Innovationsfonden

Project PlantPro – Accelerating an efficient green consumer transition

Project nr 0224-00044B

Report D 1.1.1

Catalogue document of analysed and mapped drivers, triggers and key success factors in the food industry

AARHUS BSS

MAPP CENTRE – RESEARCH ON VALUE CREATION IN THE FOOD SECTOR

DEPARTMENT OF MANAGEMENT

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About this document:

This report is an outcome of the PlantPro project (grant nr 0224-00044B) funded by Innovation Fund Denmark (Deliverable 1.2.1).

Date of publication: April 2022

How to cite this document:

Aschemann-Witzel, Jessica; Mulders, Maartje D.G.H.; Lykke Tranholm Mouritzen, Simone (2022). Catalogue document of analysed and mapped drivers, triggers and key success factors in the food industry. Report of the PlantPro Project.

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Acknowledgement and transparency on involvement[1]:

PlantPro project partners were involved in the way outlined in the project plan. Some partners acted as interviewees. Frederik Madsen from Plantebranchen in his role as co-WP 1 leader helped in providing contacts to interviewees and, together with the other co-WP leaders, provided feedback on the draft question guide in April 2021. Partners gave feedback to first results in a project meeting in November 2021, the steering committee members commented on the draft report in March 2022, and partners who acted as interviewees were given the opportunity to check that they are correctly cited in April 2022. The analysis and conclusions are the independent work of the research team at AU, who discussed and reflected on this with the CBS and KU team on an internal workshop in March 2022.

The team thanks all interviewees for their time and insights.

[1] In line with the AU BSS Principles on responsible scientific conduct, see: https://medarbejdere.au.dk/fileadmin/user_upload/Principles_on_responsible_scientific_conduct_at_Aarhus_BSS_final_160915.pdf

Executive summary

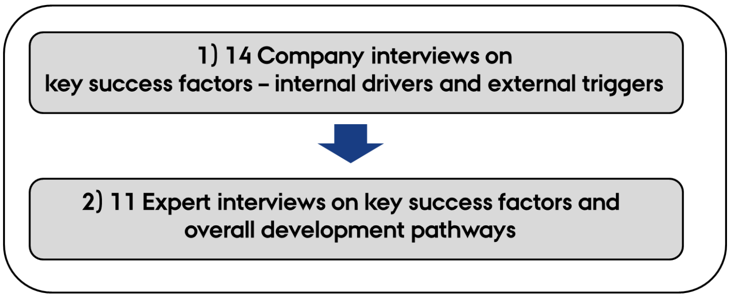
The PlantPro project aims to **accelerate an efficient green consumer behaviour transition**. Through the 3-year long research collaboration between academia and praxis, the project partners aim to fill a knowledge gap on factors that drive consumer behaviour change towards more sustainable, plant-rich diets and upcycled foods and greater acceptance of sustainable food technologies. The project is funded by Innovation Fund Denmark with 8.4 mill DKK and runs from 2021-2024. See more at https://mgmt.au.dk/plantpro

As part of the PlantPro Project work package 1 on 'industry', we have identified

1) key success factors among companies and in the market environment as well as
2) characteristics of the stages of the development of the plant-based market in Denmark.

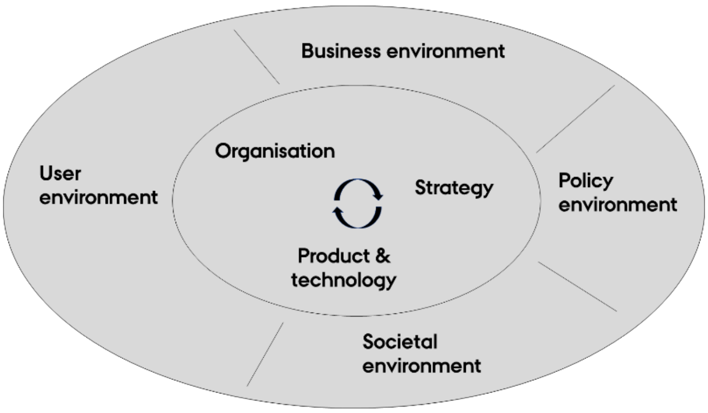
Key success factors are understood as either the internal drivers such as resources, skills and competences of the companies, or the external triggers from among the macro-environments. **Stages of development** are understood as periods of time that are characterized by a more crucial role of certain factors, occurrences or actions.

The work is based on the **conceptual framework of societal transitions** towards sustainability and the differing role that macro-environments such as users, business, society and policy play over time in creating the enabling conditions for accelerated change. In addition, the role of internal drivers is acknowledged, which reflect company-own and internal resources, skills and competences, often related to company´s technology, innovation and knowhow.



Through **14 company case interviews and 11 retail, stakeholder and academic market expert interviews** conducted between May 2021 and February 2022, we develop 1) an overview of the plant-based sector key success factors and the relative importance of these internal drivers as well as external triggers, and 2) a visualisation of the past and current development stages of the plant-based sector in Denmark.

Findings show that the consumer demand in **the 'user environment' is perceived as the crucial external trigger** identified by companies and experts both until now and into the future. The policy environment, in turn, has until recently not been very pro-active.

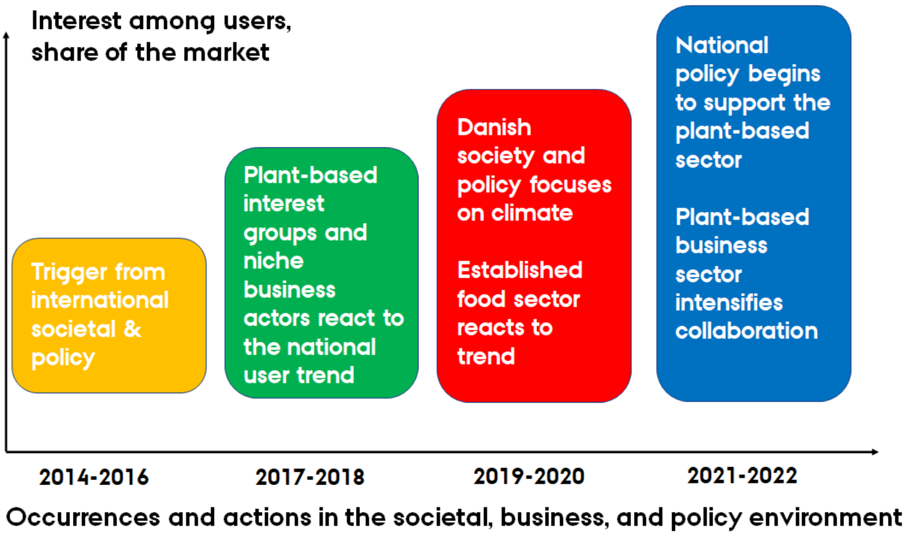


Companies point to **interactions between factors of their organisation, strategy, and product & technology as important internal drivers**. Most companies perceive that a combination of both internal and external factors have contributed to their success. Apart from increasing consumer demand for plant-based interrelated with a growing societal focus on climate and environment, the company representatives also name good business relations including supportive retailer actions as important external triggers. However, current retail practices and competition are also named as barriers, together with barriers in the policy environment or own strategic mistakes.

The **sector is characterized by three developments that emerge from the interviews, which are 1) increasing competition, 2) a diversification of consumer motives and segments, and 3) communication moving away from identifying products as 'vegan'/'veggie'** and over to positioning them as plant-based or by ingredient.

As future drivers and challenges, interviewees expect a continued consumer interest in plant-based, especially among the young. Many company interviewees perceive it as crucially important that products provide the same experience as animal-based counterparts and see a danger to the sector when actors launch products that disappoint. Experts, however, point out that there are target groups for products that 'mimic' animal-based as well as consumers who prefer products that put the plant-origin to the forefront. In the coming years, an increasing professionalization, further technology improvements, and communication to the consumer are seen as important issues to focus on.

We identify four development phases throughout the past decade that are characterized by different 'macro-environments' being of crucial influence.



In the first phase, the international policy and societal climate agenda provided an outside-in trigger.

In the second phase, the international environment encouraged national plant-based sector actors towards more bold business moves, and a growing national niche demand developed into a bottom-up trigger.

In the third phase, the climate agenda became a mainstream policy and society issue in Denmark, and established food sector players began to turn towards plant-based. In the fourth phase, policy has begun to support the plant-based development, and the sector increasingly organises and professionalizes.

Findings of the company and expert interviews can serve as a reflection for plant-based market sector actors on the drivers and triggers that have characterized the past decade. Findings on the key success factors can serve as an inspiration for companies acting on or entering the plant-based food market. The identification of the development phases as well as the key success factors of relevance can inform sector stakeholders and policy makers on the relative relevance of the internal drivers and external environments, when discussing what is needed to support the future development of the Danish plant-based market and export potential.

Contents

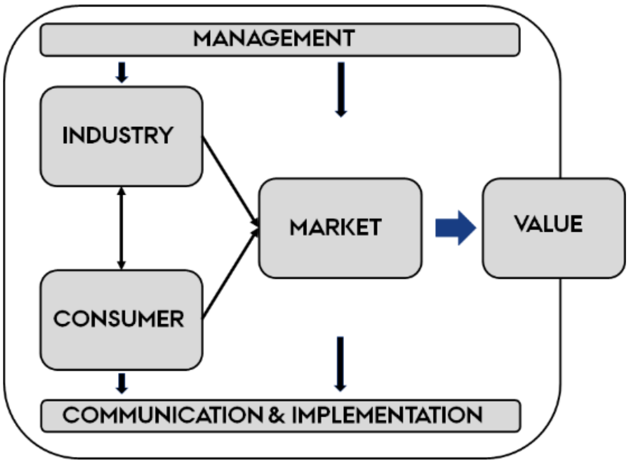
PlantPro project

The project PlantPro contributes to accelerating an efficient green consumer behaviour transition towards more plant-rich diets and reduced food waste. It aims to fill a knowledge gap on factors that drive consumer behaviour change towards more sustainable plant-rich diets and upcycled foods and greater acceptance of sustainable food technologies.

PlantPro is funded by Innovation Fund Denmark. The project runs for three years, from 1 April 2021 to 31 March 2024. The project is a collaboration between the MAPP Centre at the Department of Management at Aarhus University, Department of Food Science at University of Copenhagen, Copenhagen Business School, Plantebranchen, Dansk Vegetarisk Forening, Thinktank OneThird, Simple Feast, Beyond Coffee, Circular Food Technology, Møllerup Brands, Food Innovation House, Orkla, Naturli, Planteslagterne, Upfield, Eachthing, Rema1000 and Fair Trees.

Throughout the project, PlantPro identifies key success factors in industry and societal transitions, maps consumer factors that determine acceptance and behaviour across consumer lifestyle groups, assesses environmental impact, and measures the effect of nudging, information, and motivation on behavioural change in public and private settings under real-life context. It delivers a catalogue of marketing and policy actions.

The commercial value created consists of market growth for innovative plant-based food and food upcycling businesses. The societal value created consists of the achievement of climate targets and sustainable development goals. The overall goal is to contribute to the development that a greater share of the broader population consumes more plant-rich diets in ways that at the same time reduce food waste in the system.



The work package structure focuses on the industry (WP1), the consumer (WP2), and the interplay of both in the market (WP3). WP4 consists of the management of the project, and WP5 entails communication and implementation.

WP1 aims to identify which key success factors shape sustainable industry and societal transitions in the food and other sectors, in Denmark and abroad. WP2 aims to map the consumer factors that determine the acceptance and behaviour across different consumer lifestyle groups, and the respective environmental impact of it. WP3 aims to assess the impact of actions to nudge, inform or motivate behaviour change among consumers in different public and private choice contexts.

See more at https://mgmt.au.dk/plantpro

Workpackage 1 – Industry

The expected outcome of WP1 is

1) an identification of major drivers and triggers of the market trend, and of strategic key success factors of early plant-based innovators that food company partners can implement through revising their strategy, particularly their communication approach, and

2) an evaluation of previous societal transition triggers that companies and interest organisations can implement in their promotion of system-wide change, but also more concretely in refining product development and messaging.

Results for 1) are presented in this report on task 1.1. Results for 2) are presented in a report on results for 1.2.

Task WP 1.1

Workpackage 1.1 aims to explore internal drivers and external triggers that form the basis for innovation break-through and commercial success within the food value chain macro-environment.

This can be e.g. key success factors in strategy, competence, stakeholder relations, regulation, and communication. It consists of qualitative research on cases of pathways in the plant-based sector, conducting company case and expert interviews. The case studies are coupled with interviews with retailers, stakeholders, and academics on plant-based sector development and the success factors and barriers in marketing plant-based.

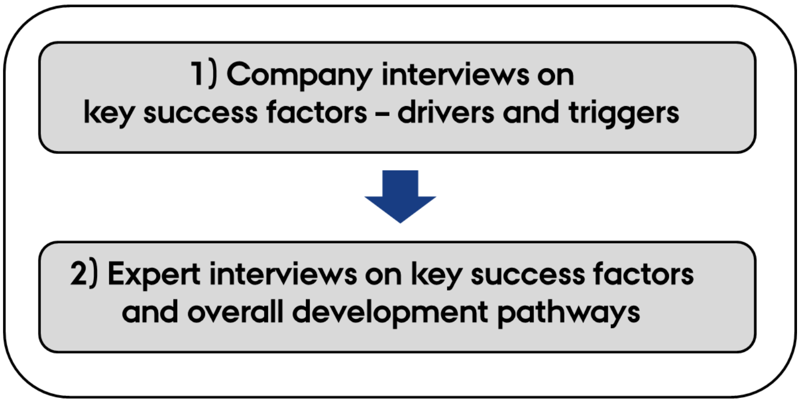
This report presents the report D1.1.1 on WP 1.1, the catalogue document of analysed and mapped drivers, triggers and key success factors in the food industry, as well as the pathway of the plant-based sector throughout the past years.

Methodology

The approach was two-fold, first interviewing companies and cross-checking the findings with data about the market development, and then reflecting on the findings through expert interviews.

1) To **explore the key success factors from the view of the industry**, 14 in-depth interviews with company representatives were conducted between May and October 2021. These companies were both partners in the project as well as other Danish or European players in the market for plant-based food and plant-based upcycled food. In addition, market data and information from partners and through reports and literature was explored in terms of trends and developments.

2) To reflect on the findings and to include the retailer views, 11 expert and retailer interviews were conducted during November 2021 and February 2022, interviewing **Danish and international experts on their assessment of the plant-based market transition**.



All interviews were recorded and transcript verbatim. The company interviews were analysed by at least two persons each and through a) summarizing each interview as well as b) identifying (coding) relevant themes.

The coding focused on key success factors for the company (internal drivers and external triggers), but also on mistakes made, current barriers, transition observations, and thoughts on future drivers and challenges.

Major findings of which types of internal vs. external success factors were found as well as key observations of developments in the market throughout the years were discussed with the experts interviewed, with the aim to reflect on the interpretation of the findings.

The data is presented first and foremost based on the company interviews, but with the expert interviews being used as an additional perspective and validation. Where relevant, additional aspects that emerged from the expert interviews are added to the result descriptions. Note that the quotes are in either English or Danish, depending on the interview language.

Conclusions were drawn taking both company and experts assessments into account and focusing on factors and observations that were acknowledged by various interviewees.

Theoretical framework

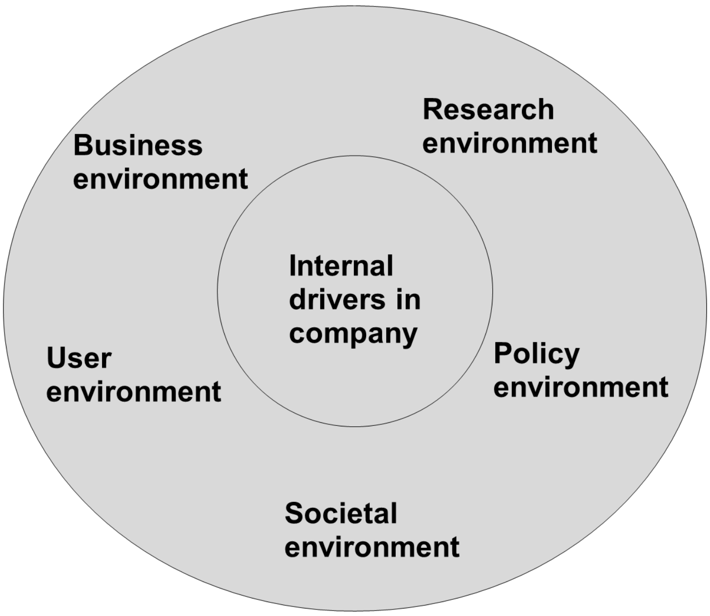
Factors of influence

The study is based on the literature on societal transitions towards sustainability, the idea of tipping points becoming relevant in this process, and niche-regime interactions when new innovations are entering an established market (see e.g. El Bilali et al., 2020 for an overview). The plant-based products and trend is regarded as the innovation entering the food market and thus challenging the current market structure and relations in the value chain.

The external triggers that the companies mention, are categorized according to the environments that are identified in this literature, that is, the environments in which the transition happens. These environments are the users and consumers, business partners and competitors, the overall society and citizens, policy and policy makers (Mylan et al., 2019) as well as technology and research and science (Geels, 2004). Figure source: Geels, 2004. We apply the below framework in WP1. In the findings of this report, however, we focus on users, business, society and policy.

The internal drivers are categorized according to the main groups that emerged during the interviews. Internal drivers have been so far under-researched in the literature on societal transitions and niche-regime interactions. In the conceptual model, the internal drivers are added as a circle in the middle.

Figure: Theoretical framework of external environments and internal drivers.



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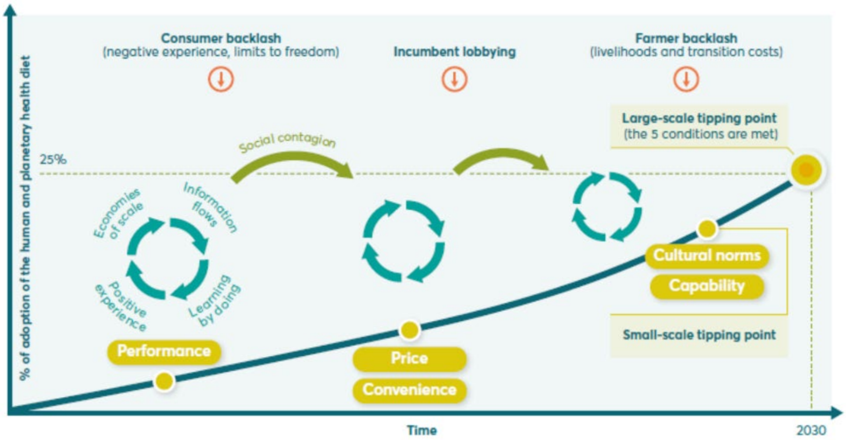
Impact over time

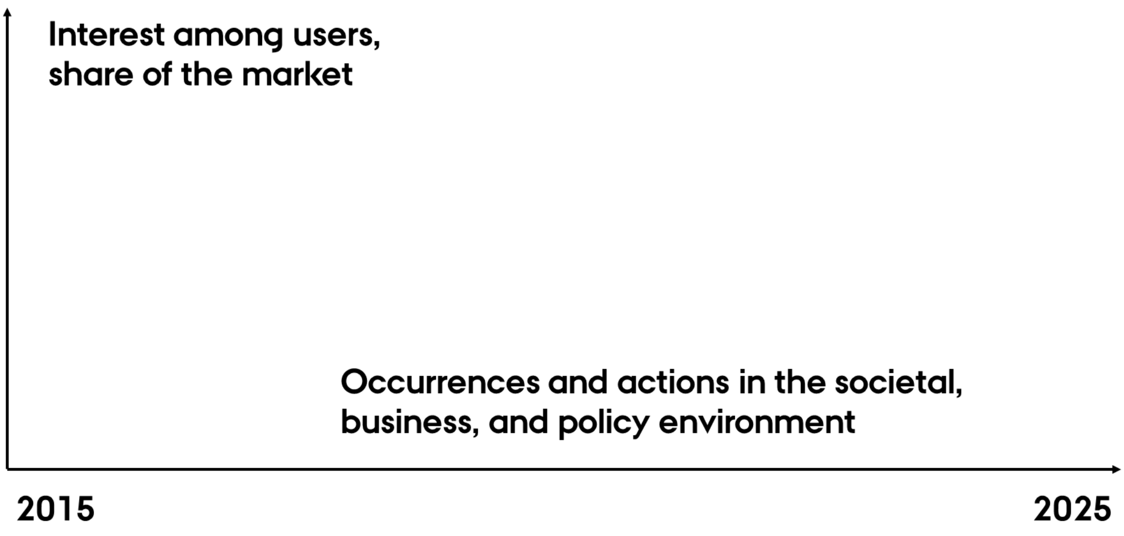
The literature on tipping points relevant in the process of societal transitions towards sustainability suggests that the transition can achieve favourable ‘enabling conditions’ in the market which in combination or sequence can lead to an accelerated change towards a new market status (FOLU, 2021). Figure source: FOLU 2021.



These enabling conditions are shaped in the interaction of the different environments such as the business, society, and policy. This develops over time and in parallel to the increased user adoption of the innovation.

To explore this for the case of the plant-based market development in Denmark, the findings are viewed in terms of their development over time. The company representative and expert observations of important actions and occurrences that happened, and the interviewees understanding of the sequence of factors of influences, is visualized and analysed with a time perspective. The occurrences actions are contrasted timewise to the development of the consumer interest in reducing meat / eating more plant based.

Figure: Theoretical framework of user interest and shaping of enabling factors over time.



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Results

Key success factors - internal drivers

Organisation

Most of the interviewees [1-5, 7-8, 10] pointed to key success factors inherent to their **organisation**. We categorized these into four sub-factors, of which the first two are part of the foundation of the organisation and the second two part of the current activities:

1) The organisations **design**: The personal and professional background and experience coming together in the organisation, often in a diverse and synergistic way

> *"Vi var aldrig kommet hertil hvis det ikke havde været fordi vi har spændt over et bredt kompetencefelt" [1]*

2) The organisations **drive**: The original vision and motivation of the organisation, often focusing on innovating to solve an issue and challenging the status quo.

> *" ... vi vidste det var det rigtige, det var jo fordi vi havde nogle fremsynede ledere [...] Det hele starter jo med at man har nogle visionære mennesker" [4]*

3) The organisations **competence**: The current state of knowhow, often pointing to product development, innovation, marketing, but also consulting customers.

> *"... en af succesfaktorerne har været at vi har erfaring [...] med at arbejde, og med at lave forretning" [5]*

> *"Så det med at gå ind og tage dialogen med dem om, hvad er målet du gerne vil, det er der vi ser vores styrke" [3]*

4) The organisations **agility**: The capability to react and act fast in terms of innovation, speed to market and reaction to opportunities.

> *"For vi prøver altid at være der, og har altid været der, ret agile. Så vi får en idé, så kan vi rykke på det ret hurtigt." [2]*

> *"... omstillingsparathed, agilitet, er jo noget af det vi kan se har givet rigtig god mening" [1]*

One expert commented on that it had been a success factor in general in the sector that more and more activists decided to convert their activism into a business, and thus found a business with a purpose [E10].

Strategy

Further, interviewees [1-3, 5-7, 10-11, 13-14] mentioned the success originating from their chosen **strategy**. Most of these comments were related to the profile of the company expressed in the strategic choices. The latter has a foundation in the organisations drive and motivation. We identify the following sub-factors within strategy:

1) The strategic **profile**: The strategic choices made to take up a certain position in the market and to reflect the ideology behind the company, such as being first-mover, focusing on certain quality characteristics of products, choosing a specific market space, or expressing a certain ideology or principle through the products.

"Man kan sige, en af dem er helt sikkert nyhedsværdi. Altså det med, at vi har ligesom været de første [...] gjorde jo, at vi fik en del medieomtale" [6]

"Så det er måske lidt mere ideologisk, og det er at vi [...] har været ret kompromisløse i forhold til det [describing what they NOT do]... problemet er sådan, jamen, det er rigtig mange der gør, og der er rigtig mange der er dygtige til, så det er ikke et sted vi skal være " [1]

2) The strategic **priority**: A top-down or management priority given to the plant-based trend, often in relation to re-orienting the organisation from a different area to the new trend.

"Vi har en strategisk tilgang til det, at det er der vi skal vækste, og det er der vi skal vise at vi også kan være med" [7]

3) The **message** strategy: The success entailed in the communicational approach about the product and the new trend, often underlining the good story and positive framing.

"... det er et spørgsmål om markedsføring og synliggørelse og så videre, fortælle nogle gode historier, fortælle om nogle af de ting vi kan gør" [3]

"vi prøver lidt at afdramatisere alt det her [...] Vi har lidt mere den positive brille på" [2]

"... så vores historie, og den profil, og den opfattelse folk har af os, har helt sikkert været positiv" [1]

<u>Product and technology</u>

A third type of factor mentioned by interviewees [2, 7-14] focused on the product and the technology behind it, and what this means for the quality that the outcome has. We categorized this into further three sub-factors, but they are highly interdependent.

1) The **quality**: Quality of the food, in particular its taste, but also in combination with other product elements such as the packaging developed.

"Vi skal have det allerbedste product inde kartonen. Vi starter med et godt produkt." [14]

"... de kræver selvfølgelig at kvaliteten er mindst så godt, som det man havde før, det måske har indeholdt animalske ingredienser" [8]

2) The **functionality**: Advantages of the functionality of the crop in focus or the technology used to process it further or in a large scale.

"Vi har teknologien I hus og det lyder lidt banalt [...] skal man skalere det op, så er det den teknologi som vi har på de her produkter" [13]

3) Degree of **imitation**: The degree to which the product and portfolio can offer the same as comparable animal-based products

"... når vi kan lave et produkt, som virker en til en, I forhold til de animalske produkter, så er det en succesfaktor. Der kommer du bare ud til langt flere forbrugere." [2]

Key success factors – external triggers

User environment

Most interviewees [1-2, 6-7, 9-11, 13-14] pointed to the key success factor stemming from their **consumers interest** as well as the demand that this creates on the market. There were two sub-aspects too this:

1) The **concern**: Consumer interest due to sustainability, environmental and climate concerns and issue awareness, often mentioning the younger target groups in this context.

> *"Trenden er jo meget, meget mere kraftig blandt fremtidens forbrugere. Altså de her helt unge mennesker." [2]*

2) The **priority**: A diverse set of motives that drive interest in the products due to prioritising healthy food and aspects such as clean label, local food, convenience, taste, and quality.

> *"… nowadays, quality and taste is top. So you need to focus on a good product as well." [10]*

> *"Hvor før, der var det bare fedt, at der var noget, som var plantebaseret, og et alternativ, og i dag, der ser man at produktet skal også være i orden, det skal være god kvalitet, og det skal smage godt." [8]*

> *"… folk de kan se at det her er så tæt på en hjemmelavet kvalitet som muligt, så derfor er der en genkendelse. […] hvor folk har fået øjnene op for, at jamen der skal være et sundhedselement i det at spise plantebaseret også." [1]*

Retail experts stressed that the key driver had indeed been the demand by consumers, who began to ask for vegan or plant-based [E3, E5].

Societal environment

The **general societal trend** was mentioned [1, 3-6, 9, 12] as an external trigger for success as well. The consumer interest was at times mentioned as a consequence of this, and there is not necessarily a clear distinction between an interviewee commenting on a general societal trend or the consumer target group because of the overlap. The majority of the comments were about the general trends in the societal debate, often mentioning occurrences, but also social influence factors. We identified two factors:

1) The societal **debate**: The societal agenda focuses increasingly on issues such as sustainability, climate, circular economy, especially among the young but also in relation to occurrences such as elections, international reports, protests, etc. In addition, some interviewees also name the increasing focus on health (amongst others due to the pandemic) or in clean label (for example highlighted as a cultural specificity in Denmark).

> *"Så har der været en general tendens, vil jeg sige, I samfundet […] Der er kommet enormt meget fokus på at spise bæredygtig. Og det er simpelthen kun vokset og vokset" [6]*

> *"Vores timing har været rigtig god […] det passer godt ind i den ånd, som er oppe i tiden lige nu." [5]*

“Men vi startede med at strejke på klimaet, altså klimabevidstheden. Den ramte virkelig igennem med Greta Thunberg og alt hvad der skete omkring den yngre generation, som virkelig sker nu.” [13]

”Så har vi også en kulturel kontekst, eller måde at se på fødevarer som er anderledes end i andre lande [...] vi kan ikke lide produkter hvor der tilsat for eksempel b12 og alle mulige ting, for sundhedens skyld. Vi kan bedst lide det uforarbejdede.” [1]

”Det store skifte i Denmark kom egentlig i forbindelse med sidste valg [...] så kom der lige pludselig meget mere klima og bæredygtighed på agendaen, og der tog hele den plantebevægelse fart lige pludselig” [3]

One expert stressed that there is a generational shift, and that he/she assesses the younger generation is asking for a more political stance taken by business [E2].

2) The **social influence**: The influence in social networks through change of norms and in particular through the increasing use of social media, the latter especially among the young.

“... det er jo ikke kontroversielt at sige at vi skal spise flere planter [...] For to år siden, så var det stadig kontroversielt” [4]

“The largest group target group we have is the young adults. And those are of course very active on social media. Also those who try to eat healthy are active on social media and share inspiration and other things. So our target group is overrepresented on social media.” [9]

One of the experts regards the existence of and use of social media as one of the crucial driving forces for the development of the vegan niche from which the plant-based market evolved [E1]. A further expert mentions the role of social media influencers in their role as ‘acccelerators’, for example in terms of food and health.

“Jeg tror slet ikke vi var kommet så langt med den plantebaserede bevægelse som det er nu, hvis det ikke havde været for sociale medier, så ville det være et filter af de etablerede medier man skulle igennem for at komme ud med sin inspiration.” [E1]

A further expert highlighted that an important underlying driver of the societal trend is the self-actualization and identity seeking [E8].

Business environment

A lot of interviewees [1-3, 5, 7-9, 11-13] mentioned **business collaborations** as an important external factor, both generally as well as in particular about retailers.

1) The **partnership**: Establishing and maintaining good relations in the value chain and successfully collaborating with partners.

“Jeg tror at det har været superessentielt, at vi er rigtig gode til at lave partnerskaber. [...] der skal man være rigtig god til at trække på ressourcer andre steder fra.” [5]

2) The **retailers**: Retailers strategic choices into supporting the trend by for example changing the placement strategy in the store, accepting slower rotation, or setting up funding mechanism.

"Så det er for mig at se, gamechangeren. […] Det at de bliver flyttet væk fra de vegetariske sektioner i butikken, og kommer ud og stå blandt de konventionelle varer." [2]

"Så vil jeg også sige, tålmodighed fra detailhandlen, det er jo trods alt stadigvæk et nichemarked, og meget begrænset hvor meget plads du får […] tålmodighed, det er helt klart noget, som betyder noget, fra detailhandlen." [8]

"… lever du af nogle få meget gode kunder, som du er meget, meget i dialog med. I vores tilfælde har vi jo startet ud med [retailer name] og har en meget tæt relation med dem." [1]

" her må jeg sige især [retailer name] har været enormt medvirkende til, eller har ønsket at være en del af sådan en udviklingsproces" [13]

Several retail experts acknowledged that the retailer actively supports and invests in the plant-based assortment [E3, E5, E6].

3) Investor: Interest by investors in the business opportunities and growing trend, but also a change in understanding the drivers of the trend and the types of companies resulting from this.

"Det er heldigvis også sket en masse I forhold til […] impact investment […] Og det synes jeg er rigtig fedt, fordi vi talte med rigtig mange som ikke kunne forstå det her med at have et virksomhed som egentlig har en dobbelt bundlinje et eller anden sted" [1]

<u>Policy environment</u>

Some interviewees [4, 8, 12, 13] talked about the **policy environment** nationally and internationally as an external factor. Policy reports and objectives set provide a supportive environment, including funding. Two aspects emerged here.

1) Supportive goals: International reports emerge with information that is supportive of the trend (e.g. climate reports and food sector assessments) and thus provide political support, or national actions, recommendations and guidelines that are in line with the trend (e.g. dietary recommendations).

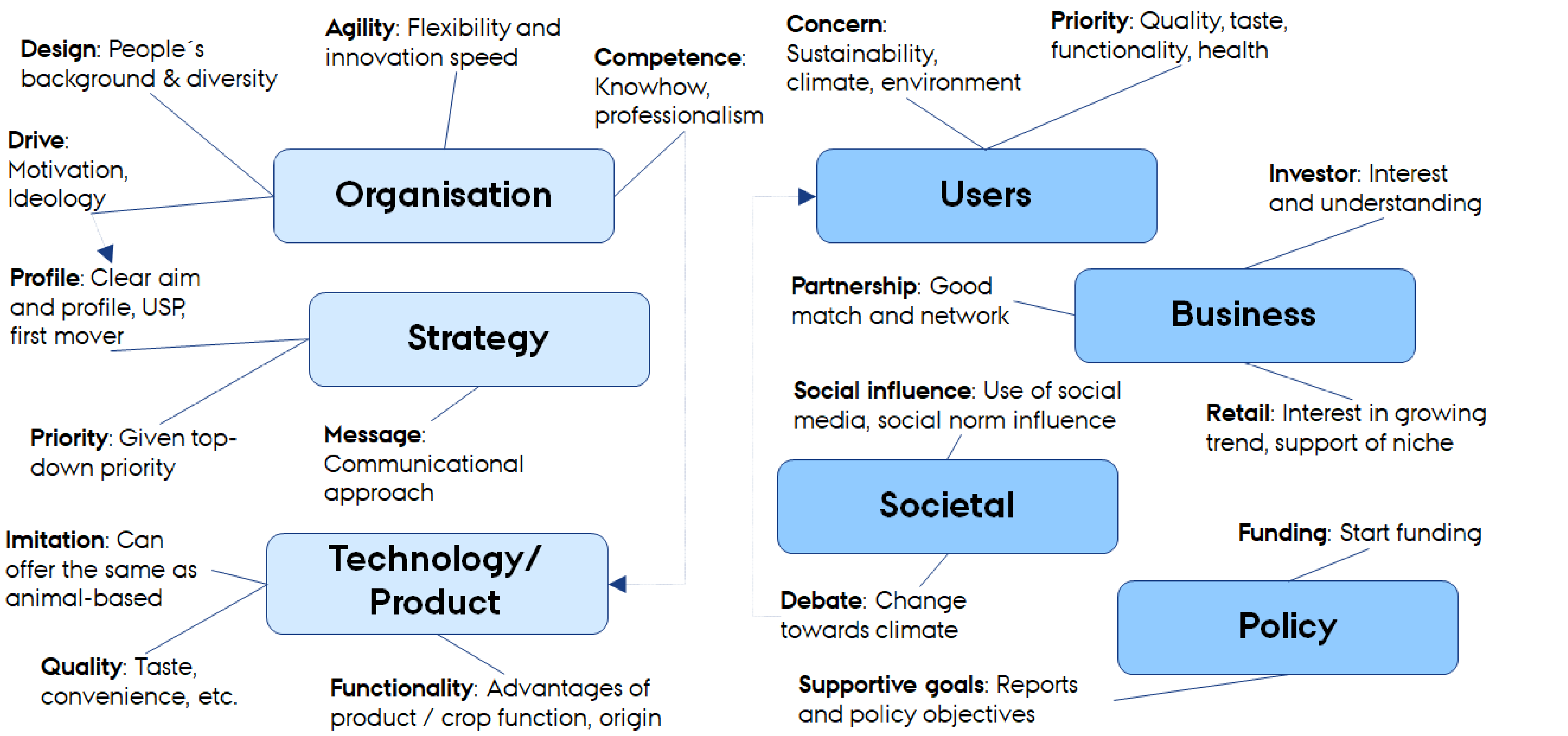
"Og så er det det her med at det politiske momentum, har hjulpet rigtig meget […] og så kan man sige at det føder ind i hinanden, fordi så gør det måske også at man kan tage nogle endnu modigere beslutninger og så ruller det ligesom." [4]

"Men det er sket nu, politiske forhold, der er mange det kalder den her landbrugsaftale for historisk […] Vi kommer ikke udenom, at det her er en positiv faktor […] for første gang er der sammenhæng mellem fødevarepyramiden, altså anbefalinger Fødevarerstyrelsen anbefaler om kost, og at vi afsætter penge til plantebaseret mad." [13]

2) Funding: Funding mechanism that help to start up a business or allow funding into research questions that need exploring.

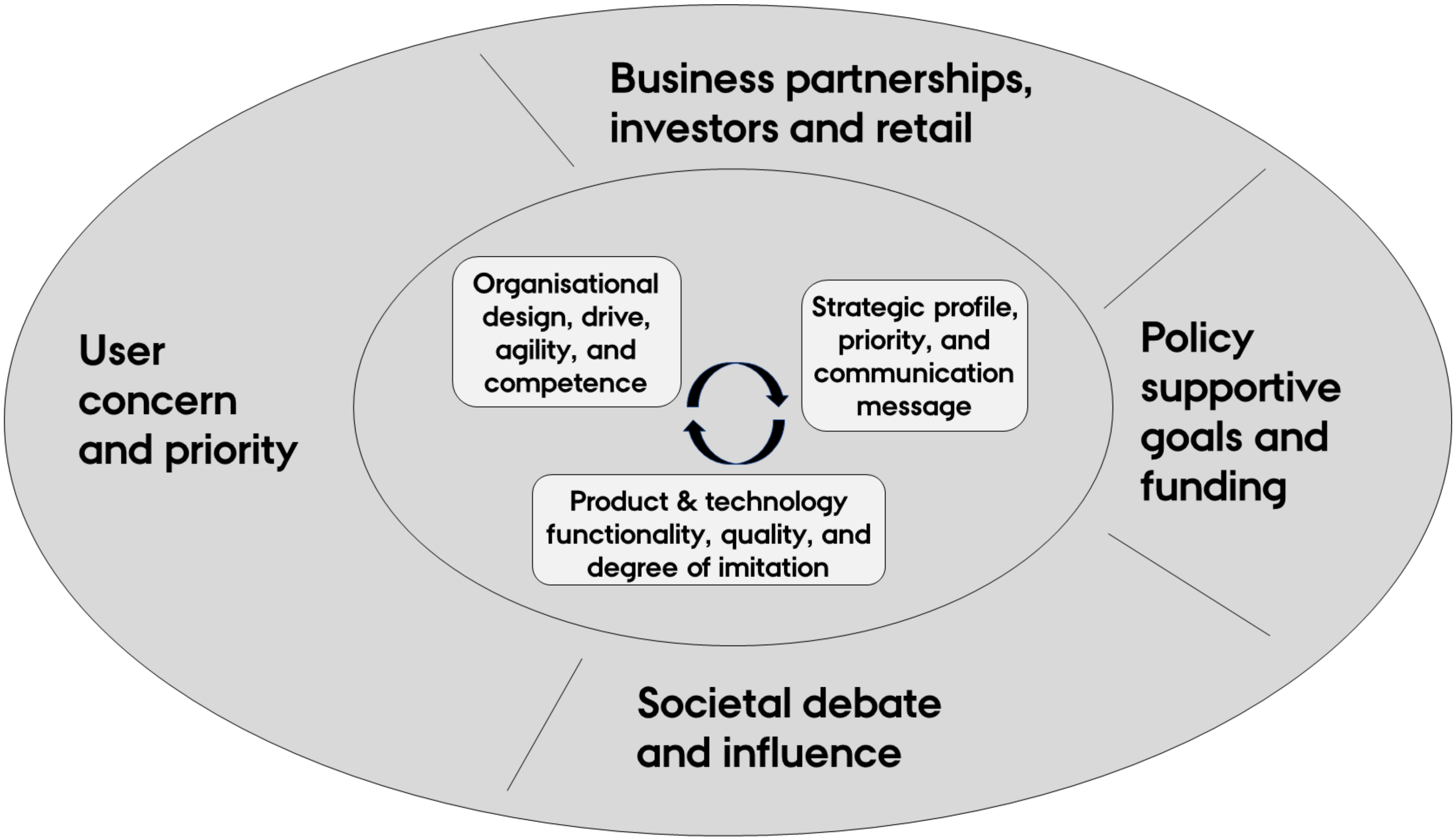
Here, an expert explained that funding both for network activities within the sector and between the sector and policy makers, as well as funding in support of start-ups through seed funding and support mechanism for entrepreneurs has been an important factor [E11].

Figure: Overview of key success factors.



Source: own.

Figure: Key success factors presented in the framework of external environments and internal drivers.



Source: own.

Mistakes made

Asked about which mistakes they have made during the past years from which they have learnt, the interviewees mostly pointed to aspects related to their own strategy. Two points emerged.

The main points were about **strategic mistakes** in lack of focus on the core business, lack of communication and too hasty innovation.

Interviewees said that they have launched and innovated products too fast at certain points, which can be a mistake because either the product was not good enough yet [13] or because they have not yet communicated enough about their previous innovation [4].

> *"Og det tror jeg, at vi nogle gange, næsten har været for ivrige, når vi har lanceret noget, som i virkeligheden ikke var klar. Og så følger der en hel række korrektioner […] og det er dyrt. Så det er nogle fejl vi har lavet, at vi nogle gange var for hurtige, selvom vi synes vi var for langsomme i det." [13]*

Other interviewees mentioned they had either not focused enough on the core and tried to be part of too many trends [6] or that not enough priority had been given to the area [8]. Lack of marketing communication overall was also mentioned by companies [13, 4].

> *"… altså jeg tror vores største fejl er at vi er sådan vildt for meget hurtigt […] vi har så mange ting i gang …[…] så giver vi måske ikke lige vores nye initiativer sådan nok plads […] også i forhold til en positionering" [4]*

> *"Ja vi har lært, at når produkterne vi lancerer eller udvikler, bliver for nichepræget, så […] misser vi fuldstændig skiven i forhold til almindelige forbruger" [2]*

> *"… kommunikationsfaktoren, og sprede et budskab ud, er næsten lige så vigtigt som selve produktet […] Benefits kan jo ses på mange måde, hvad er benefits på planeten, og hvad er benefits hos mig selv? Hvis vi havde gjort mere af det, tror jeg vi kunne have haft mere succes nu." [13]*

Further, interviewees talked about how communication had needed to shift away from calling products vegan [13, 7], or that they realized it is important to refer in product communication to the meat product comparisons they consumers are familiar with [1].

> *"… bliver du nødt til at have nogle associationer til noget du kender i forvejen. Og det har vi bare ikke kunnet ignorere. […] som landet ligger nu, så kan vi ikke gå væk fra, at det er alternativer til kød, vi laver." [1]*

A second aspect emerging was about the **mistakes in business collaborations**.

Interviewees pointed to mistakes related to investments, either in choosing investors [5] or in being overly careful with inviting investors [1], while another interviewee mentioned the wrong choice of target customer group as an earlier mistake [3].

Further comments about mistakes were related to logistical errors and ordering mistakes [14] or an over-expectation about what the technology can do [11].

Current barriers

A number of current barriers were highlighted by interviewees. Most barriers mentioned are about the **policy environment** and consisted of administrative barriers and lack of support.

The observation that the current environment is more supportive of and geared towards animal-based foods appears to underly various of the barriers mentioned, whether located in the policy, business or society.

Interviewees were pointing to the administrative burdens in the innovation process [11] or legal barriers to communication [12, 14], a general lack of support of the trend from the policy side [2] or even an opposition due to lobbying from the side of the animal-based sector [4].

> *"Man kan jo sige at forbrugerne, og industrien i Denmark, er så omstillingsparate til grønnere madvalg, at politikerne sakker bagud" [2]*

> *"… der kan man sige at politikerne modarbejder det virkelig, men det er jo selvfølgelig på grund af den stærk lobbyisme" [4]*

Further, it was mentioned that the society in general is focused on animal-based products [8], and that there is yet a lack of more scientific work on functionalities of plant-based ingredients [13].

Also, the **retail practices as a barrier** by for example entry barriers consisting of standards and payment practices and unwillingness to stock products in retail was mentioned as a barrier [3, 10][E11]. Here it was discussed that the competition in the retail landscape means that the room to manoeuvre for retailers is tight [5]; The latter was underlined by two of the experts [E8, E11], and one example that was given was the tight competition and lock-in situation in terms of the established practice of attracting customers by price discounts on meat products [E11].

> *"Jeg plejer at sige at du skal sælge et produkt rigtig mange gange, fordi du skal sælge det til kæden, så skal du sælge det til butikken, så skal du sælge det til de butiks sortiment ansvarlige ude i butikken, så skal du få forbrugeren til at tage den ned af hylden" [3]*

> *"Det kan godt være de har en bæredygtighedsagenda, men den bliver over-ruled af en prisagenda og en kvalitetsagenda. Til en hver tid." [5]*

Transition observations

During the interviews, interviewees made comparisons to other transitions, and they mentioned occurrences and actions that were crucial for the transitions and changes they observed. Before that is described, a few more general comments from experts are presented.

General transition mechanics

Two experts stressed that there are always various actors and stakeholders at play and that their interactions determine the development on the market, in particular consumers and business and policy [E1, E2, E10]. The external factor though have a particular importance because no matter the internal drivers, larger shifts can only happen when external factors have an effect.

> *"... the broader environment allows the development of the industry. And that´s I think, where the transition stuff comes in – an individual firm, a technology is not disruptive, let´s say, by itself, right, an innovation is kind of useless by itself without developments in the broader environment that facilitates its growth [...] it is the convergence of those factors that you need" [E10]*

> *"... the internal are always in control of the organization, the external is, you know, there is less decision making, less control, but it is also often, you know, where the magic happens and where big success can emerge in terms of the market development ..." [E2]*

Comparisons to other transitions

Interviewees saw an **analogy with the technology sector** and pointed to similarities but also differences of innovation and business in tech versus food [1, 4]. An advantage that they underlined was the disruptive and 'can do' mindset that tech-entrepreneurs bring to the food area, which amongst others means that they do not wait for consumers to ask for certain products but develop new products that match the underlying needs. An expert also mentioned that those entrepreneurs find it easier to question the current technology in the sector, and seek to invent new technologies for food production that do not need animals [E11]. However, new innovations in food need, compared to e.g. Apps, product facilities and can thus not be scaled up as fast.

Other interviewees made reference to the **introduction of animal-based foods** in general or specific products in particular, pointing to the fact that Denmark had not always been an animal-sector focused economy but transitioned to one, helped by purposive actions [8, 14]. Comparisons were made to the marketing of milk [8] [E5] and the establishment of pork and minced meat in diets [14].

> *"... en branchetilgang, som skal til, for at der opbygges, det kan godt være forbrugerne ved det, men det skal gentages, og gentages, og gentages. Så helt klart, hvor længe har [dairy name] ikke, du ved, mælk er godt for knogler, for eksempel. Det er noget du har hørt over LANG tid, og det bliver normen" [8]*

> *"Så ved de jo godt at kvalitet koster. Men lige nøjagtig på fødevarer, der har vi jo simpelthen, på grund af vores produktionssystemer i Danmark [...] Det er derfor at vi spiser endeløse mængder af hakket kød i Danmark, det er fordi vi har en kæmpe mælkeproduktion" [14]*

Another comparison was to the **establishment of organic food** [8, 13]. The comparison to the organic food transition was particularly often underlined and repeated in the subsequent expert interviews [E3, E4, E5, E8, E9]. Various experts portrayed the development of the plant-based market as following the same path. One expert noted that so far though the policy environment has not acted in the way it has for the organic food sector [E6]. It was also remarked that the development actually happens considerably faster, and the explanation for this is that the trend is fuelled by the larger and more international issue of environment and climate [E5].

> *"… den plantebaserede dagsorden har et udspring I en langt større og en langt mere globalt indgribende dagsorden, som jo specielt de unger køber ind på, så det er en af forklaringer på at der er meget mere tempo og traction." [E5]*

Two experts brought up another comparison [E3, E5], which is the one to **alcohol-free beverages** and how alcohol-free beverages similarly to meat-free food products are offered side-by-side with the alcohol and meat, so that consumers can do their purchase taking various household members or guest priorities into consideration [E3].

A further comparison was made to the case of **eggs from caged hens**; This was used to show that retail can introduce a new direction within a product category by expanding the assortment, until so many consumers have shifted to the new type, that retailers can afford to phase out the original main type [E8].

Crucial events, organisations and actions

A range of organisations were mentioned as influential actors, events or actions pointed out. From **within the plant-based sector**, the start of network activities in the sector such as Plantebranchen [14][E11] and the protest against policy hurdles manifested in the 'kakaogate' [2] were named. In addition, interviewees named influential market launches or communication campaigns by companies [2, 4][E11] as well as publications of consumer insights on the trend development pace [E11].

As **part of the external factors** and both the societal and political environment, what interviewees mentioned was the international reports issued by IPCC and WHO [4], health trends originating especially in the US / California and documentaries on health effects of plant-based or environmental effects of animal production such as What the health, Game Changer and CowSpiracy [1][E2], persons in the climate debate such as Greta Thunberg [13], the Danish 'climate election' [3], and different effects of Covid19 on consumer priorities and behaviour [5, 11, 12].

Timeline

Year	Examples of occurrence or actions
2012	Circa start of first plant-based niche/market in Denmark
2014/2015	Naturli begins to launch plant-based products, thus expanding away from only dairy-replacement drinks
2014/2015	DVF voices retailers need to react to plant-based product demand and suggests concrete products to list
2015/2016	Health trend in US, documentaries on health and environmental effects of animal production
2015	WHO classifies red meat as carcinogenic
2016	The vegan product line is still difficult to sell
2017	Naturli organic spread is launched positioned in the dairy section in retail
2017	Coop and DVF survey interest in meat reduction and identify a large increase since 2010
2016/2017	Plant-based niche/market begins to develop more, retail reacts to consumer demand and sources from abroad
2018	IPCC report underlines the climate change threats
2018	Quit meant campaign launched by Simple Feast comparing stopping meat with stopping smoking
2018	Naturli launches plant-based minced ‘meat’ which is positioned close to the animal product in terms of location and price
2019	‘Klimavalg’ – national parliament elections with previously unseen focus on climate issue
2019	Stronger shift of dairy milk sales versus plant-based milk/drink
2019	‘Kakaogate’ – plant-based sector lobbies against unequal taxing of animal- versus plant-based milk/drink
2020/2021	Corona pandemic – more health interest and home baking, but also increased purchase of meat
2020/2021	Danish Network for Plant-based Proteins regularly brings together companies and actors in the sector
2020	Various collaboratively developed strategic documents are published (e.g. ‘Fra Foder til Føde’ or L&F strategy on plant-based foods

Observed changes over time

During the interviews, comments were made about changes that interviewees see unfolding in the market in the past and up unto now. Three trends emerged and are described below.

1) Sector evolves from small niche to bigger and more crowded with greater competition:

Interviewees portrayed the development of the plant-based sector as driven by small companies and start-ups that meet a demand and work without much policy support [9, 14]. However, due to the consumer demand opening up growth opportunities, retailers and large, often animal-food based companies as well as investors have developed an increasing interest [2].

This has led to greater competition in general [E1, E4], in particular by products lines from large companies and as private label brands [3, 7]. The larger companies have more power to push into the market [E9]. The increasing size of the plant-based niche has also led to counteractions by the animal-based industry [E2] - as for example when health aspect of plant-based diets are communicated, or in terms of calling for restrictions on terms that communicate plant-based products with animal food-related words [2].

The different types of players show different innovation behaviour - smaller entrepreneurs show a faster speed to market, while large multinationals are slower and are followers [8], and are also characterized by either a more ideological versus more a economical motivation [E11]. The higher speed to market also entails the risk of more frequent failures [2] or disappointing consumers with products not well-developed [13]. On the other hand, more 'ideological' companies can also have a slower speed to market because developing new products or activities can be more complex with high ambitions [4, 13].

2) Consumer wants shift from animal welfare to greater and diverse expectations:

The general trend is that consumer interest has shifted from a focus on animal welfare and wanting products without animal ingredients over to a range of interests such as health, clean label, environment, climate, and local [8, 10]. In the early days of the niche, consumers bought plant-based for animal welfare reason and the non-animal mattered most – now, there is a greater expectation towards product meeting a diversity of motives and all what animal-based also can (quality, taste, functionality) [3]. From among the different drivers, however, 'climate' appears currently the most powerful one [E11].

3) Move away from 'veggie' and observation of veggie-shaming:

An aspect various companies observed was the own realisation and change in approach with regard to whether or not to use the word 'vegan' or 'vegetarian' [2, 13] [E1]. Sales of products named accordingly were observed to be more disappointing [13] and thus the word taken out of the name [7].

This might be because the terminology triggers a different identity connected to the niche but not to the mainstream flexitarian consumer lifestyle [2]. Also, interviewees said that companies realized the larger market potential is among flexitarians [4, 7].

> *"Man kan godt mærke, at hårene på armen stritter lidt, når man navner ordet, vegansk. Så har de nogle billeder der popper op med det samme […] Der skubber vi kun forbrugerne væk." [2]*
>
> *"… når du skriver vegansk, så skiller du faktisk vandene, så synes folk måske det er dumt, og så vil de ikke prøve det" [13]*

Future challenges and drivers

Interviewees were asked about the future needs and the key success factors that they will need to remain successful. The comments made by interviewees were categorized into the same categories as the success factors previously described. Most comments were about the business environment as well as the user environments, but both of these areas have consequences for the strategy that the companies take in the future. There are close relations between the points mentioned (e.g. the consumer interest triggers the challenge to communicate as well as the need of policy intervention for better information). The observed changes over time (the three trends described earlier) can be expected to also proceed into the future.

<u>Business environment</u>

Interviewees predicted an **increased competition in the sector** [10], amongst others due to the growing engagement of companies from the animal-based sector. **Investor interest** is seen as an opportunity [10] but also a potential influence changing the sector and its ideology [14]. One expert underlined however the importance of a broad 'eco-system' of companies - of diverse start-ups and innovations across the sector and the development of a broad range of companies and diverse product solutions [E11]. A potential threat to the whole sector is posed when companies offer products too fast which then turn out to be of **disappointing quality threatening re-purchase**, in their attempt to secure and maintain market share in the growing market [13] [E5][E11].

> *"Og min bekymring er en lille smule, at hvis der er for mange dårlige oplevelser mellem forbrugeren, og de produkter vi prøver af. Og de siger; det dur bare ikke det her. Der har vi jo et ansvar som producenter" [13]*

In addition, among retail, it needs **changing practices and convincing retail decision makers** at various levels, from the top management to the managers in categories and individual stores [8], as well as letting go of established practices such as the discounts on meat [E11].

Interviewed retail experts agreed that the marketing effort of the retailer in the store has a crucial importance for sales for individual products and more than occurrences in society, thus acknowledging that active retail support is a future driver [E3, E5]. Another expert suggested that plant-based companies have to carefully assess which type of retail player to work with in order to achieve a good match [E8].

User environment

Interviewees pointed to the continuous and increasing **interest by consumers**, in particular the young target group [2, 8]. The type of interest has consequences for the strategic choices in reacting to the consumer interest.

Both authenticity of the company´s story [5], but also the need for convenience products for consumers were mentioned as important [1, 4], as well as an interest in both health and clean label aspects [1, 2]. Also, various interviewees underlined the importance of **offering products with the same characteristics** that they seek in the animal-based products [2, 9, 13] [E5], either in the long run or for the time being.

> *"… lige meget hvordan man vender og drejer det, og lige meget hvor godt man gerne vil gøre det for planeten og dyrene, så er mennesket et egoistisk væsen og hvis ikke der kommer noget godt ud af det for en selv så holder det ikke i længden […] i den travle hverdag, så kommer convenience til at fortsætte […] det skal ikke være mere besværlig" [1]*

> *"Hvis vi skal omfavne den berede befolkning med plantebaseret mad, så skal det ikke afvige meget fra den mad, som de spiser i deres daglige liv. […] så skal du ikke give afkald på noget …" [2]*

> *"Jeg tror det er vigtig, med nem overgang. Om det er midlertidig eller permanent, det tør jeg ikke sige. Men vores mål er at skubbe til den her omstilling. Så det er vigtigt at det ligner, og fungerer på samme måde." [13]*

However, one expert stressed that he/she thinks there is both a stepwise development (consumers first trying products that imitate) and different target groups for either products imitating meat taste/texture and products that are plant-based products [E1]; Another expert commented on that there can also be different occasions of relevance [E4]. Also, one expert (to which others agreed [E6, E9]) underlined that it is not possible to fully imitate meat taste/texture as well as achieve a clean label, at least not without a high price – thus consumers might need to be told and realize that they have to decide [E1]. A further expert mentioned that companies should not forget that the most engaged 30% of the consumer is not only interested in climate but also in other issues of sustainability, and want products addressing both [E11].

> *"Du kan ikke få blendede linser der opfører sig som oksekød. Så må man bare sige til folk, sådan, du ved, dream on, det kommer ikke til at ske." [E1]*

> *"… flexitarerne, det er jo den helt store forbrugergruppe, de går op i alle FNs 17 verdensmål, og så nytter det ikke noget at man har et produkt man kan claime på nogen af verdensmål, hvor man så ignorer de andre" [E11]*

However, one expert mentioned that fermentation might be a technique that can balance various expectations [E7]. One retail representative actually called for less imitation products and more plant-focused products [E9]. Lastly, one expert cautioned that the sector´s focus on imitation products makes sense from the individual company interest in the short run, but that it is not necessarily a good strategy for achieving a greater shift and transition of the food sector in the long run [E10].

> *"… maybe you have a healthy share of a niche market and in some sense you succeeded in the market, because your firm survives [… but] you can´t say that*

in future, you can´t say that plant-based has succeeded in initiating a transition" [E10]

Various experts talked about the **challenge of the attitude-behaviour gap** when it comes to assessing consumer interest in the future. Expert observed that consumer interest is at times overestimated both due to the attitude-behaviour gap and because of the 'hype' around the trend [E1], this observation can mean that companies need to be careful in their actual sales expectations. Also, when sales do not follow hyped expectations, this sends a negative signal to the market; At the same time, however, the attitude-behaviour gap is also discussed as a motivation to develop products and concepts that allow consumers to move from attitude to action [E11]. Retail experts similarly stressed the observation of a difference between what consumers seem to be interested in, and what they buy [E3]; Also, an increase in sales of interest is not met with a similar decrease in sales of animal-based [E5]. One retail expert mentioned that the unequal geographic distribution of consumer interest means that retailers have to differ the assortment accordingly [E5].

Interviewees often connected their comments on the future consumers with mentioning that a future challenge lies in **giving sufficient priority to communication** [8, 1] – amongst others how to communicate the reasons for going plant-based [8], generally informing more on the climate and sustainability effects with e.g. respective labels [7], and explaining products especially to the young target group via e.g. use of social media [10]. The related challenge in growth of demand is how to move out of a niche/elite consumer segment, and an important element of this is decreasing prices [4, 9] [E1, E5, E7].

"Men det er noget vi bliver nødt til at kigge dybere i, fødevarebranchen. Fordi der er fokus på det, og forbrugerne går mere og mere op i miljøet og bæredygtigheden, så jeg synes helt sikkert at det er noget vi behøves at gå dybere ind i, som fødevareproducenter, og industri i det hele taget. Vi skal bare have fundet en metode hvor vi lærer de her forbrugere, at forstår hvad det er vi snakker om. For de forstår det simpelthen ikke." [7]

Two experts mentioned that the current communication of producers about plant-based products is not focusing enough on positive aspects of protein content [E1] and good taste [E1, E4].

Policy environment

A role for policy makers was seen in terms of **education and information**, that is, increase education efforts, information provision, and making information about sustainable food information more accessible for consumers [7]. Another comment was about changing **regulations or taxes to support** the relative status of more sustainable products [6]. Also, the need for efforts into supporting research and education for better plant-based ingredients and processing is hinted at [13]. Generally, policy supporting a diverse assortment and innovative sector was called for [E11].

"det kan være nogen af de store nuværende virksomheder er dem der har det geniale produkt eller kommer til at udvikle det, men det kan også være det er en startup der gør det, og så kan det være startuppen selv bliver stor eller bliver købt af en af de store virksomheder senere, pointen er bare der ligger hele tiden en ideudvikling og grænseafprøvning […] det kan bare noget som skaber et space for kreativitet og udvikling" [E11]

One expert added that public accessibility of this knowledge would help to accelerate the market development [E1]. In addition, ensuring that there are no unnecessary (considering the relative safety of plant-based sources) regulatory hurdles for new plant-based innovations, might be good from the policy side [E1]. Also labelling such as a climate label was mentioned as an important policy instrument [E3, E6]. However, a further expert cautioned that the expectation to such a label is over-rated compared to the effect of e.g. taxes or moving more plant-based in public kitchens [E11].

An expert mentioned that the political will is in place by now [E4]. A further mentioned that it is important for the plant-based sector to collaborate in order to have an influence on the political agenda [E8]. This might help in reacting to counteraction from the animal-based sector: One expert cautioned that the degree of processing in plant-based alternatives imitating animal-products taste and texture is used as a critique by the animal-based industry [E10].

<u>Societal environment</u>

There is an increasing **demand for sustainability and climate information** among customers and in society [10]. There is a **need for better technologies** and processes to improve the quality of plant-based products overall [3].

In terms of social influence, one expert commented that now that being vegan/vegetarian is more accepted, the presence of just one vegan/vegetarian for a meal at home or out of home can change the majority decision to change the meal or choose a canteen/restaurant that offers something for vegans/vegetarians – this way, a smaller group can have a much larger effect on the choice of their peers or household [E1]. A retail expert commented in a similar vein, that the imitation products allow a purchaser to cater for diverse household member priorities [E6].

Generally, an ongoing shift in food culture will support the interest in plant-based products, because they fit well to the new food trends, meals and patterns [E5].

> *".. så er det nok mere pitabrød og pasta med et eller andet og ris med, altså, boller i karry måske, og hvad de boller er lavet af det er mindre afgørende fordi det er sovset ind i karry ikke - det plantemad her passer godt inde I den her lidt grønnere, lidt letter madkultur" [E5]*

<u>Strategy and organisation</u>

Interviewees said that going forward, the sector **needs to communicate** more, better and repeatedly [8] as well as **needs to professionalize** in terms of marketing [6] [E5].

> *" ... mange virksomheder, som gerne vil lave noget bæredygtigt, gør det jo ud fra en ideologisk tanke, fordi det er det de gerne vil. Og det er også sådan vi er født, og grunden til at vi laver det, som vi laver. Men man skal jo også være professionel, det er jo ligesom det der gør, at man får succes." [6]*

<u>Product and technology</u>

A future driver will be the continuous increase in the **product quality and processing technology** for plant-based products [2, 14]. There is a need for more knowledge on ingredient functionalities [7, 13].

> *"Men jeg gætter på, at om fire til fem år, så har vi et produkt som er rent én til én mælk. Forbrugerne vil ikke kunne smage eller føle nogle forskelle i, om de*

drak nogle plantebaserede eller animalsk baserede, fuldstændig samme produkt" [14]

Various experts mentioned that increase in scale is ultimately key for the further development of the market, often mentioning the effect that this has on the price going down [E5, E7, E10]. One expert envisioned that the scaling-up ought to happen with the current target group, which is more loyal and more willing to pay extra, to then fund the development of products and the capability to decrease prices before approaching the yet less engaged consumers [E11].

"… de første 30% af befolkningen, dem som køber allerflest af de her produkter, det er dem man, som vi ser det er afhængig af for at løbe markedet i gang […] lade alle os der gerne vil betale for kvaliteten, betale gildet som virksomhederne så kan få som indtjening til at investere i at senere ramme de andre 60-70% af befolkning […] det er bare en refleksion" [E11]

Development over time

We identify different phases of development of the plant-based sector from the company and expert interviews. These stages are characterized by that the actors from within the various environments play a different role.

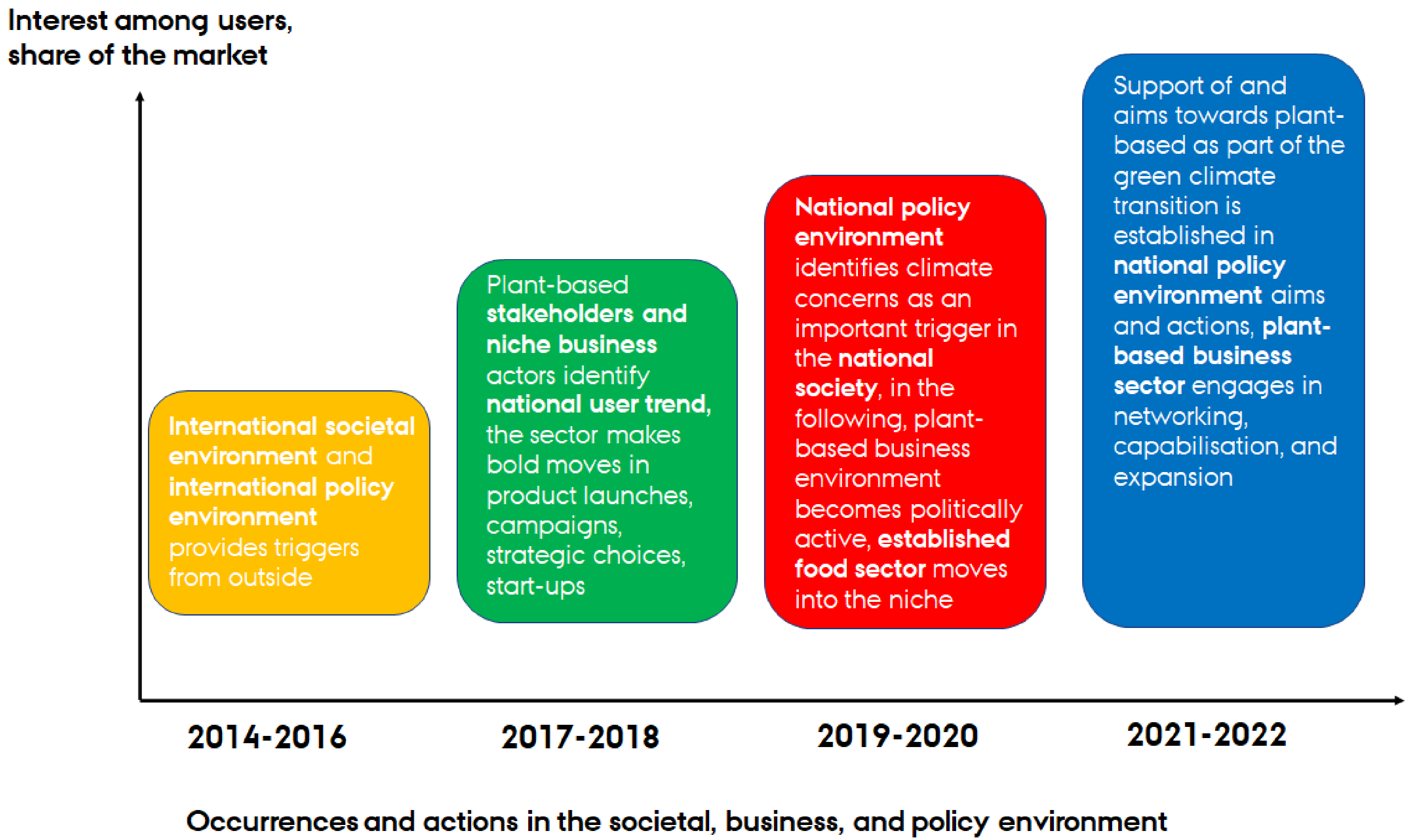
In the first phase, from circa 2014-2016, we notice that interviewees mention triggers that are mainly originating from outside of Denmark and having an effect on a niche consumer market within the country. The international agenda of climate and environmental issues reported in policy documents and consumer trend towards health and plant-based in other areas of the world are named.

In the second phase, circa 2017-2018, interviewees mention actions in the Danish plant-based sector by both consumers and sector stakeholders. It appears that the mounting international agenda encourages bolder action within the plant-based sector (founding start-ups, changing strategies in a more radical direction, altering product placement strategies, stepping up product development and communication), and a broader national consumer demand materializes.

In the third phase, circa 2019-2020, interviewees comment that climate becomes a major consumer and policy topic in Denmark in general. In the plant-based sector, this is also reflected in the increased effort by the established food sector and retailers, while the plant-based sector stakeholders are stepping up their game in organizing themselves and be more vocal.

In the fourth and current phase, beginning with 2021, interviewees mention policy support emerging as well as increased investor interest. The national policy environment begins to support the plant-based market development and identifies it as an alternative growth sector. The plant-based sector works further on professionalizing, networking, and developing export potentials.

Figure: Development phases over time and the role of different environments.



Source: Own.

Summary of company and expert interview findings

For most companies, a combination of external and internal factors was regarded as key success factors.

Internal factors of success emerged to be of three different types, which are organization, strategy, and product & technology. Most companies pointed to at least one factor inherent to their organization.

The organization was referred to both in terms of how it was founded back then, and in what it is now. Factors mentioned were the combination of personal and professional background and experience (design), original vision and motivation (drive), the current state of knowhow (competence) and the current capability to react and act (agility).

In terms of strategy, the majority of the comments were related to the profile of the company expressed in the strategic choices. The latter has a foundation in the organisations drive and motivation. Factions mentioned were strategic choices made to take up a certain position in the market and to reflect the ideology behind the company (profile), management priority given to the plant-based trend (priority), and success entailed in the communicational approach (message).

In terms of product & technology, factors mentioned were the product and its characteristics (quality) as well as what the product and technology can (functionality), as well as the fact that product or technology allows offering the same aspects as animal-based food (imitation).

External factors that companies mentioned were categorized into user/consumer environment, the business environment, the overall societal/cultural environment, and the policy environment.

The great majority of companies named a success factor that described the consumer demand and its foundation in the societal developments, and secondly factors related to business, but only few factors from policy environment. Expert interviews confirmed that consumer demand fuelled by an international trend was the main driver.

In terms of user environment, factors mentioned related to consumer interest in sustainability, environmental and climate issues (concern) and to a diversity of motivations to choose more plant-based (priority).

In terms of the societal environment, factors addressed were the societal agenda that focuses increasingly on certain issues (debate) as well as the multiplier effects through social norms and social networks including social media (social influence). Expert interviews confirmed that large societal shifts such as introduction of social media and a generational shift are important underlying drivers.

In the business environment, success factors mentioned were establishing and maintaining good relations (partnerships), various ways in which retail has actively supported through strategic choices (retail), and opportunities for financing (investors). Expert interviews confirmed that some retailers took active actions to support the development.

As factors in the political environment, it was mentioned that certain reports or policy goals at international and national level had a supportive effect (supportive goals), as well as that there are funding options (funding).

The main area of **mistakes** mentioned were about strategic mistakes in lack of focus on the core business, lack of communication and too hasty innovation. There were also various companies that mentioned having changed communication in that they altered phrasings away from using ‘vegan’. A second aspect emerging was about the mistakes in business collaborations.

Most **barriers** mentioned are about the policy environment and consisted of administrative barriers and lack of support. The observation that the current environment is more supportive of and geared towards animal-based foods appears to underly various of the barriers mentioned. A second aspect mentioned was retail practices and retail competition acting as a barrier.

When respondents commented on the transition and change they have observed, **comparisons** were made by drawing an analogy to the innovations in the tech sector, by referring to the establishment of dairy and meat products in society and business, and to the similarities and differences when comparing to the transition towards organic foods. Further comparisons were the analogy to the introduction of alcohol-free beverages or phasing out of caged hens. Occurrences and actions both within the sector, but in particular within the societal and political environment were mentioned. Within the sector, the founding of networks and organisations and impactful product launches and campaigns were named. Outside of the sector, important occurrences such as documentaries, elections, climate protests and the Covid19 pandemic.

Three general **changes over time** emerged. The first is the evolvement of the sector out of the niche, which entails a greater diversity of companies, the entrance of larger businesses across the whole value chain and greater competition in the sector, but also counteraction from the animal-based sector. The second is the observation that the consumer target group has evolved from a niche group interested mainly in some type of animal-free product to a larger, flexitarian and more main-stream consumer group with a diversity of motives for purchasing more plant-based products. Thirdly, and likely in connection to the second, company´s consumer communication has shifted away from portraying and naming products vegan.

A range of **future drivers and challenges** emerged from the interviews.

The most important future driver that companies pointed out is the continuous consumer / user interest, especially among the young. The continuous consumer interest can be potentially threatened if businesses launch disappointing products. Many companies think that products need to meet expectations of taste, texture, convenience and price in similar way as the animal-based products consumers know so far. However, others point to that this is a question of different consumer target groups. Convincing further levels of retail and changing certain retail practices is called for in order to allow plant-based products a better entry and competitive position.

Further, stepping up professional communication and marketing by the companies and information about the benefits is needed to support consumer´s continuous interest. For the latter, both business actors and policy makers seem to be called for with regard to establishing education, communication, and rules for labelling such as on climate impact. A further driver that companies see is the further development of research and innovation in terms of plant-based ingredient functionality and processing technology, where there is both an expectation of development coming on its own but also some calls for policy support.

Appendix

Interviewee lists

To ensure anonymity, only general information about the type of company and expert is provided here.

Nr of company interview	Type of interviewee
1	Danish company
2	Danish company
3	Danish company
4	Danish company
5	Danish company
6	Danish company
7	Danish company
8	Danish company
9	European company
10	European company
11	European company
12	European company
13	Danish company
14	Danish company

For 3 of the Danish companies, material consisting of an in-depth recent media interview were also used for analysis.

Nr of expert interview	Type of interviewee
E1	Danish
E2	International
E3	Retailer
E4	Danish
E5	Retailer
E6	Retailer
E7	International
E8	Danish
E9	Retailer
E10	International
E11	Danish

Interview questions with companies

The following are the main questions – these were supplemented by specific questions to certain drivers/triggers and probing questions:

1. We define key success factors as a resource, skill or competence where the company creates value for the customers and differentiates itself from the competitors. It can be affected by external conditions, and then is a key success factor shaped by external forces and triggers, to which the company manages to react.
2. Which 2-4 success factors do you think have been the key to your success (in the past years)?
3. You mention ”x” and ”x” as success factors. Are these success factors you created yourself? Or are they created by external conditions? Or a mix of both?
4. Show PowerPoint: Here is a list of other potential success factors. Are some of them KSF at your company? If so, which ones? (you do not need to comment on all – only what seems relevant)
5. You mention ”x” and ”x”. How are they used? Are they used at different times? Can you mention a KSF that were relevant when you were a start-up compared to when you are established?
6. Can you think of mistakes and failures during the past years, which you found or you think can be useful to learn from, or important to avoid?
7. Imagine looking into the future. If you are the preferred brand in five years, what is the reason? What would you have done / what will have happened?

Internal drivers	External triggers
- Innovation and technology	- Consumers/customers
- Product development	- Social factors
- Organization	- Technological factors
- Marketing and communication	- Economic factors
- Cooperation (customers detail, stores)	- Market environment
- Environment / design	- Political environment
- Research & Development	
- Economic capacities	

Source: Own.

Interview questions with experts and retailers

The following are the main questions, these were supplemented by specific question to each interviewee depending on the area and competence. During the interview, results from company interviews were presented.

1. The past years: What do you think has been the driving factor for success and change in the past years, in the plant-based food market (including upcycled plant-based)?
   (e.g. in the past 3-5 years, what are the major key success factors of the companies on the market, what are the new start-ups versus the established companies that are going plant-based, doing right? What are their assets (resources, competences) of the first versus the latter? Which occurrences, trends, innovations, decisions, etc. have been crucial triggers that helped them?)
2. The coming years: What do you think will become crucial for the coming 5 years so that the companies and the sector succeed to grow?
   (e.g. which barriers do you see? Which actor has to do something? Where are the threats, pitfalls, misconceptions, etc.? Which barriers, challenges and opportunities, but also which different development paths do you see possible? What are the major different directions the market and trend might develop to – or not? (e.g. market split, emerging issues, etc.))
3. Reflection on findings: Looking at these general findings, what do you think?
   (e.g. do you think there is something important missing in what are the KSF so far? Is this more companies wishful thinking / self-representation and thus some bias in what they talk about, is something omitted or forgotten? Does your assessment of the future development factors differ? …)

Literature

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If not indicated otherwise, pictures are from Colourbox.dk.