Introduction to Product Lifecycle Management Principles

For Healthy Food & Drink Businesses

The AHFES training for
Product Lifecycle Management
is divided across 3 modules

This is Module 1 **"A Introduction to Product lifecycle Management principles"**

Module 1.2 Provides a more comprehensive overview of "The PLM software options."

Module 2 Provides an overview of "Applying PLM to healthy food"

All the training modules can be found on the Training section of the AHFES website

https://www.ahfesproject.com/training/

First let define what is meant by Product Lifecycle Management (PLM)

"It's a systematic approach to managing the series of changes a product goes through, from its design and development to its ultimate retirement or disposal."

PLM is associated with manufacturing and is typically broken into the following stages:

Beginning of life (BOL) - includes new product development and design processes.

Middle of life (MOL) - includes collaboration with suppliers and product information management.

End of life (EOL) - includes strategies for how the products will be disposed of, discontinued, or recycled.

The goal of PLM is to eliminate waste and improve efficiency.
PLM is considered to be an integral part of the lean production model.

Module 1 Content

1   **The Importance of PLM**   **5-13**
The core concept

2   **The Process**   **14 -19**
The 7 Key Areas

3   **The Benefits**   **20 - 25**
Increased revenue
Innovation
Product
Marketing
External communication

Module Content

Importance of Product Life cycle Management

Helps in planning, provides information about the market.

Provides evidence on the gaps that require the development of new products.

Provides the data for decision making and helps in forecasting.

Produces evidence-based planning on how a product will perform.

Assists for calculation of profit and deciding the profit margin.

Indicates the rise or decline of a product. So, you can launch the new product.
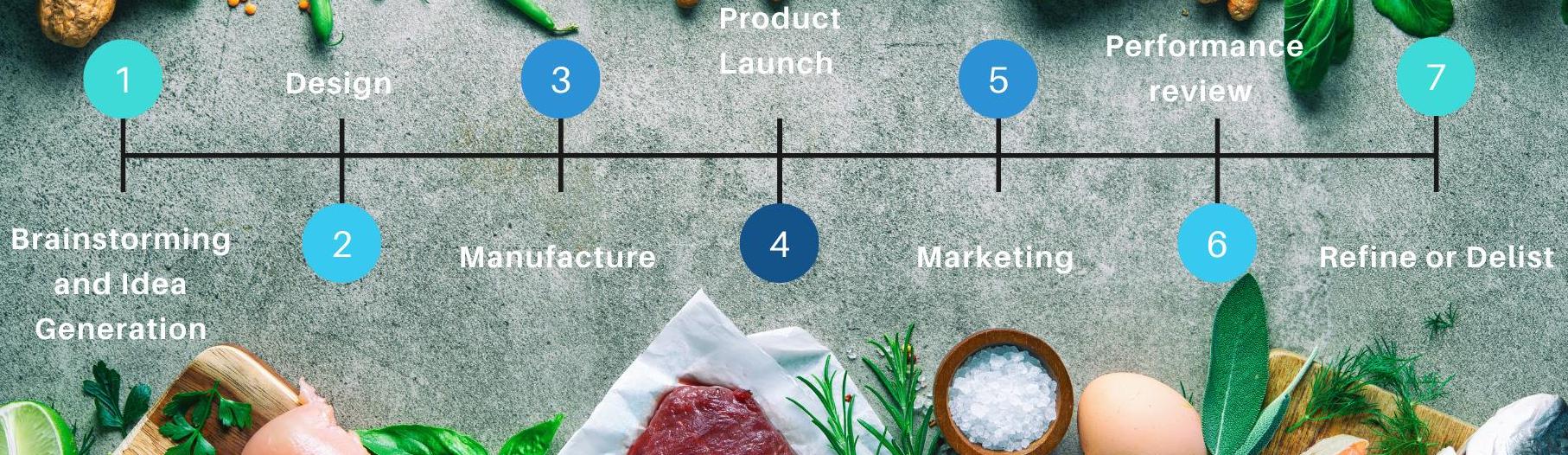
The PLM Concept

- Introduce the power of visibility, agility, and speed
- Transform the way you bring food products to markets
- Oversight and management from concept to retail to consumer
- Escape inefficiencies in development methods
- Combat slow time to market, eliminate miscommunication
- Boost innovations reduce cost and improve product margins
- Reduce mistakes and boost revenue
- Improve productivity and reduce time to market

Sample Project Timeline

Amazing Products r US

New Project Process

1

Design

3

Product Launch

5

Performance review

7

Brainstorming and Idea Generation

2

Manufacture

4

Marketing

6

Refine or Delist

Core Stages

1. Introduction
following product development, the marketing team develops a promotion and sales strategy and introduced a product to the market.

2. Growth
Once product acceptance is established, sales begin to rise. The product may require further development to stay relevant.

3. Maturity
Sales may now have peaked and there may be abundant competitors offering similar or better solutions ensuring stiff competition. It may become difficult to stay on top and stay relevant.

4. Decline
Sales now actively begin to decline, and the product may be stagnant and redundant. The product may be phased out at this point.

At its core, the Product Lifecycle Management process aims to establish and protect
all information defining the product.

This information is then shared with stakeholders to ensure that the product remains in focus and ensure it is managed in the best possible way.

The PLM should be to create a simple and flexible process that is easy to use and maintain.

What a Product Life Cycle Process needs..

Simplicity

Clarity is foremost in ensuring effective management of the process. Encompassing all aspects of the product including all data, the people involved, and the manufacturing processes.

The PLM then becomes the anchor connecting different areas and allows for clear and effective communication among them.

Flexibility

The work and rework associated with a PLM during its lifecycle can be optimized by ensuring that redesigns are accommodated based on emerging new information.

Greater flexibility should allow for changes to be made to existing products without starting from scratch.

Operational benefits to the company

Internal Efficiency
This involves streamlining areas such as R&D, manufacturing as well as prototype development and testing.

Efficiency for Suppliers
lower cost designs, less complicated parts and fewer steps to production. More effective purchase and customer service process.

Efficiency for Customers
A more focused understanding of customer needs and requirements. This leads to better product design with less re-design steps.

Plan & Strategies

Establishing company requirements and defining the criteria for success

Configurations

Looking at the way that products are designed and engineered, parameters and limits

Manufacturing configuration – product variants and components

Sales configuration – linking orders placed by customers, with marketing and business requirements

Consolidate Information

Gather all data and information pertinent to the product in one central location.

This will allow access to all relevant people and reduce redundancy, rework or conflicts in design or development.

Internal Collaboration

Once all the information is centralised, access to it should be provided to different teams and collaborations made mandatory.

The Seven Key Areas Of Product Lifecycle Management

A focused approach to the segments and processes that are the building blocks of lifecycle management

Key Areas of Product Lifecycle Management

1.PROJECT AND PORTFOLIO MANAGEMENT

Improve the effectiveness of your innovation efforts, while also maintaining the flexibility to adapt to new requirements, markets and regulations.

Review your total range against the sector you are working within.

2.SPECIFICATIONS MANAGEMENT

Companies must maintain full traceability of accurate and complete product data through the entire product structure— from finished products down to ingredients and packaging materials.

Key Areas of Product Lifecycle Management

3.SUPPLIER MANAGEMENT

Companies must maintain visibility of the supply chain suppliers and sourcing approvals as far upstream in the supply chain as needed to ensure traceability, food safety, compliance and costs.

4.FORMULATION AND MATERIALS MANAGEMENT

Many SME's employ a slow, manual, trial-and-error product formulation process.
This is an inefficient approach that can delay product launches.

These companies are unlikely to accurately assess the impact of formulation changes or respond to significant changes in the market

Such as changing regulations, new customer demands, cost variations, and nutrient claims.

Key Areas of Product Lifecycle Management

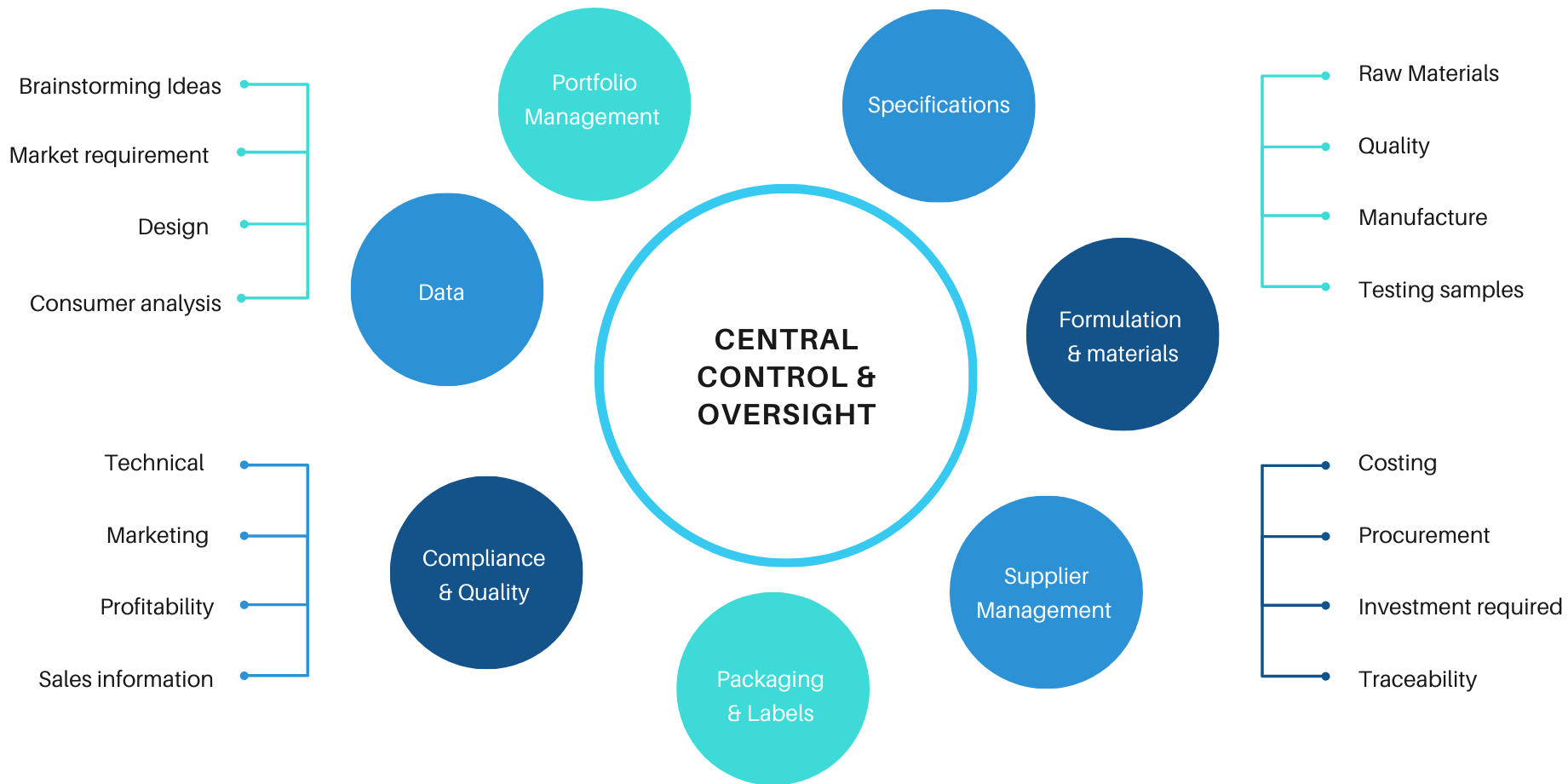### 5.PACKAGING AND LABELING MANAGEMENT

Companies must develop and revise product packaging and labels more effectively, improving cross functional tasks among technical, marketing, and design teams.

6.COMPLIANCE AND QUALITY MANAGEMENT

Companies must proactively ensure compliance throughout the product lifecycle, and fully integrate product quality and food safety into the process of developing and managing products.

7.DATA SYNDICATION

Companies must be able to seamlessly harmonise product information across all internal systems

Brainstorming Ideas

Market requirement

Design

Consumer analysis

Portfolio Management

Specifications

Raw Materials

Quality

Manufacture

Testing samples

Data

Formulation & materials

CENTRAL CONTROL & OVERSIGHT

Technical

Marketing

Profitability

Sales information

Compliance & Quality

Packaging & Labels

Supplier Management

Costing

Procurement

Investment required

Traceability

Make Collaboration Mandatory

The Benefits Of
PRODUCT LIFE CYCLE
MANAGEMENT

By now, I hope, it has become abundantly clear that to successfully manage a product through its life cycle, it is vital to have a clear system to manage all the data and streamline processes.

This is effective management which also provides great benefits that are of great value to the business

Increased Revenue

A PLM system can directly help accelerate revenue growth

With reduced costs

Faster time to market

Increase sales with relevant products that fulfil a customer need

The more relevant and reliable a product is, the more loyal its customer base

And in turn, more sales when this loyalty is converted to purchase behaviour

Innovation

With teams being able to work together and share information, there is more time to focus on innovation without compromise on quality or time to market.

New designs and features as well as new products can be introduced to meet the changing needs of the consumer base.

Product Quality

A combined source of information and a unified strategy ensures that there is consistency in product quality

Through the PLM processes, it is possible to build checks for product quality into all the necessary processes and ensure customer satisfaction.

Link Product Design, Manufacturing and Marketing

Reduced costs,

Faster time to market,

Develop relevant products that fulfil a customer need,

If there are any changes to the product design, then timely communication to the manufacturing unit will allow them to have the necessary raw materials on hand to begin manufacture as soon as the design is complete.

Similarly, if a new product design is to be sold to the customer, the marketing unit should have sufficient time to plan for and promote this in the market to generate interest.

These links are vital to the success of the product in its life cycle.

Establish External Communication

It's always a good idea to communicate with suppliers and end users.

Linking customer requirements and how they feed into product development, in terms of product and process quality

Strategic and competitive requirements are impacted by your competitors activities.

and business objectives are in direct response to this.

Product development requirements

The key product attributes will drive the new product marketing process

Example of successful
Product Lifecycle Management...

Pepsi Next

Mid-calorie cola, and 30% less sugar

Manufacturer   PepsiCo

Country of origin United States

Introduced
2011 (in test markets)
2012 (full launch)

Discontinued
2015

Product sector history and research

- Impact of the emerging substitutes on Pepsi

- Decline in Market share to about less than 10%

- Frequent come back with "reduced sugar" drinks

- Declining carbonated drink mark by around 90 million cases a year

- Shift in demand towards bottled water, energy drinks, soft drinks

The need for a new product

Market requirement

- Open new market –Mid range calorie
- Improvement and revision of range
- Increase market share
- Create new segments

New Product planning

- New opportunity analysis
- International expansion of Pepsi next
- Threat analysis from new products
- Intense competition

Idea Generation

• Mid calorie cola beverage having full cola taste with reduced calories

Idea Screening

• Target Market: Young generation and people who are very much health conscious Concept testing
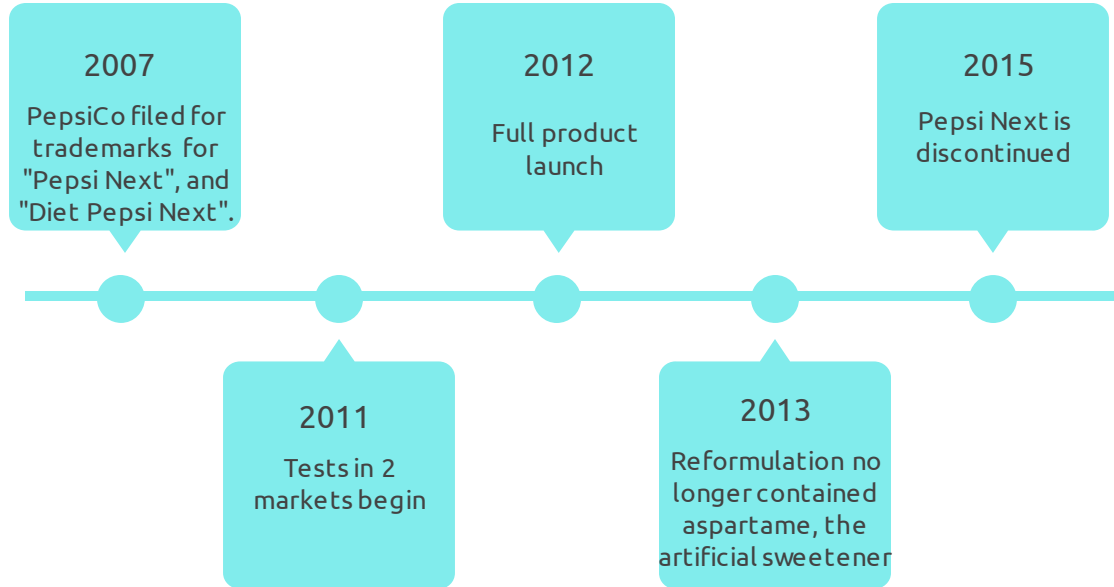
• Blind taste test in 2011

PLM process

1. Idea generation

2. Idea Screening

3. Concept testing

4. Strategy development

5. Business analysis

6. Financial analysis

7. Test marketing

8. Commercialisation

Pepsi Next timeline

2007

PepsiCo filed for trademarks for "Pepsi Next", and "Diet Pepsi Next".

2012

Full product launch

2015

Pepsi Next is discontinued

2011

Tests in 2 markets begin

2013

Reformulation no longer contained aspartame, the artificial sweetener

Consumer Feedback

PepsiCo has been quite persistent with pursing mid-calories beverage products

why do you think this ?

Decreasing market share

Competitor's product

Increased substitutes in market

Increased health consciousness

Do you agree with the decision to introduce Pepsi Next

No, We don't agree with the decision

• Already introduced similar product four times in the market.

– Pepsi Light, 70 calories
– Jake's diet Cola, 15 calories
– Pepsi XL, 70 calories
– Pepsi Edge, 70 calories

• Even if could affect its other brand product

33

Why did it fail? Quote from a "soda drink" blogger

"Overall, Pepsi Next is quite good.
However, I don't think it'll replace my beloved Pepsi Max because my go-to soda has no sugar, more caffeine, and I prefer its flavour.

I also don't see it taking the place of Diet Pepsi as my backup go-to soda.

Pepsi Next is slightly better tasting, but my taste buds have long gotten used to the flavour of Diet Pepsi, so I'm willing to sacrifice taste to drink something with no calories and sugar.

I think many Diet Pepsi drinkers will probably feel the same."
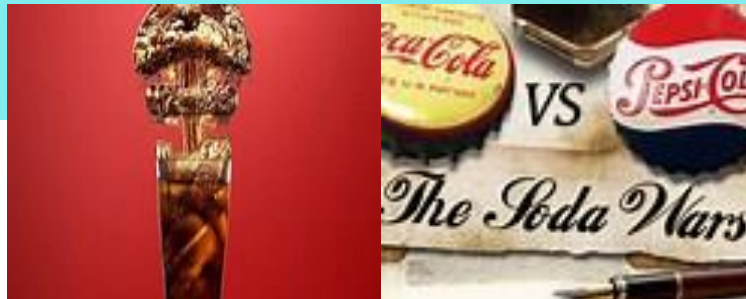
Pepsi Black

Introducing the next generation Cola for the next generation of Cola drinkers.

Pepsi Black delivers Maximum Taste with No Sugar.

Lessons from the case study

Intial success

Product not be judged on Initial Impulsive buying

Good research & Good product

Product can fail even after robust product development

Wishful thinking

Not all positive feedback is good feedback

Product lifecycle management software comes in almost infinite flavours and combinations

It can be hard to know where to start. So here's a quick rundown to help you out

Here are the three types of PLM, and the pros and cons of each. By the end you'll know:

What separates different PLM vendors
Where each type of PLM excels
The cons of each type of PLM.

Dedicated cloud PLM providers

These are the latest type of PLM software focusing on the PLM landscape.

They're aimed at smaller organisations (more on this in a minute) and puts PLM on the cloud rather than hosting it in an on-premises environment.

Cloud based Software solutions

monday

Collaboration and project management platform.

Helps teams plan together efficiently and execute complex projects to deliver results on time

odoo

Family of apps giving the ability to automate and track everything you do

Centralized, online, and accessible from anywhere with any device.

Aha!

Cloud-based project management solution for small, midsize and large enterprises.
Primary features include task lists, product roadmaps, Kanban boards, collaboration and analytics.

Specialist providers

These are organisations who specialise in PLM, usually in conjunction with their own CAD software. - CAD (computer-aided design)

Specialist PLM providers

Specialist providers dominate the PLM space,
and with good reason. Its bespoke to your needs and systems

Specialists' providers make CAD software first and add PLM later.

Computer-aided design (CAD) is the use of computers (or workstations) to aid in the creation, modification, analysis, or optimisation of a design.

Modular PLM providers

Offered by companies who specialise in something else
but offer a PLM system as an optional add-on.

What separates modular solutions from specialists
is that specialist providers are CAD-first organizations,
who tie a PLM into their CAD data.

Pros of a specialist provider
Integration between the PLM solution and
the same company's CAD system is seamless.

Cons of a specialist provider
They're at the high end the pricing table.
They only integrate with their own CAD.
The two are designed to work together. And
they do.

Pros of modular providers
It can usually be added to your existing
infrastructure relatively easily, both from both
an admin and technical perspective.

Cons of modular providers
Missing functionality

Modular providers run into the problem of
servicing their own hero product over the
needs of product lifecycle management
software.

In conclusion, the key points why you should adopt the PLM process

Process

Create the route map
Include all the people & data
A foundation for growth

Benefits

Efficiency
Cost control
Informed and targeted

Sustain and grow

Refresh your business
Stay contemporary
Stay competitive

We hope that you have found this training module a useful and helpful support to your healthy food and drink innovation.

This training module is one of a number of training opportunities, organised into themed training programmes to support SME's (small & medium sized enterprises) in the participating regions of Wales, Northern Ireland, Ireland, Spain, Portugal and France to successfully bring new and reformulated healthy food and drink products to market.

The training was created by the partners within the AHFES project
which is a quadruple helix Atlantic area healthy food eco-system for the growth of SME's
funded by the European Union under the Interreg Atlantic Area Funding Programme.

This programme promotes transnational cooperation among 36 Atlantic regions of 5 European countries and co-finances cooperation projects in the fields of Innovation & Competitiveness, Resource Efficiency, Territorial Risks Management, Biodiversity and Natural & Cultural Assets.

For more information about other training available please click here.

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