting for someone who does not want to go through a person for their PN support. Whether this is out of anxiety of being judged, or introversion, there are people who will be happy to not have to directly interact with a human but still want to be able to get personalised advice.

Mapping of the Personalised Nutrition market



The PN market is segmented into three main categories

Participants were shown 12 examples of PN tools with an image of the tool and an explanation of what these tools do (these tools either already exist or are currently being developed).

They were then asked to complete a categorisation exercise, where they grouped the tools that they perceived to be similar together and named the created group according to what these tools had in common with each other.

Three categories of PN tools were derived from this exercise:

- 1) PN tools that help consumers get their own lab results,
- 2) PN tools that help consumers determine how their lifestyles should change,
- 3) PN tools that are specific for certain health conditions.

The first two categories were distinctive enough from one another and studied further. The third category is not relevant to the generally healthy population, so it was not discussed further in this study.

Participants seem to find it difficult to distinguish between the tools, so the communication (i.e., concept descriptions) of existing PN tools should be better clarified, including what makes each one unique.



Categorisation exercise

Participants came up with the categories by:

- Looking at the level of advice they'd receive from the tool. Participants grouped the more medical looking tools together, where a higher level of scientific explanations were included about blood values (e.g., fat levels, sugar levels).
- Participants also looked at how the tool functions; the tools with an app were grouped together (these were mostly lifestyle apps), and the apps with measuring devices (like a small blood test machine) were grouped together too.
- As a result, we can assume that the communication (level of scientific information) and the interface of the tool that is shown to consumers is likely the determinant of how consumers categorise groups together and define their (dis)similarities.



Category 1: Personalised Nutrition tools to help you “get your own lab results”



Description of category “Get your lab results”

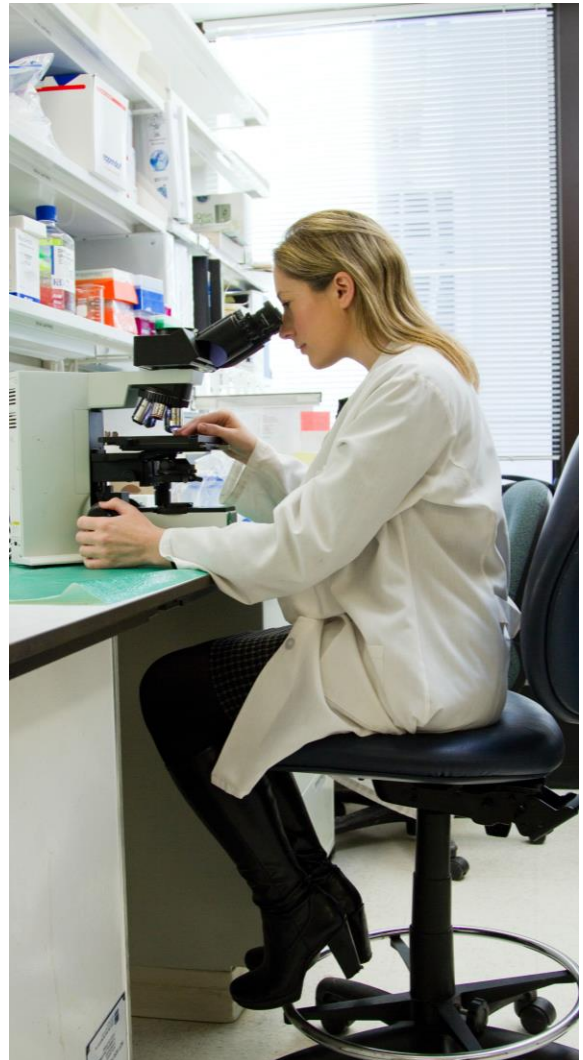
PN tools that belong to this category, according to consumers, ask users to record or collect personal health indicators, such as urine, blood or breath.

Some health indicators can be analysed at home, using a testing kit together with the provided guidelines, after which the results will be checked by certified lab experts.

Other health indicators need to be sent to the laboratory. Whether the health indicator(s) is analysed at home, sent to the laboratory or a combination of both, a certified expert is responsible for checking all the information.

This way they can test things like sugar levels, fat levels, or nutrient deficiencies, and more.

They can then give you tailored advice based on your personal results so that you can eat the diet that best matches your body.



Consumers want to get to know themselves in detail and like the idea of tailored advice

Almost all the participants like the idea of understanding their own bodies better. Everyone wants to be healthier and believe that they do not yet know enough about themselves to do this well. They really like the idea of getting a personalised profile with their information and tailored advice on how to improve.

The majority have a general desire to be healthier, but many have specific requests, like building extra muscle because of heavy exercise, or wanting to eat better for specific health conditions like diabetes.

- Some participants mentioned wanting to know compositional levels in the blood (e.g., glucose, vitamins, fat, salt etc.)
- Others more generally thought of how their general data (like height and weight) should be monitored.

*"Yes, I recognise myself in this statement because this is what I am currently working on, a better understanding of how my body works and its needs in order to be healthier."
Cristina, 37, Spain*

The few people who do not agree with the statement have expressed feeling like they are already healthy enough, or like prioritising the freedom to eat what they want in an intuitive manner. Still, tools that provide information that help consumers understand their own bodies and health better are welcome. For many consumers reading analytical information about themselves is very interesting.

But the additional benefits beyond going to a health professional are not clear

Consumers find the idea of PN tools to help them collect their own samples and results very appealing and intriguing. However, most of the participants have expressed that when they want such information, they go to their healthcare providers.

- Participants are familiar with the process of going to a medical professional and having a blood test done or going to a nutritionist for a consultation. They trust that their data will be handled securely, and that the doctor has expertise in measuring the values accurately and giving them the right advice.

"First of all, I didn't know about this method, I thought that going to a nutritionist was enough to understand my state of dietary health." Rodrigo, 22, Portugal

- At this moment, it is not clear yet what the benefits are of choosing this instead of going to a healthcare provider. What does this service provide that is 'extra'?

"It is not clear how this is scientifically justified and if it really relates to me. If my doctor tells me my blood survey is okay, how could this program do something better or extra?" Jose, 53, Netherlands

"I don't like that there is no real evidence that it will work and there is no way to know if it is worthwhile." Lisa, 50, Ireland



Clarity is needed about how these tests work

Consumers will need to better understand how this process works.

- Participants have many questions about how many tests they need to do to know sufficiently about how healthy they are, how frequently they need to do these tests, and what equipment they are going to need.
- They also need to know how these numbers are calculated, as consumers are afraid that they are not scientifically/medically determined, but that the frequency is promoted as a way to increase sales.
- Many are afraid of doing the tests wrong and incorrectly using the equipment, so clear instructions will need to be provided already before consumers purchase (or subscribe to) the tool. Anxiety about using this wrong may prevent consumers from using the tool at all.
- Some notifications to nudge consumers are necessary, as oftentimes they will forget to do the tests. However, it is important that notifications are not sent out too frequently, as annoyance with notifications may lead to consumers quitting the tool(s).



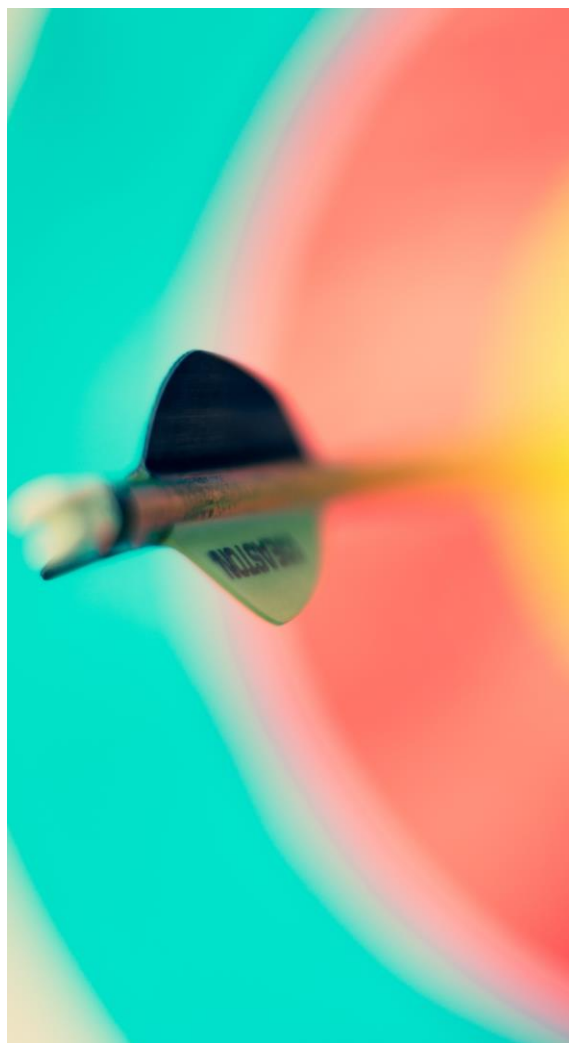
The accuracy of at-home-tests and transport security are questioned

While participants recognise that it can be convenient to collect information about yourself at home, participants do wonder about how accurate and realistically the results represent reality.

- Participants do not trust that they can measure or collect data themselves correctly. They also worry that they may use any equipment incorrectly.
- Some also believe that consumers are too biased and may try to provide information more positively framed than that it really is.

"It is a bit complicated. In my opinion, any test or analysis done at home alone is not valid. Everything related to classifications and certifications should only be done by experts in areas specially set up for this purpose. Often alone we do not provide all the concrete information... or maybe we don't want to provide it..." Valy, 38, Romania

For some measurements (like glucose), real-time feedback would be possible, which consumers appreciate. On the one hand, this is not possible with many tests (e.g., sending in urine or blood samples). Then, consumers would worry about shipping the samples, how that could damage the samples, and therefore the results.



"How accurate are the home test kits?"
Victor, 29, Spain

They are apprehensive of missing out on human connection and expertise

The relationships that are established between a health care provider and the patient are very important to consumers.

- These relationships make consumers feel safe and cared for. Especially if they receive negative results, they want to be reassured by a person.
- When consumers collect their own lab results at home, participants fear that they will miss out on this relationship, making them feel more isolated, and possibly less secure.
- They do not like that they are disconnected from the person that processes their data, as it creates a sense of mistrust.
- Many mentioned AI and algorithms to provide health feedback – this is both positive as participants seem intrigued by AI, but at the same time makes the advice feel less personal.
- It is not only the lack of human connection, but also the trust in people over algorithms that leads consumers to want a 'real dietician' to be part of the process

"What I would like to know is if this service is just artificial intelligence or will a real dietician be actually controlling it all." Kristian, 48, France



How their data will be handled is of concern

Most of the participants are preoccupied with the safety and security of their data. They do not want their personal information to be misused for marketing purposes, but beyond that it did not become clear what exactly worries them.

- Consumers need to know who handles their data and what their role is in handling said data.
- Consumers want to know how many people will have access to this data,
- How long the data will be kept for
- How the data is kept secure,
- What happens in the event that there is a data leak.

Lack of trust in the security of their data is one of the most dominant reasons why consumers are less likely to use PN tools in this category.

"I also don't like that it does not mention how your data will be handled and stored and who exactly will be having access to this. It would be nice to know if this is done in someone's back garden or if some local hospital is helping with this. Needless to say, the hospital would also give some extra trustworthiness to this." Bart, 39, Ireland



Consumers are looking for holistic health: including mental health

Participants are very aware that their physical health can impact their mental health.

A large group brought up the importance of looking at health holistically. Many brought up how nutrition, exercise and mental wellbeing are related. Consumers would like to receive advice on how they should eat or supplement in a way that would benefit their mental and physical wellness, while being able to track the changes in an understandable way.

"It is also true that a certain type of diet and our state of health also influences our psyche and our mental balance." Chiara, 44, Italy

"I believe in the threefold unity of body-soul-spirit, and that mental health is just as important as physical health, so this idea is very appealing to me." Gyorgyi, 52, Hungary

"I like the idea and people that are eating quality food are mostly happier because nutrition is not only about physical health but also about mental health." Filip, 23, Czechia



All advice needs to allow for flexibility in their diet

Consumers appreciate personalised health advice, but they do not want to make changes that will turn their lives upside down.

- The advice needs to be flexibly communicated. Consumers do not like to be 'forced' to do anything, and they do not want to be made to feel bad about how they are currently eating/supplementing.

"I don't like that the results could mean a diet too strict to be maintainable for everyday living." Lisa, 50, Ireland

- Advice needs to fit with how consumers are already living. Many feel like having optimised nutrition also means living a more boring life, which is undesirable.

"Yes, a diet too strict and maybe too boring or bad flavours. We DO have to enjoy life, our mental state can lift us even when unwell, we need balance, and this feels as though that is being taken away." Toni, 62, United Kingdom



Clarity about when results are delivered is very important

Tools in this PN category need to make it explicit how immediate the advice will be from the moment the measurements are made and sent for delivery.

- With some tests, it is likely possible to get results after the measurements right away, while other samples might need to be sent somewhere to be analysed.
- It is also important to express how much time it will take participants to make the measurements in the first place.

"Unclear time management: how often those tests have to be taken? How long does it take for lab experts to release results and advice?" Cristina, 37, Spain

- Consumers want to know exactly how long it takes for the results to be in, as they recognise that a lot of measurements are time-sensitive.

"So, it is only about that moment. Maby it is next week completely different, and you will not see any trends who are coming back or not." Pieter, 42, Netherlands



Consumers expect the cost of the tools in this category to be very high

When asked what their main concerns were with PN tools in this category, one of the main concerns were the price of these tools.

Without knowing any prices of any tools in this category, participants already felt that such PN tools can be unaffordable and therefore out of reach.

"Personalised nutrition: Get your lab results - it will be very expensive." Petra, 45, Czechia

While there was no association made with being a luxury product or something for the elite, there is an expectation that the price tag will put them off from trying these products.

Price transparency will be important when these tools are advertised.

"I don't like that I expect it will be very expensive." Lisa, 50, Ireland



Personalised Nutrition tools in this category should lead to improved public health

Participants want to see public health improved through PN tools in this category, in the hopes that less money will need to be spent on patients with diseases (that could be) linked to bad nutrition.

Many participants recognised that tools in this category will be very beneficial for the health of the public, but for that PN tools cannot only be offered on a commercial level. A few participants expressed the importance of health care equality and worry that if PN tools are costly, health inequality will only grow.

"I do not like if this is done in a commercial setting. I believe in free health care and equality in health." Henriette, 52, Denmark



Category 2: Personalised Nutrition tools to help you “determine your lifestyle change”



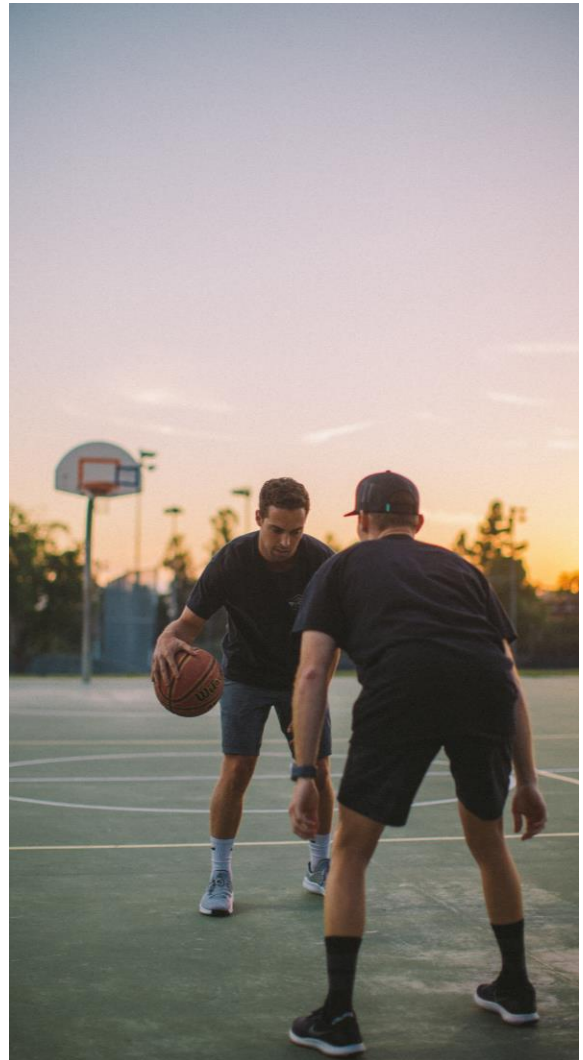
Description of category

“Determine your lifestyle change”

PN tools that belong to this category, according to consumers, will ask users about their lifestyle and diet they follow right now and what health goals they want to achieve.

The tools will ask information about topics like your sleep routine, how often you buy groceries, what foods you usually buy, what foods you usually cook, etc.

Based on your given information and your personal goals, the service will give you tailored advice on what changes to make to achieve personal health goals.



Common themes with 'get your lab results'

Similarly to the first category of PN, in 'determine your lifestyle change' consumers mention the themes of human connection, needing flexibility, data privacy, cost.

Human connection

When it comes to their health, consumers are not ready to give up all human connection. While technology is appreciated, the humanity and expertise of another person is considered indispensable.

"I sincerely hope that there is this possibility of getting in touch with professionals and that behind this application there is not just an artificial intelligence algorithm"
Marco, 52, Portugal

Flexibility

Consumers are looking for advice, but do not want to feel too restricted.

"The most important thing for me is to enjoy life, and based on my own experience, it cannot be achieved by slavishly following strict restrictions or goals." Markus, 41, Finland

Evidence that it works

Consumers need to see convincing evidence, put forward by independent scientists (not endorsed commercially) that this method works better than general advice.

"I would, however, like to understand more about the science. Has there been research to show that this is beneficial? Is the tailored advice given reasonably maintainable for the average person?" Sam, 22, Ireland

Privacy

Even though data from this category are not as sensitive, consumers are concerned that they may be used against them. This could be either through an insurer who declines to cover their expenses, or simply marketing that targets them based on private information.

Cost

Consumers are cost-conscious at the moment and worried that such a service would be out of their budget. They see these programs as complicated, therefore development costs also need to be covered.

Consumers want advice for specific health goals

When presented with the idea of PN tools for lifestyle advice, many participants responded with things they do not like about their health and what they'd like to fix.

- It seems like everybody understands the general guidelines for a healthy diet (fruits, vegetables, low fat, more protein, unprocessed foods, etc.).
- The majority is happy with their current lifestyles, believing that their lifestyles are well-balanced and healthy.
- The ones that are especially interested in changing their lifestyles have specific problems that they want to tackle:
 - Weight loss
 - Sugar reduction
 - Increased protein consumption for muscle building
 - Feeling bloated
 - Increased fruit and vegetable consumption

"And cause me to bloat and feel unwell so I would like to understand what works best for me." Sam, 22, Ireland

So, this tool is mostly relevant for those with a negative perception of their own health or diet. This is different from the first category, where consumers feel like the more information, the better.



"I don't feel the need to adopt a completely different lifestyle"
Bernard, 53, Belgium

Advice needs to account for health ailments

For advice to be truly personalised, it is not enough for consumers to get advice on how to eat healthier based on some general statistics like their weight and gender; the advice needs to keep health issues in mind.

- A few mentioned using medication, and they'd like to know what foods should or should not be combined with the medication.
- Other participants have medical conditions like multiple sclerosis, cancer, diabetes etc.

"It's okay... How will you compare my health goals (I have MS) with a healthy person. How could you compare it to, another MS diagnosed person?" Balazs, 37, Hungary

- Health advice is most beneficial for this group, as much information about healthy eating is readily available, but the information becomes infinitely harder to navigate when illnesses are involved.



Advice coming from commercial businesses is less trusted

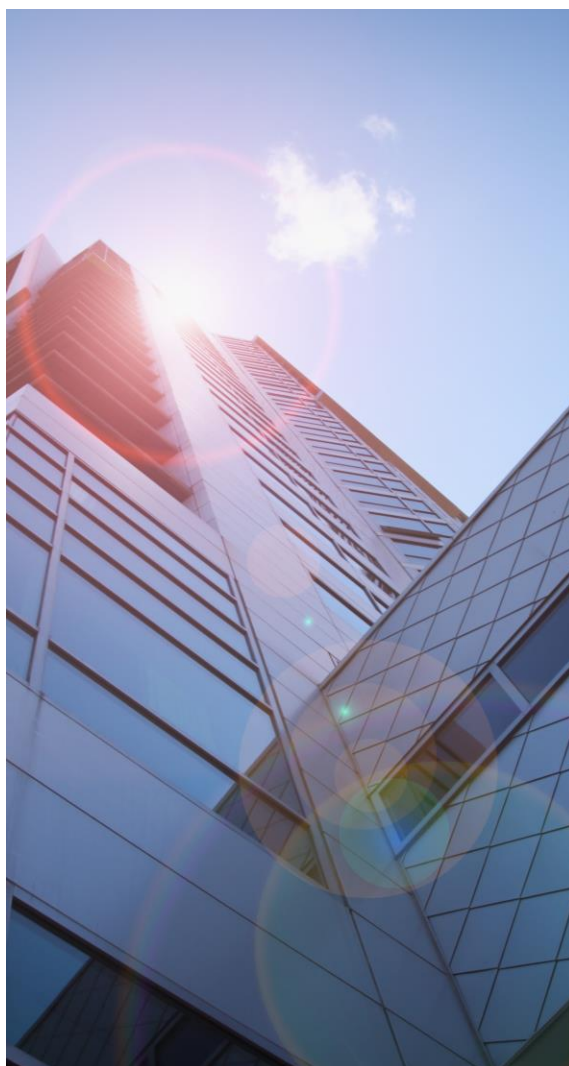
Consumers think about how lifestyle advice coming from commercial companies might include (secret) paid promotions of other companies that don't have health improvement as their main motivator.

"The whole money-making side is a fair question - are there likely to be ads pushing certain products / brands" Paul, 37, Ireland

"While it sounds promising and practical, my concern is related to potential conflicts of interest, especially if it's associated with the food industry. There's a possibility that advice provided by such a service could be influenced by commercial interests, which might not always align with the best health outcomes for individuals." Ana, 42, Portugal

Consumers need clarity on where the advice comes from, including information about the research process and scientific integrity, for the information to be trusted.

"I would also like to know what the scientific basis is for taking this approach and what evidence for what benefits or otherwise." Sherien, 45, United Kingdom



A wearable device or manual monitoring?

Consumers are aware that they could make mistakes or miscalculations if they were to manually record their own lifestyle data, like how much sleep they think they had in the previous night. For that reason, it seems like consumers are more interested on wearables that monitor the data for them.

"Question would be on how much personal data it would require. E.g, sleep - how is it tracked? By telling the system how and when I sleep or by fitband or similar? How often does it give advice?" Steffi, 43, Germany



Personalised Nutrition tools for lifestyle changes should not compare users with their peers

When tools create/use an algorithm that develops lifestyle advice based on what other users of the tool do or should do, the tool should not communicate this with their customers. It could lead to users feeling like the tool is not personalised enough to them, and rather feels like a generalisation, even if other users have a very similar profile to themselves.

"It think it is realistic, but it's based on general information + what helps in similar cases. That doesn't make it very personal." Bernard, 53, Belgium



Advice is based on non-invasive data collection methods

Not everyone wants detailed health advice, particularly not if they are already happy with their lifestyles. In this case, only general health tips are appreciated, and for that consumers would prefer to share minimal medical information.

"What I like about it is that you don't have to give too much information to start it, no blood tests or sugar levels etc. You can work on it yourself without it becoming too scientific or medical." Bernard, 53, Belgium



Combining different kinds of Personalised Nutrition tools into one

Consumers realise that different health aspects are related and a holistic approach to improving health is required.

Because of how closely related different health aspects are to one another (e.g. gut health can impact mental health, certain illnesses can influence nutrient absorption etc.), it would be more beneficial if all aspects of health were taken into consideration for the advice that is delivered.

However, this will make a tool complicated, and might require a level of data from consumers that they are not willing to give. The more information from consumers the tool requires, the more hesitant they will become.

"I believe that this service has a large percentage of veracity, however I don't think it is 100% effective or realistic as it needs to analyse other intrinsic aspects of each person so that it can be even more successful." Marco, 52, Portugal



Personalised Nutrition providers

Are programs offered by employers or health insurance companies perceived as encouraging or threatening?

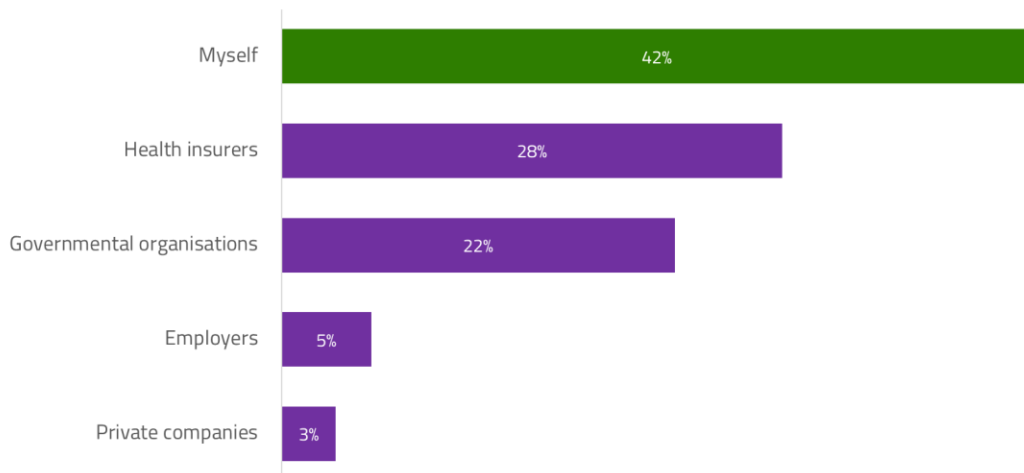


Consumers prefer to pay for Personalised Nutrition out-of-pocket

After taking part in discussions on the possibility of employers and government organisations covering the costs for Personalised Nutrition services, consumers completed a poll asking who should pay for such services.

Nearly half of all participants said if they were to access PN services, they would rather pay for it themselves. The possibility of health insurers covering such a cost is preferred by about three in ten, while the option of having an employer pay for such a program was one of the least preferred, with only one in twenty of participants selecting that option

Imagine that you can get access to a personalised nutrition tool. Who should be paying for this?



Benefits by employers are viewed optimistically by some

Participants read a [description of a concept](#) for a wellness program offered by their employer which would reward physical activity. They considered whether they would find this acceptable and appealing.

For most participants this is a novel idea. Only a minority reported having experienced such an initiative.

Experiences are mixed. While some enjoy having this 'perk,' others experience it as a burden.

"My company already organizes this type of wellness challenge on a regular basis, and I know my colleagues are all enthusiastic about them." Anh, 30, Belgium

There is positivity about the fact that such an initiative would be on a voluntary basis and provide online rewards.

On face value, most participants view it as a positive and harmless way to encourage exercise and healthy eating.

"Personally, I like the idea because it encourages competition, and you do something good for yourself." Matthias, 42, Germany



The sporty bunch will benefit most, while others may be discouraged

Participants mentioned they expect employees and colleagues who are health conscious will be happy to participate in such an initiative and therefore benefit from it. However, those who are not interested in physical activity will still face barriers to get fit. In other words, such a program would benefit the already fit rather than those who would need it most.

"I have lots of my colleagues who do not care at all about their health or physical conditions, never doing any sport and eat junk food. I do not think they will follow the app." Sylvain, 37, France

A few participants are concerned about social repercussions that may happen if they do not want to participate. This includes for example being 'forced' into participating to avoid being labelled a 'spoilsport'. This may be particularly true for people who are not very athletic, but also for anyone who has their own training schedule that they do not want to alter.

"Being 'encouraged' (meaning it is obligatory if you don't want to be labelled as difficult or spoilsport.)" Pihka, 28, Finland

"I would not use a wellness program offered by my employer because I believe that it could result in unhealthy competition, or even ridicule or slander of fatter people with worse results or who did not participate." Dorota, 42, Poland



"I genuinely think a lot of my colleagues (including myself) will have a very positive reaction towards this initiative - we're all quite health-conscious and sporty, and it's something everyone can participate in. "

Victoria, 30, Ireland

Personal health is not a work-related matter

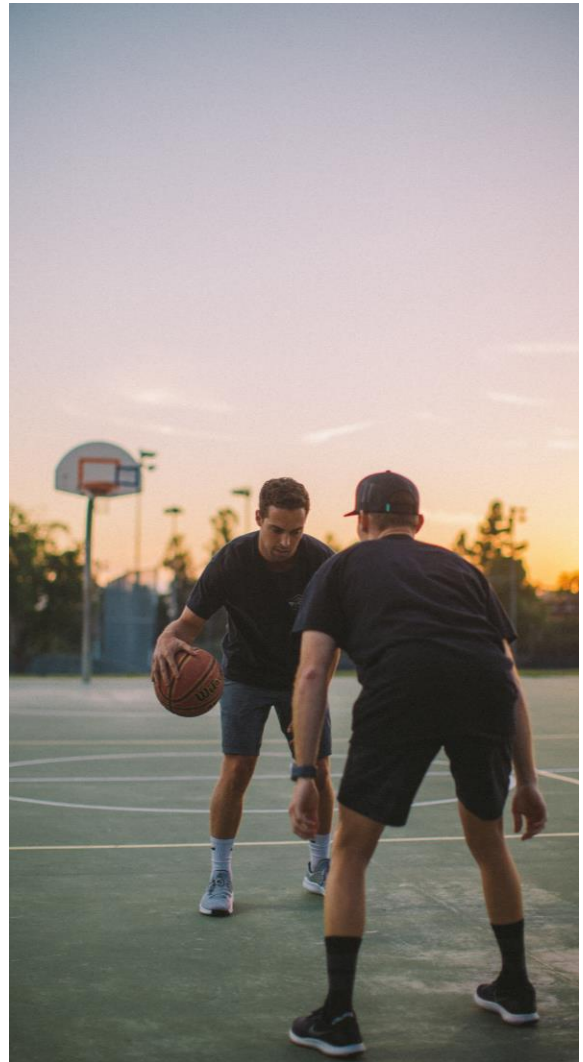
Some participants questioned whether physical health and fitness are issues that are personal and should not be interfered with by work.

"I am not sure; I feel like it is a bit extreme to be encouraged by your employer to do things that are not work-related and are so personal." Joe, 22, Netherlands

Other participants are concerned that this is another way for employees to insert themselves in private lives of employees.

"It just sounds like a new way the employer can track what you are doing. If they needed an app like this, there are hundred on the internet you can download for free and not risking that your employer can spy on you." Viki, 32, Hungary

"I think it is an invasion of employee privacy and a kind of power play by the employer/HR department." Bernard, 53, Belgium



There is lack of trust about the true motives of employers

Some participants are concerned that data collected by such a wellness program (to give rewards accordingly) would influence decisions related to employment.

"I would participate when the data is private and can never be used by the employer to decide about you as an employee." Valy, 38, Romania

One example a participant gave is making inferences about which employees are "team players".

"Perhaps there is a hidden agenda behind all that to see who is a team player and who isn't." Maria, 41, Greece

Others are not bothered by work and physical activity blending. In fact, they see this as a potential benefit if the activities happened during work rather than in their free time. As long as exercising is not seen as something that needs to happen additionally, on top of all other work, these people are happy to participate.

"I would use a wellness program offered by my employer it can be done during work hours but not during my time off"
Steffi, 43, Germany



Health insurers are a credible source of Personalised Nutrition advice

Participants also read a scenario where their health insurance would offer a personalised nutrition program. They considered whether they would find this acceptable and appealing.

Overall this scenario was found to be less threatening than the employer financing scheme. This seems to be related to the fact that health insurers are already linked to individual health.

Some consumers trust health insurance companies to have their clients' best health interests in mind, as they are contracted to pay out when clients are unwell. This is why many view this as a win-win situation between the insurer and the client, which means insurers are invested in their clients' health. This is perceived as insurers legitimately supporting their clients. Even if insurance companies also benefit, it does not come at an added cost to the client.. Even if they benefit themselves as well, it does not come at an added cost to the client.

"It's in the insurance provider's interest to keep their client's health and thus spending less money on claims." Victoria, 30, Ireland

"The truth is that if we have a tool that provides us with greater and better care with our diet, we reduce health risks and ends up being a win-win situation." Joana, 40, Portugal



Clear financial benefit for healthy individuals

A few consumers who perceive themselves as being healthy feel like there is financial gain to be made by insurance companies using their data. For example, their premiums might decrease as a 'reward' for staying healthy.

"Personally, I wouldn't mind giving personal details such as weight, height and diet. Of course, the insurer can use it to optimise premiums, but as I have nothing to hide, I would rather benefit from it." Matthias, 42, Germany

Others like the idea that their insurance will offer them more value for the money they currently spend. Particularly healthy individuals who may not make much use of their insurance, feel like this is a good way to get 'their money's worth'.

"I like this idea very much - it's a very good idea - my health insurance company would really take care of my health and not only take my money 😊" Ella, 42, Israel

"This is a good reason because I am paying a lot for my health insurance, and I would at least receive some free useful service in exchange." Valérie, 38, Switzerland



Fear of negative consequences if health data shows poor results

A significant minority of participants do not trust health insurance companies enough to voluntarily share personal health data.

Some consumers see this as a service that will benefit health insurers financially, by profiling consumers and calculating expenditures more easily. In other words, the insurers would be the primary beneficiaries of such a program.

"In fact, it is a profiling obtained through a vast database offered free of charge and with which insurance companies can easily evaluate the customer's position by deducing whether or not it is advisable to take out additional policies or coverage." Chiara, 44, Italy

Furthermore, there is concern of ulterior motives. Some consumers are afraid that this information might be used against them in the future. This would lead to for example price increases, or possibly being excluded from the insurers' plans.

This concern is a big barrier and trust will not be won easily on this front, as the perceived risk may lead to potentially very difficult scenarios for consumers.

"This is a bad idea because the insurance company knows everything about your lifestyle. This can work against you maybe in the future." Pieter, 42, Netherlands

"Bad idea, I don't like the idea of any health insurance company can do what they like with my personal health data. They can lift the insurance premium cost, they can exclude you from care etc. I don't trust any of those companies." Kees, 66, Netherlands

"To what extent would my health insurance not cover certain problems if I did not follow all the advices of the personalised nutrition program, for example..." Ana, 42, Portugal



About the study



Aim and purpose of the study

Through this study we:

- Explored awareness of European consumers on Personalised Nutrition tools, and what their general perception is of these tools.
- Identified two categories of Personalised Nutrition tools that consumers find relevant and are able to distinguish from one another.

Who is this report for:

- Entities that develop/sell Personalised Nutrition tools for consumers. In particular, insights were delivered for tools that:
 - Help consumers collect/analyse their own lab results, leading to in-depth knowledge of their health,
 - Help consumers determine what changes they need to make with their lifestyles in order to achieve specific health goals.
- Employers that are interested in implementing personalised health programs for their employees.
- Insurance companies that are interested in offering personalised health programs for their customers.
- Policy makers and authorities that wish to understand what consumers see as threats of Personalised Nutrition, so that they may develop regulations to protect consumers from these perceived threats.

Set-up of the study

The data was collected in the Citizen Participation Forum, an online community with over 300 members from 17 countries.

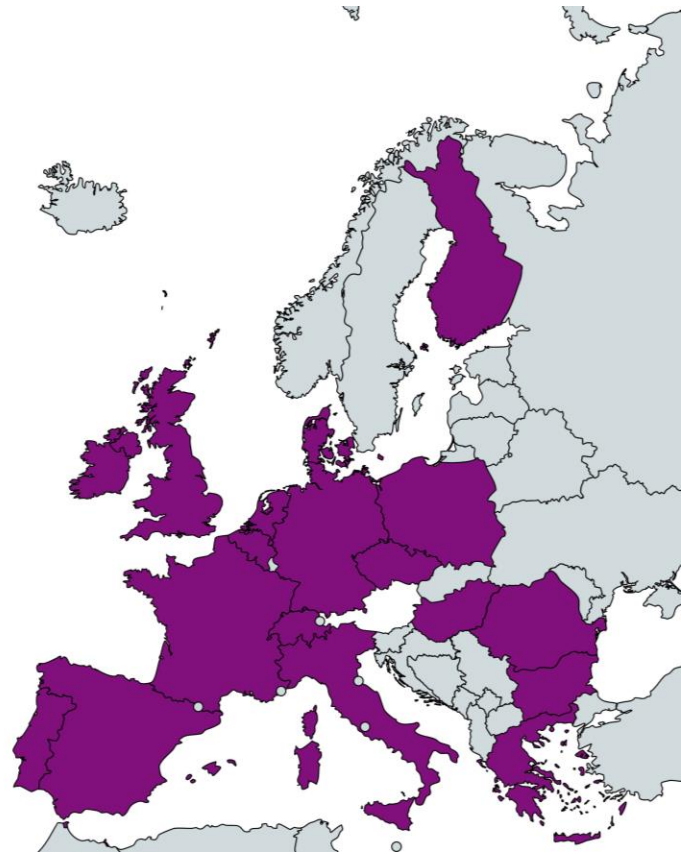
Members are interested in talking about food and are generally well-informed.

Participants take part in activities ranging from discussions, to polls and questionnaires, photo-challenges and journal entries.

Participants are engaging with one another and with the moderators and researchers.

Moderators are responsible for probing participants, leading to in-depth and relevant data.

For this study, a customised series of about 20 tasks were designed. **91** participants took part in this study.



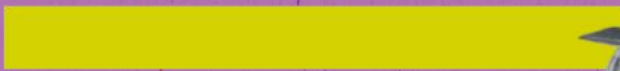
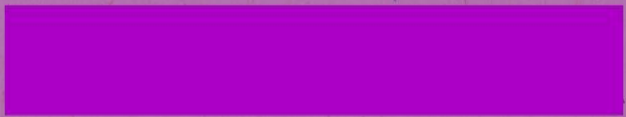
About the Consumer Observatory

The Consumer Observatory, powered by EIT Food, drives food systems transformation by providing consumer insights and guidance for agrifood stakeholders and offering market trend services to enable informed actions and decision-making toward a healthier, more sustainable and resilient future. [Find out more here.](#)

To access the latest insights or discuss your specific research needs, [get in touch today.](#)



Appendix



Work wellness program

This new reward-based activity program helps improve the health of employees within a company.

The health program is selected by the employer and tailored to the needs of the people within the company. For example, one program could be a healthy eating challenge, or another could be a step-count challenge.

For each goal that an employee reaches, they can get a reward such as a gift card, wellness-related products, or extra time off.

- Employer sets up a private challenge that only employees can participate in.
- Allows employees who participate to track their personal progress and achieve goals.
- Promotes the challenge and encourages colleagues to connect with each other.



Health insurance Personalised Nutrition program

Imagine that your health insurance company offers a personalised nutrition tool that you can use (for free). This tool would collect personal information that you would be willing to give and give you advice on how to improve your nutrition for better health.

