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KNOWLEDGE IN ACTION

## Faculty of Business Economics

Master of Management

### **Master's thesis**

***(Web-based) Idea Management & Sustainability***

#### **Doris Orenge**

Thesis presented in fulfillment of the requirements for the degree of Master of Management, specialization Strategy and Innovation Management

#### **SUPERVISOR :**

Prof. dr. Jean-Pierre SEGERS



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## **Abstract**

The thesis explores the potential of web-based idea management as a tool to solve societal grand challenges and sustainability-related issues. The purpose of the study is to understand what web-based idea management is and what societal problems it can help solve, to enhance the attainment of the United Nations' sustainable development goals Vision 2030. The research intends to achieve this goal by integrating web-based idea management and mission-oriented innovation policy frameworks in finding sustainable innovative solutions. The research further investigates the use of these frameworks in the specific case of cancer.

The research follows a qualitative approach through an in-depth interviewing process. Experts on the subject from different professional backgrounds were interviewed. There was a comprehensive literature review to understand web-based idea management, mission-oriented innovation policy, sustainable development goals, and all subjects related to these frameworks.

The research is a huge contribution to the existing literature by including web-based idea management platforms in solving societal problems as it easily captures data, evaluates it, and helps in the implementation process ([Mikelson, 2023](#)). Integrating mission-oriented innovation policy frameworks keeps us in line with specific goals and objectives ([Mazzucato and Dibb, 2019](#)).

This thesis shows the importance of using both web-based idea management and mission-oriented innovation policy frameworks in the cancer mission. There will be continuous collaboration among all stakeholders in coming up with innovative ideas, research, and implementation of sustainable innovative solutions to the cancer mission projects. Using these frameworks will ensure that different stakeholders from any part of the world can work together since cancer is a grand challenge that requires collaborative effort ([George et al., 2016](#)) in research to find its solutions.

## **Acknowledgments**

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## **Abbreviations**

**IMS**- Idea Management System

**IM**- Idea Management

**MOIP**- Mission-Oriented Innovation Policy

**EU**- European Union

**OECD**- Organization for Economic Co-operation and Development

**SDGs**- Sustainable Development Goals

**IT**- Information Technology

**ICT**- Information and Communication Technology

**IPCC** -The Intergovernmental Panel on Climate Change

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# 1 INTRODUCTION

There are a lot of problems and challenges that the world is facing today. We can refer to them as societal grand challenges and sustainability-related issues. They need to be solved for better living of the current generation and future generations, these issues include climatic change, diseases like cancer, poverty, equality (Mazzucato, 2021), and many others. There have been great steps taken to ensure that we have a better future. In 2015 a 2030 agenda for sustainable development goals were adopted by all United Nations member states. The 17 sustainable development goals are guidelines for what we want our world to be in the future with no one being left behind (United Nations, 2016). Each year there is an annual report to provide an overview of the progress. The European Commission has a body of academic work called Horizon Europe, which adopted Mission Oriented Innovation Policies (MOIP). The MIOP will ensure coordinated research and innovation aiming at coming up with solutions to global challenges (Mazzucato, 2017).

We need more research from more stakeholders including new researchers (Mazzucato, 2017) and even citizens that want to participate in innovations, that is why it is important to consider other frameworks on the matter, to encourage the development of new innovative ideas and research. Ideas generated need to be properly evaluated and implemented in an open, timely, and well-organized manner. According to Mikelsone and Liela (2015) web-based idea management is the best technology framework as it offers a faster, more efficient, and systematic way of handling idea generation and evaluation of the ideas. Web-based IM also supports the implementation of the ideas as it allows stakeholders to add comments, ideas, contexts, and even links to an idea management system (Idris and Durmuşoğlu, 2021). Ideas can be contributed from any part of the world, hence no geographical boundaries.

In this research, we are going to find out how we can use both web-based idea management and Mission Oriented Innovation Policy frameworks in the fight against cancer. Using these two frameworks can ensure good health and well-being of people as anchored in the third sustainable development goal, together with the European Union's goal of '3 million lives saved, living longer and better by 2030' (European commission, 2021).

## Research Objectives

- Explore what sustainable issues/ societal grand challenges are experienced in the world today.
- Explore what Web-based idea management is.
- Explore what societal problems can be solved using web-based idea management.



## 2 LITERATURE REVIEW

### 2.1 Societal Grand challenges, sustainability-related issues

The world is facing many problems and issues that we need to find solutions for, regarding the comfortable living of the current generation without affecting the needs of the coming generations.

Societal grand challenges are global problems that the world is facing currently and they can be solved if all stakeholders work together (Mazzucato, 2017) with the best tools. According to George et al. (2016) grand challenges are reflections of global problems that can be logically addressed through a coordinated and collaborative effort of all stakeholders. Grand challenges are said to originate with the articulation in 1900 by a German mathematician, David Hilbert, of 23 mathematical problems that, once solved, would enable further progress in the field (George et al., 2016). This origin story gained momentum when Bill Gates referred to it in announcing his 2003, 200\$ grant to the Foundation for the National Institutes of Health (FNIH) (Howard-Grenville, 2021). The Grand Challenges in Global Health Initiative had 14 specific goals that it intended to achieve (Howard-Grenville, 2021). Grand challenges are complex, uncertain, and evaluative problems (Ferraro et al., 2015) that individuals, governments, societies, and organizations face all over the world. Therefore we all need to join hands to come up with innovative policies and ideas not to support individual sectors but to tackle societal and technological 'grand challenges' which require many different sectors to work together in new ways (Mazzucato, 2017). Participants of the sectors generally belong to different communities with different practices and approaches. Therefore, the collaboration needs to evolve and includes new contributors who may introduce new skills and data to be able to solve these complex problems (Kokshagina, 2022). Parker (2022) states that we need a system that captures and keeps track of ideas that are contributed and manages them from the time they are submitted to the time they are implemented to ensure that all ideas are viewed. Idea management software (IMS) is a tool that can be used for this particular task. Web-based idea management also helps contributors keep innovation at the forefront of their minds and encourage every member to share their thoughts (Parker, 2022). Different grand challenges require different coordination, idea, knowledge, and insights-sharing methods (Kokshagina, 2022). The level of knowledge available to all the innovative public to understand the grand challenges helps in the innovation process (Kokshagina, 2022). Furthermore, Knowledge and idea sharing (Mikelson et al., 2022b) are very crucial to finding solutions for grand challenges. The more knowledge is shared the more sustainable innovative ideas can be identified. Sustainable innovative ideas can be efficiently evaluated and sufficient research is done on them, to ensure they can be exploited to find solutions for grand challenges. Mertens and Barbian (2015) states that these major problems should be solved within one or two coming generations and the solutions would have a great societal and economic impact.

The list below shows the Characteristics of GCs according to [Mertens and Barbian \(2015\)](#) & [Eder \(2009\)](#).

- It has to be a fundamental problem.
- One should be able to solve the problem within one or two generations.
- The proof of the contrary must not already be adduced (e.g. the impossibility to determine the biggest prime number).
- It usually requires big Trans- and interdisciplinary efforts.
- Broad fields of application with considerable social and economic relevance (Scenarios have to be formulated which are easy to communicate (to persuade potential sponsors)).
- In the first instance it is sufficient to specify the challenge, not the solution yet.

With sufficient ideas and knowledge of the grand challenges, we can be able to handle modern-day missions. These modern-day missions include battling climate change to developing a modern care system that can address the requirements of an aging population ([Mazzucato, 2017](#)) and many others as shown in the figure below.

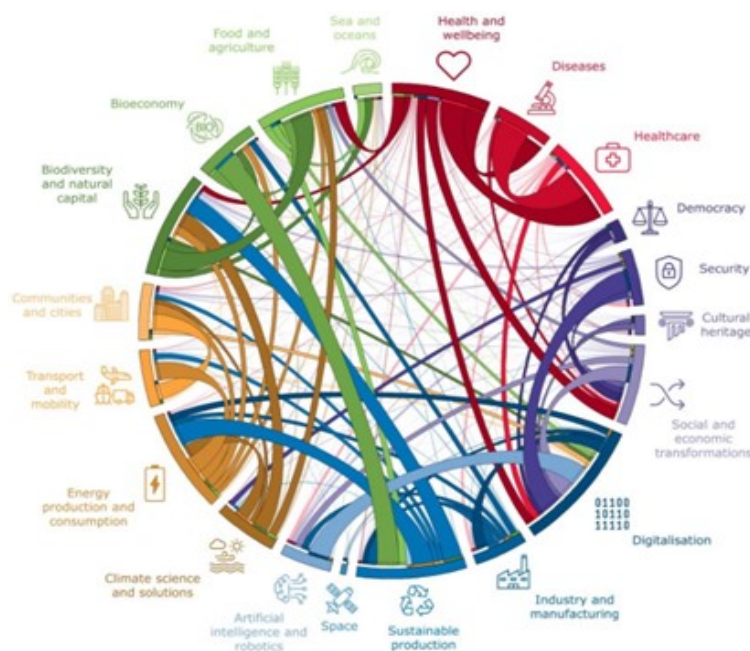


Figure 1: (Mazzucato, 2021)

As we deal with the problems and challenges that the world is currently facing we need to ensure that we are sustainable. Being sustainable can be defined as meeting our necessities without jeopardizing the coming generation's ability to meet their needs ([World Commission on Environment and Development, 1987](#)).

The usage of the word sustainability has increased in current years, even though it

is not a new concept (Mollenkamp, 2022). It originates from the 1983 Brundtland Commission (Sinha, 2023). In 1983, a sector was created by the United Nations called the World Commission on Environment and Development, the purpose of the sector was to identify the relationship between ecological health, economic development, and social equity (Mollenkamp, 2022). The commission, then run by former Norwegian prime minister Gro Harlem Brundtland, published a report in 1987 that has become the standard in defining sustainable development (Mollenkamp, 2022). The report that was published in 1987 describes sustainable development, or the blueprint for attaining sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Mollenkamp, 2022). Sustainable development is the core concept that links environmental, social, and economic aspects of sustainability and reconciles the conflicts between them (Hajirasouli and Kumarasuriyar, 2016). The term sustainability is used in many contexts depending on the sectors involved (Have and Gordijn, 2020).

There are three pillars of sustainability. They include Environmental sustainability, Economic sustainability, and Social sustainability. For sustainable development to be successful, there has to be economic progress, social justice, and environmental preservation (Girelli, 2021).



Figure 2: (Girelli, 2021)

- Environmental sustainability

Environmental sustainability is one of the three pillars of sustainability that focuses on the relationship that humans have with the environment to ensure that natural resources are not depleted and are well maintained now and for future generations (Evans, 2020). According to Patterson (2022) there is a definition called the

planetary boundary (PB) concept which was introduced in 2009 to state to what extent we as humans can engage guardedly without putting pressure on the environment. We as humans need to understand which lines we can't cross to ensure we keep the environment viable, not just for us but also for the coming generations (Patterson, 2022).

The definitions of environmental sustainability have changed over time to account for human needs and our well-being (Evans, 2020). The human needs that have been accounted for over time include education, good health, clean oceans, air, and protection of the general environmental beauty (Evans, 2020).

For the past few generations, there has been a rapid industrial change that highly carbonized the environment, which contributed to global climate change (Have and Gordijn, 2020). There is a sector in the United Nations that deals with issues relating to climatic change called The Intergovernmental Panel on Climate Change (IPCC). IPCC has identified that our actions as humans have affected the planet negatively resulting in global warming i.e. Warming of the air, ocean, and land (Microsoft, 2023). Developing countries argue that to grow and develop, they should not be environmental limits put in place (Have and Gordijn, 2020). The United Nations identified the Paris Agreement as an international legal instrument that binds all states in the world that embrace it in an attempt to stop negative climatic change. The purpose of the agreement is to ensure carbon releases to the environment are reduced to a level that is less than 2 degrees Celsius above the rates that were before industrial levels. The agreement also aims at ensuring the increase rate is less than 1.5 degrees Celsius. (Microsoft, 2023). Every individual should put effort to keep our environment sustainable so that we can be able to achieve environmentally related sustainable development goals.

- Economic sustainability

Economic sustainability is the economic perspective of sustainable development. The role of economic sustainability is to ensure that organizations are not only focused on their profits but the effects their organizations have on the environment, society, and finances over time (Simon, 2022). Economic sustainability is influenced by a lot of elements. These elements are which economy we are dealing with and what the objectives set to be achieved are (Barraza, 2020). Economic sustainability is very beneficial, it ensures the availability of jobs hence people will have better living standards. It also helps protect the environment (Barraza, 2020). Economic sustainability has a positive impact on the productivity of organizations, it ensures a waste reduction. Organizations are expected to be responsible and accountable in ensuring they are economically, socially, and environmentally responsible (Barraza, 2020). Through economic sustainability, we can have monetary standards by ensuring that projects put in place have long-term benefits as this ensures we have a sustainable economy (Ng, 2018).

In the past few years, there have been a lot of economic concerns. There has been

a rise in the living cost which has been influenced by a lot of factors, the increase in fuel prices being one of them.

[Safdie \(2022\)](#) states that the financial aspect of the economy is changing with the climatic changes. Even investors are aiming at supporting and investing in sustainably sensitive businesses. Businesses that are keeping the environment sustainable and fighting against climatic change. This has influenced most companies to adopt sustainability for a good reputation to attract investors. Most states have come up with laws to regulate businesses to ensure their practices are sustainable e.g. Labor, advertising, customer care, environmental practices, and more ([Kinsey, 2019](#)). Abiding by the laws of the states on sustainability helps businesses avoid problems with the government and enjoy all levels of efficiency ([Kinsey, 2019](#)).

Economic sustainability is included in a lot of programs to manage it, such as the United Nations Sustainable Development Goals Vision 2030 ([Safdie, 2022](#)).

- Social sustainability

Social sustainability, being part of the general sustainable development process, bases its focus on putting people's needs first in the process ([Mohamed and Paleologos, 2021](#)). Social sustainability focuses on people by ensuring the proper allocation of resources for people's well-being ([Fischhoff et al., 2023](#)). Social sustainability is an important part of sustainability. There is a good number of the United Nations' sustainable development goals which affirms the importance of human rights. Even corporate sustainability has a social aspect in it ([United Nations, 2016](#)). Social sustainability ensures that all human rights are respected, even for particular groups like children, women (through empowering them), and people with disabilities. Social sustainability ensures that there is gender equality. It also ensures that individual approaches to business do not bring about poverty so that all groups of people get necessities like education, shelter, and health ([United Nations, 2016](#)). The best way to achieve social sustainability is by getting all stakeholders involved, that includes the public, i.e. each individual being a stakeholder in projects regarding sustainability ([Maurya et al., 2022](#)). According to [Tennille \(2017\)](#) as much as social sustainability is the least quantifiable one among all the three pillars of sustainability. It is one that we can easily understand as it affects us directly through our needs as humans.

## **2.2 Sustainable development goals**

Sustainable development goals, vision 2030, are goals put in place and adopted by all states in the United Nations to put a common plan for prosperity and peace for people and the planet, for this generation and future generations too ([United Nations, 2016](#)). There are 17 sustainable development goals. The figure below shows an illustration of the 17 sustainable development goals.



Figure 3: (United Nations, 2016)

The purpose of sustainable development goals is to make the world a better place not just for now but for the future too. Not all sustainable development goals need massive technologies, some need all of us to pay attention and work together (Mazzucato, 2021). The United Nations' Sustainable Development Goals outline today's challenges and cover areas such as poverty, hunger, climate, and gender equality (Mazzucato, 2021). We need to explore more innovative approaches to tackle the problems the world is facing today. There is a need to have considerations of different approaches like using more than one framework to be able to achieve better sustainability reports each year (Hall et al., 2010). According to Mazzucato and Dibb (2019) to make these world challenges manageable they have to be broken down into missions. Missions mean that the challenges have specific goals and objectives intended to be achieved, this process makes innovation easier (Mazzucato and Dibb, 2019). Missions are more specific ways of research to find solutions for challenges without political restrictions or individual beliefs (Bellinson et al., 2021).

### 2.3 Mission-oriented innovation policies

This century has become increasingly characterized by the need to respond to major social, environmental, and economic challenges (Mazzucato and Dibb, 2019), an example is Covid-19. These challenges are sometimes referred to as "grand challenges", they include environmental threats like climate change, demographic, diseases (like the example of Covid-19), health and well-being concerns, and the difficulties of generating sustainable and inclusive growth (Mazzucato, 2020). Mission-oriented innovation policy (MIOP) has become increasingly popular in recent years as it gives a clear outline of the missions we want to achieve and also gives measurable targets (OECD, 2023). Mission-oriented innovations are being embraced in Europe, especially since the 2010s when the European Commission adopted the

use of this approach for the design part of the next Framework Programme 'Horizon 2020' (Interreg Europe & European Union, 2020). The innovations are meant to provide solutions to these grand challenges (Interreg Europe, 2019). Big science deployed to meet big problems (Ergas, 1987). Mission-oriented innovation policy can be broken down into three dimensions: strategic orientation, policy coordination, and policy implementation (Larrue, 2021).

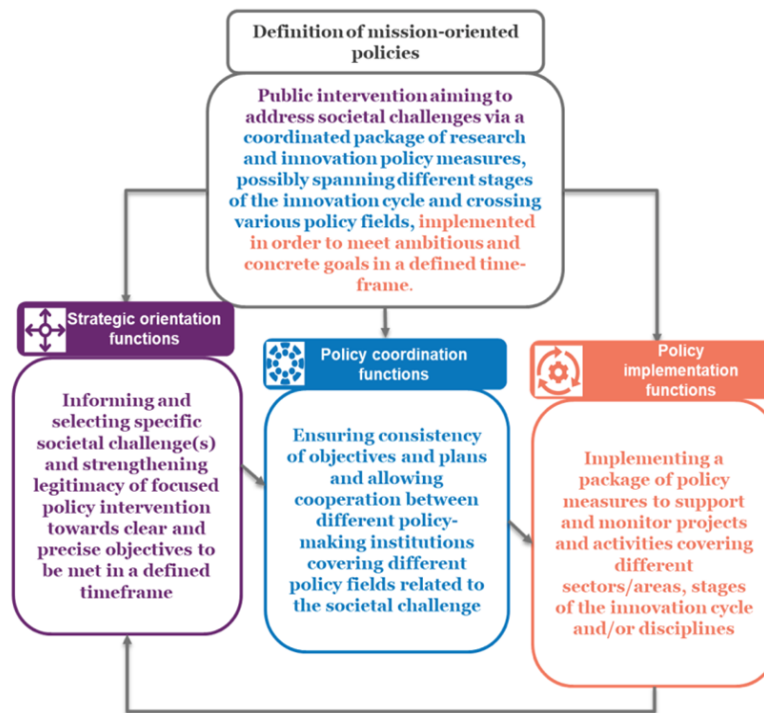


Figure 4: (OECD, 2020)

In 2018 Professor Mariana Mazzucato wrote a European Commission report which was titled 'Mission-oriented Research and Innovation in the European Union' which made the Mission Oriented innovation policy popular (Interreg Europe, 2019). The report makes strategic recommendations to policymakers to maximize the impact of Horizon 2020 which is an EU Framework Programme for Research and Innovation that uses mission-oriented innovation policies (Interreg Europe, 2019).

Grand challenges are "wicked" in the sense that they are complex, uncertain, evaluative (Ferraro et al., 2015), systemic, interconnected, and urgent, requiring insights from many perspectives (Mazzucato, 2020). To solve a grand challenge, as many as possible sectors should be involved in the research process. One challenge cannot be solved without paying attention to other related challenges. For example, poverty cannot be solved without paying attention to the impact it will have on other challenges like nutrition and tax policy (Mazzucato, 2020). All economies are applying grand challenge thinking, whether they are developed or developing economies. Developing countries needs are having experimental practices to ensure they are

sustainable (Mazzucato, 2020). Mission or challenge-oriented innovation policy is often driven by political and normative goals (e.g. UN Sustainable Development Goals) which have a very broad scope (Boon and Edler, 2018).

Policymakers and international organizations have identified the potential of science, technology, innovation (STI), the public sector, and civil society (Jütting, 2020) to enable and accelerate the transition towards the Sustainable Development Goals (SDGs). There is a need to re-align and streamline public policies and investments to make use of the benefits of STI for the SDGs more effectively (Miedzinski et al., 2019).

The figure below shows how broad challenges can be divided into sectors and then into smaller missions which makes it easier to come up with solutions and also accelerate the achievement of the 2030 sustainable development goals agenda.

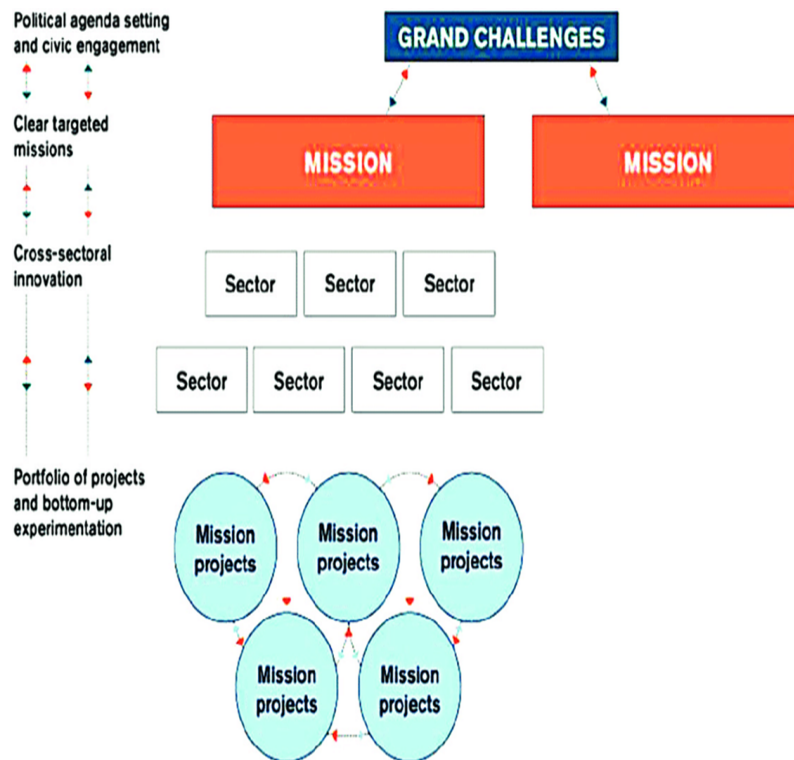


Figure 5: UCL Institute for Innovation and Public Purpose (2020)



### *Missions*

We have learned how to identify grand challenges, to be able to solve them we have to focus on a core purpose which is specific missions (Mazzucato and Dibb, 2019). Missions help identify the plan we need to follow in order to achieve the particular challenge we are focusing on. Once we identify with the mission we want to achieve, it is a step towards finding solutions for the grand challenge.

### *Sectors*

To solve a grand challenge, there is a realization that all stakeholders should join hands. Different categories of people, with different expertise and knowledge, all have to give their perspectives (Mazzucato, 2017) ideas and insights on the subject matter to be able to attain the set goals.

### *Mission Projects*

Mission projects are single, isolated, and clearly defined innovation activities with risky or uncertain outcomes (Mazzucato and Dibb, 2019). Mission projects make finding solutions to grand challenges more manageable and approachable.

### *Importance of mission-oriented innovation policies*

- Multiple bottoms-up solutions (Mazzucato, 2018).

Mission-oriented innovation policies help give a clear expected outcome. They also help us understand that there is no single technology or path that can help us solve a societal grand problem/ sustainable issue. Multiple solutions are expected; they could work, fail, or be adjusted along the way (Mazzucato, 2018).

- They give direction to the strategy (Interreg Europe & European Union, 2020)

Mission-oriented innovation policies help align policy priorities. They also help identify which need should be prioritized with available resources, and give a core guideline to follow to be able to attain given goals (Interreg Europe & European Union, 2020).

- Increase potential of innovation (Interreg Europe & European Union, 2020)

Mission-oriented innovation policies involve a lot of different sectors and actors in solving societal grand challenges. There is a high chance of innovation to occur with a lot of stakeholders involved (Interreg Europe & European Union, 2020).

Mission-oriented innovation policy framework (Interreg Europe & European Union, 2020) has already been put to work by different economies and organizations. Countries are seeking solutions to grand challenges through processes that are smart, inclusive, sustainable, and can still influence economic growth (Kattel, 2018).

According to Geels and Penna (2015) we still don't have a very satisfactory theory of social change. Our ability to improve social problems remains limited and we only have gotten to achieve modest results for most societal problems but not

completely found solutions ([Geels and Penna, 2015](#)). To be able to achieve the European missions, which are committed to solving the greatest challenges and also achieve the vision 2030 of the sustainable development goals. All stakeholders, researchers, government, business organizations, society, and even individuals, need to join hands in coming up with innovative ideas.

With all stakeholders, from the sectors, coming together to give their different knowledge, ideas, and insights for research with the mission-oriented innovation framework; we need a system that will capture these ideas. According to [Parker \(2022\)](#) the system needed not only needs to capture the ideas but also manage them. The system needs to ensure all ideas are viewed and efficiently selected to identify the best innovative ideas. [Parker \(2022\)](#) suggested that Idea management systems would work best. The system will capture the ideas, effectively evaluate them, help in the implementation process and ensure a continuous innovative process by encouraging stakeholders to give their thoughts.

## **2.4 Idea Management**

Idea management is the process that involves idea capture, evaluation, and providing insights and feedback. Idea management ensures that we get the most out of the ideas and insights collected and developed ([Nieminen, 2018](#)). There are two idea management methods; Traditional idea management and web-based idea management. Traditional idea management uses methods of data processes that are slower and that could be biased. Traditional idea management is less reliable and less efficient. With the current advances in management science, there are improved analytical and administrative tools ([Anshen, 1969](#)) that people use in the idea management process which is fast and hence saves a lot of time and cost. There is more focus on the quantitative aspect of data ([Krejci and Missonier, 2021](#)). There is a need to capture as many ideas as possible to increase the chances of innovative ideas which the traditional methods, like the use of suggestion boxes, cannot.

## **2.5 Web-based Idea Management**

The world has evolved a lot technologically and managing ideas is best done online because it is fast hence will help in saving time and cost. There are Idea Management Systems (IMS) where there is a structure and manageable process ([Mikelsone and Liela, 2015](#)) of idea generation, evaluation, and repeated idea generation and evaluation if it is needed ([Mikelsone et al., 2022a](#)). The purpose of an Idea Management System is to implement it as a core component of the innovation process ([Walton et al., 2016](#)). The idea management system can be used as a platform for coordination and collaboration of all stakeholders using it ([Walton et al., 2016](#)). Web-based idea management systems provide a common platform where all the stakeholders from different sectors can collaborate. The systems provide a podium

where innovative ideas are gathered and evaluated awaiting implementation. The systems have tools that enable editing; commenting and even can allow voting of ideas by the stakeholders using the system (Perez et al., 2014). According to Idris and Durmuşoğlu (2021) Idea Management Systems promotes teamwork throughout idea generation, evaluation, and implementation. The ideas created by the idea generators and captured by the Idea Management System can give a lot of knowledge and insights but their benefits will depend on if they will help find solutions to the missions and objectives we want to solve (Idris and Durmuşoğlu, 2021). During the idea generation stage, preexisting concepts and new ideas are acquired from different sources (Bembya & Leidner, 2018). For the ideas generated to be of quality and usefulness, all stakeholders need to have sufficient knowledge of the major challenges, problems, and issues affecting them and the world today. With sufficient knowledge, we all can come up with the best ideas to solve them.

According to Mikelsone et al. (2021) Idea Management can be divided into different classifications. They can be classified based on the application of focus i.e. Active and passive. Active Idea Management is having the ability to submit ideas focused on special needs or a particular mission, while passive submitting general ideas that come to mind. Another classification is based on the involved Idea Management source. There are different types of Idea Management Systems, internal, external, and mixed types. Internal is ideas generated within an organization, especially by its employees (Mikelsone et al., 2021). External type ideas are generated from sources outside a given organization by external researchers, citizens, academia, etc. Mixed-type ideas are generated by both internal and external sources (Mikelsone et al., 2022b).

<b>Classifications</b>					
<i>Classification criteria: Based on the application focus</i>					
<b>Passive IMS</b>			<b>Active IMS</b>		
<i>Functions</i>	<i>Type of focus</i>		<i>Functions</i>	<i>Type of focus</i>	
<b>Focus on idea generation</b>	Unfocused process		Focus on all IM dimensions	Focused process	
<i>Classification criteria: Based on the involved IM source</i>					
<b>Internal IMS</b>		<b>External IMS</b>		<b>Mixed IMS</b>	
<i>Description</i>	<i>Main IM source</i>	<i>Description</i>	<i>Main IM source</i>	<i>Description</i>	<i>Main IM source</i>
<b>IMS that allows to involve only internal IM sources</b>	Employees	IMS that allows to involve only external IM sources	Crowds, experts, clients, etc.	IMS that allows to involve internal and external IM sources	Employees, clients, experts, crowds, etc.

Figure 6: Mikelsone et al., (2021)

Web-based Idea Management has been used by globally known organizations such as Virgin, Panasonic, Virgin, Volvo, NASA, European Commission (Quandt et al., 2019) and many more; the success of such organizations shows that Web-based Idea Management can enhance innovation success and can be used to find solutions for societal grand challenges.

Idea generation can be encouraged so that we can be able to generate quality sufficient ideas. This can be done by introducing rewards. These rewards can be financial, putting a price on the best ideas. Non-financial rewards, which can be in the form of recognition, promotions, etc. They can also be a mixture of both financial and non-financial rewards (Mikelsone et al., 2022b).

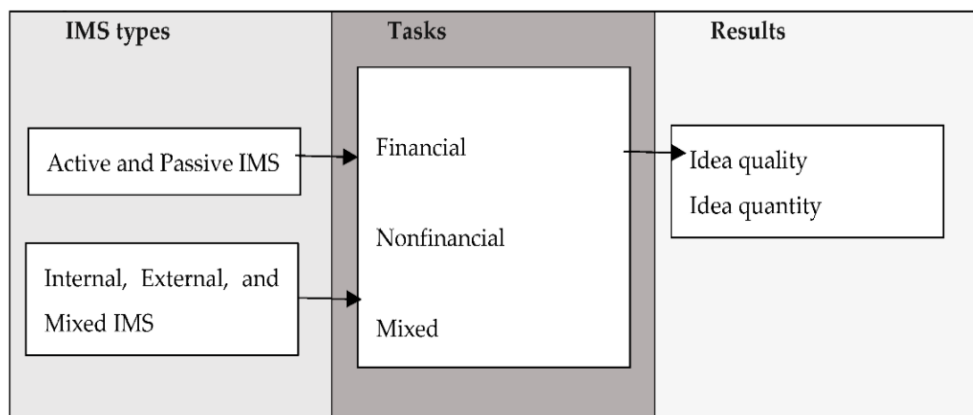


Figure 7: Mikelsone et al., (2022)

### *Web-based idea management process*

There is a line of activities that have to be followed for an effective end product of the best innovative ideas. It takes a whole process from generating the ideas to the final stage of implementing them.

### *Preparation stage*

The first stage is the preparation stage where we identify the societal grand challenge or sustainability-related issue we want to solve. Then set the goals and objectives we intend to achieve (Kulakauskaite, 2019). Identify the specific web-based idea management we want to use in the process that would best suit the sectors and stakeholders involved; this is mostly done by the idea manager (Gerlach and Brem, 2017).

### *Idea generation*

The next stage is the idea generation phase, this is a phase where idea generators come up with ideas. Ideas generated are captured in the idea management system. They can use different idea generation techniques to make the idea generation phase more efficient i.e. Brainstorming, SWOT analysis, role play, reverse thinking, design thinking, 5whys, Delphi technique, Thinking hats, etc. But we shouldn't automatically default to a certain idea generation technique (Nieminen, 2018). The

idea generation technique used should be able to accommodate the ideators using it and the set goals and objectives to be achieved. The goals we intend to achieve should determine the technique we are to use, not the other way around (Nieminen, 2018). In this stage, we focus on getting as many ideas as possible.

- Brainstorming- Brainstorming involves the spontaneous contribution of creative ideas, knowledge, and solutions within a group of people (Bernstein, 2017). Every individual member of the group is encouraged to think out loud and contribute to the discussion with as many ideas as they can, based on their knowledge. Some of the ideas from a brainstorming session can be used as original innovative ideas while some can be used as additional ideas to other better ideas (Bernstein, 2017).
- SWOT analysis- SWOT analysis stands for the analysis of strengths, weaknesses, opportunities, and threats. According to Skye (2023) SWOT analysis is a planning process that helps organizations to overcome challenges and to be able to determine which opportunities they can exploit during project planning.
- Delphi technique- Delphi method was originally thought of in the 1950s by Olaf Helmer and Norman Dalkey of Rand Corp (Twin et al., 2022). This is a web-based idea management technique that involves getting ideas from a group of experts through passing questionnaires or interviews (Twin et al., 2022). The outcome of the questionnaires can provide sustainable innovative ideas that can be used for problem-solving. This group of experts exchanges views, each member of the group gives their thoughts and insights independently to a facilitator who reviews them and comes out with a report on the results, this goes on until the group comes to a consensus (Haughey, 2010).
- Role play- Role playing was invented in the 1980s by businessman Rick Griggs. It was later backed up by a similar method called Hall of Fame suggested by Michael Michalko. Role play technique is when an individual can take a role on a particular person that is not their own, can be of people they know or not (Markov, 2020). Role play can help individuals develop skills that they wish to develop. They can use these skills when a real situation occurs (Cohen, 2020). We can prepare individuals for circumstances in which they will be affected by societal grand challenges i.e. Cancer, if they see early symptoms they will know what to do before it's too late.
- Design thinking- Design thinking is a particularly popular technique because this is an era where innovation is very essential. Design thinking is solution-based rather than problem-based. It focuses on finding user problems and providing solutions to the problem, it is user-centric (Stevens, 2019). Design thinking has existed for a while but it became popular after Tim Brown, CEO and president of design company IDEO, published an article about it in the Harvard Business Review (Han, 2022). We can use this technique by coming up with ideas that we think will help find solutions for societal grand challenges/

sustainable issues. According to [Stevens \(2019\)](#), design thinking has different phases, the first phase understands the user their wants, needs, and objectives. The second defines the particular problem affecting the user. The third is coming up with innovative ideas. The fourth stage involves experimenting and trying to turn ideas into tangible solutions while the last stage is when the user tests the end product/result. Each stage can stimulate more ideas to better the end product for the benefit of the user. Figure 8 below is an illustration of the different stages of design thinking.

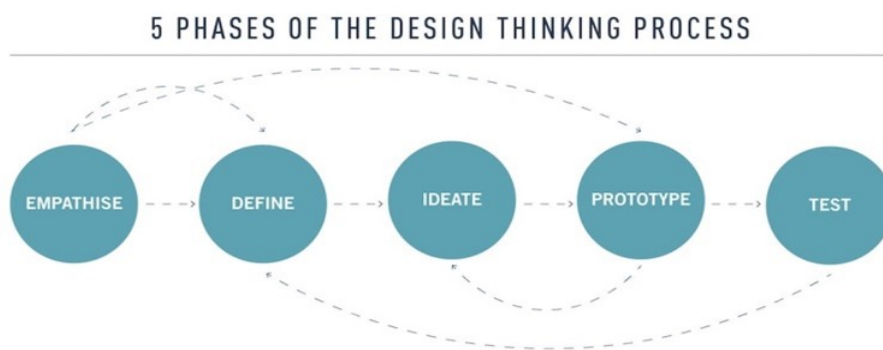


Figure 8: (Stevens, 2023)

- Reverse thinking- Reverse thinking is an idea management technique that takes advantage of the fact that human beings tend to see problems faster than solutions ([Cuofano, 2023](#)). Reverse thinking offers a novel approach to innovation and problem-solving ([Kimbell, 2011](#)). It is identifying the problem, then reversing the problem. According to [Elmansy \(2015\)](#) after reversing the problem collect ideas and reverse the ideas. Lastly, evaluate the ideas and identify solutions to the problems.
- Five whys- Five whys can be defined as root cause analysis ([Paradies, 2019](#)). Trout (n.d) states those five whys help find the original cause of a problem by asking the question "Why?". Five whys is an interrogative method ([Paradies, 2019](#)) that helps get quickly to the root cause of a problem. Every answer to the question "Why?" creates a foundation for the next question, leading to five leads needed to find the root cause of a problem (Trout, n.d). Identifying the principal cause of a problem makes it easier to find solutions to the problem.

#### *Idea evaluation*

Selecting ideas that are generated from creative idea management techniques is very important. The idea evaluation process has to be timely and efficient as it will determine which ideas are to be implemented ([Gabriel et al., 2016](#)). Ideas can also improve in this phase; contributions are made to generated ideas to improve them, and better ideators can still add suggestions to their contributed ideas ([Gerlach and Brem, 2017](#)). Idea evaluation is an essential aspect of the web-based idea management process, although there is no specific operational standpoint put in place even

though there are a lot of theoretical methodologies ([Gabriel et al., 2016](#)). Although there is a criterion that is commonly used called NUF (Novel, Useful, Feasible) which has been supported by ([Kudrowitz and Wallace, 2013](#)). It is however recommended that each organization uses an idea evaluation method that is relevant to their resources and their particular context ([Gabriel et al., 2016](#)).

Idea selectors separate ideas; they differentiate between accepted ideas, deferred ideas, and rejected ideas and provide feedback to idea generators during this phase ([Gerlach and Brem, 2017](#)). Novel, useful, and feasible ideas are selected and accepted ready for implementation while deferred ideas are stored in the idea pool for future use ([Gerlach and Brem, 2017](#)).

### *Idea implementation*

This is the phase where selected ideas are transformed to form tangible solutions to problems. The timeline influences idea implementation, the stakeholders involved, and the needed resources([Malsam, 2023](#)). The idea generators that provide ideas for implementation are rewarded; these rewards can be financial, non-financial, or mixed. During this phase, there is also identifying and developing a group of implementation experts that understand the process, the strategies put in place, the tools to be used, and the resources available for the process ([Culver, 2014](#)).

During the implementation stage, the implementation experts or the project manager give an update on various aspects to collaborators and all stakeholders. These updates include the status of the implementation of the idea, resources being used (technical, human, etc.) associated with the implementation of the ideas, Information about any problems encountered in the implementation phase, the financial data, and the timelines ([Alessi et al., 2015](#)). Lastly, they will deploy the solutions to users and measure how useful the ideas were ([Gerlach and Brem, 2017](#)).

The diagram below shows all the idea management processes, from the beginning to the last phase of the web-based idea management process.

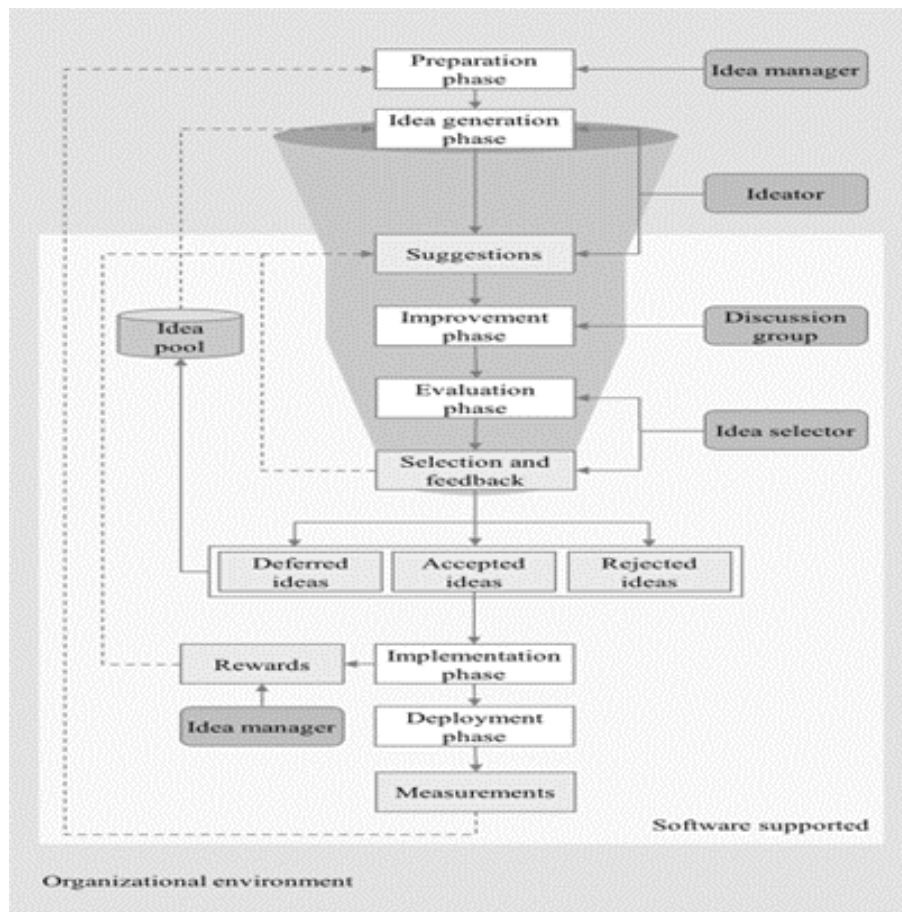


Figure 9: (Gerlach and Brem, 2017)

### *Web-based idea management Business Models*

Although Web-based Idea Management is not an old concept to most organizations, it's falling in the most recent developments, especially with the technological advancements and evolution of the ICT departments (Gerlach and Brem, 2017). Most organizations i.e. Research centers, Academia, etc. lack a general model for corporate Idea Management models (Gerlach and Brem, 2017). Eventually, they are going to have to include Idea Management in their Business Models. Below is a list of the nine building blocks of a traditional business model as per Osterwalder et al. (2005). Concurrently with the nine building blocks of the business model is a suggested inclusion of an Idea Management System in the context as suggested by Mikelsone et al. (2022b).

- Segments – list the top user types of Idea Management System.
- Value proposition – main values of Idea Management System application.
- Revenue – who owns the Idea Management System created Intellectual Property Rights.
- Channels – Idea Management System application channels.



- Relationships – collaboration focuses of Idea Management System.
- Key activities – what do you do every day to run Idea Management System
- Key resources – types of Idea Management System resources.
- Key partners – list the partners that could be involved in Idea Management System
- Costs structure – costs of Idea Management System application.

Web-based idea management is very important to organizations that why organizations should include it in their business models. By using web-based idea management business models there is a higher chance of frequent product developments as it encourages continuous innovation process as there are overlapping idea improvement, evaluation, and selection phases ([Krejci and Missonier, 2021](#)). There would be a culture of innovation and collaboration instilled in the organizations.

### **3 METHODOLOGY**

To find out how we can solve sustainable issues/ grand societal challenges that the world is facing today, in this case, cancer. By using Web-based idea management and Mission-oriented Innovation policy, to achieve the EU's goal of "more than 3 million lives saved, living longer and better" by 2030 (Asplund, 2022). A qualitative approach was used, through an in-depth interviewing method (Yin, 2015)). The in-depth interviewing method was used as it allows a researcher to deeply explore an interviewee's understanding and personal perspective (Guion et al., 2011) on a given subject.

#### **3.1 Research question**

What is (web-based) idea management and what societal grand challenges or sustainability-related issues can be solved using it?

#### **3.2 Research Gap**

There has been researching done on using mission-oriented innovation policy frameworks in finding solutions for grand challenges / sustainable issues, including cancer. There is no research that has been done yet that uses both mission-oriented innovation policy and web-based idea management systems frameworks in the fight against cancer. In this research we are going to see how we can incorporate these two frameworks in the cancer mission, to be able to achieve the third United Nations sustainable development goal of 'good health and well-being' by 2030.

#### **3.3 Data collection**

To gain insight and more information on the topic in-depth interviews were carried out. The participants of the interviews were from different parts of the world and different areas of professional expertise as illustrated in Table 1. The interviewees were selected because of their expertise and interest in the topic of research. To participate in the interviews the interviewees were individually contacted through a telephone call, email, or Linked-In. They all received the interview questions before the meeting to help them prepare better for the interview. The interviews were carried out face-to-face through google meet. The duration of the interviews varied from one interviewee to another, they ranged from 20-45, minutes. The interviews were carried out between March 27th and 2nd of May 2023.

Table 1: Interviewees

NAME	PROFESSION	INSTITUTION
A- Elina Mikelsone (She)	Lecturer, Researcher and Entrepreneur	RTU Science and Innovation Centre(Latvia), Idea Innovation Centre, BA School of Business and Finance etc.
B -Tatjana Volvoka (She)	Professor	BA School of Business and Finance (Latvia).
C - Cynthia M Kimani (She)	Doctor	Kenyatta National Hospital( Kenya)
D - Frida Mogere (She)	Doctor	The Aga Khan University Hospital (Kenya).
E - Gideon Kiragu (He)	Public Health	Kenyatta National Hospital ( Kenya)
F - Sjors Pietermans (He)	Doctor	Groepspraktijk de Dam( Belgium)
G - Broline Sagini (He)	Junior Data Analyst	Kenya medical Research Institute (Center for Global Health Research)

Table 2: Interview Questions

Interview Questions
<p>1. What are your thoughts on applying both Web-based idea management and Mission Oriented Innovation Policy frameworks to help in the fight against cancer?</p> <p>2. Since cancer is one of the five key mission areas, what is the best strategy to apply web-based Idea Management to be able to achieve EU's goal of "more than 3 million lives saved, living longer and better" by 2030?</p> <p>3. From your perspective what is the impact of adopting idea management systems in achieving good health and well-being through mission cancer?</p> <p>4. Given the potential advantages of adopting a web-based idea management system, what is your perspective on how the cancer mission can sustainably optimize its efficiency in strategy formulation and implementation?</p> <p>5. What sectors should research base for maximum idea generation, to ensure sufficient innovative ideas to be implemented during mission projects of the mission in the fight against cancer?</p> <p>6. What web-based Idea Management techniques can be used in the Cancer mission?</p> <p>7. What is the best way to encourage idea generation for the Cancer Mission?</p> <p>8. How can we minimize cost and time through web-based Idea Management in the fight against cancer to achieve Vision 2030?</p> <p>9. According to you what will be the biggest challenge in integrating both web-based idea management and Mission Oriented Innovation Policy frameworks in the fight against Cancer?</p> <p>10. In your opinion do you think web-based idea management can sustainably accelerate the achievement of the cancer mission? If yes, in what ways?</p>

## 4 FINDINGS

### *Integrating both Web-based idea management and mission-oriented innovation frameworks in the fight against cancer*

There is already research done on using a mission-oriented innovation framework in the fight against cancer. There is no research that has been done yet that uses both the Web-based idea management and mission-oriented innovation frameworks in the mission of the fight against cancer. Most of the interviewees did not understand the frameworks at first. After giving detailed explanations most of the interviewees were positive about integrating both frameworks. Participant B stated that if we clearly state the aims and goals we intend to achieve, the application of both frameworks will have a positive impact on this research. Participant B added that there will be different age groups, different cultural backgrounds, financial backgrounds, societal attitudes, different contexts (how well the medicine is developed, etc.), and which individuals and organizations are most affected by cancer. These factors will affect how we approach web-based idea management applications. These remarks were supported by Participant A who said that web-based idea management can be used in any kind of situation. We only have to ask ourselves how we can adapt the application of this system to this specific context by integrating it with mission-oriented innovation policy in the Cancer mission. Participant G thought that these frameworks will encourage cross-team collaboration on various research about cancer.

IMS could be used to collect ideas on the following issues as suggested by Participant B

- To identify roots based on the experience: what is causing Cancer?
- To collect ideas on how to improve understanding of the cause of cancer and the effect of behavior
- To collect ideas on how to convince individuals to do regular checkups and screenings?
- To collect ideas for international experience on approaches for treating different kinds of cancer
- To collect ideas on how to promote a healthy lifestyle.
- To collect ideas on how family can support?

All the other participants had a positive response except for participant F who had concerns about how much people will be willing to participate in giving their ideas because there is so much commercial thought behind it.

### *Best strategy to apply Web-based idea management in the EU cancer mission*

Most participants felt that there is no single strategy that will suit all sectors or groups of people. They argued that different people have different experiences;

one strategy can work with one group and not the other and vice versa. Participant A suggested that crowd-sourcing would be the best strategy to apply. She had another suggestion which is, we could divide the cancer mission into different parts and select specific issues, which we then can solve according to a specific question. Participant A added that we can choose the best idea creators, the best idea evaluators in this scenario, and also the best idea management system type. On the other hand, Participant B felt that the best "strategy" (approach) would be collecting ideas on how to increase awareness about the relationships between the cause and effect of cancer and the regularity of check-ups. She also suggested creating awareness of the importance of investing in the healthcare system as well to raise awareness among society and organizations about the complexity of the issue and their responsibility in the mission of cancer. Participant B added that forming public-private partnerships to help with the issue will add much value. There was an additional thought from participants C and D who gave their opinion based on their region which is in Africa, Kenya. They felt that in Africa a lot of people do not understand Cancer. They added that the best strategy would be to educate people, create awareness about the disease in general, and also give an explanation of how the web-based idea management software operates as there is still a lot of illiteracy in the region. Participant G's best strategy suggestion was that we focus on the pharmaceutical sector. Because, if multiple innovative ideas are directed to the pharmaceutical sector together with grants they would be able to come up with more effective cancer treatments.

#### *Impact of adopting web-based idea management*

This specific research has not been done yet, but most participants had opinions on what they thought the impact of the system would be. Participant B stated that the main impact of adopting Idea Management Systems would be to collect ideas from various sources on the issue. It would be like both a national and international movement. Participant A's opinion was that the impact will be great as adapting web-based idea management would lead to a better healthcare system. Web-based idea management would not only involve people working in the healthcare system but also different panels and different idea generators. Web-based idea management would create a positive impact as we can get ideas from the patients' side of view regarding cancer, from the caregivers' view, and the doctors' view. This information will help us see where we need to put effort to ensure 3 million lives are saved and living better by 2030 as well put by Participant C. There was an additional point from Participant G who said that the impact of adopting web-based idea management will be positive as it will encourage close collaboration among different sectors and different fields.

#### *Ways to optimize Web-based IMS efficiency*

There were different suggestions on the ways to optimize web-based IMS efficiency from a few participants. Participant A suggested that it's best to state a clear process from idea generation, and idea evaluation all through to the implementation

processes as it will help get better results. There was a different opinion from Participant B who suggested that we can get better results based on fewer resources consumed. There is a direct effect of using software opportunities, no need to travel, etc. Later based on the quality of ideas, a higher idea quality strategy could be developed. The best ideas are implemented. Participant D stated that just by using the web-based idea management software we are already optimizing its efficiency since it saves researchers time and effort as it's less tedious.

#### *Sectors involved in idea generation*

As we had seen earlier in the research there is no single organization, sector, or individual that can find solutions for sustainable issues /societal grand challenges single-handedly. All stakeholders need to join hands in finding solutions to these problems. Participants in the interviews of this research had a lot of sectors that they thought would be of great importance in the cancer mission as listed below.

- Research and development institutions
- Individual researchers
- Academia
- Public sector & policymakers
- Pharmaceutical sector
- IT sector (AI, etc.)
- Hospitals, senior houses
- Social media

Participant A pointed out that we should definitely involve diverse sectors. Creating good ideas both in quantity and quality it's important to vote diverse thinking crowds.

#### *Web-based IM techniques*

During the interviews, a few IM techniques came up that could maximize idea generation. Although a few participants argued that as much as there are a lot of IM techniques, we have to figure out which technique would work with Cancer and the specific idea generators involved.

Participant B gave a list of IM techniques she thought will be useful in the cancer mission as listed below.

- Delphi technique - Participant B suggested this method because she had a high belief that it would be helpful in the cancer mission.
- Role play - This particular IM technique was also mentioned by Participant D, she had used this method with diabetes patients to find out why they skip medications and it had a positive outcome. She recommended this method and strongly believed it would work with cancer too. There was an added point by Participant G

about patients being different since they will have different experiences with cancer, different reactions to medication, and even different care hence it's difficult to fit into patients' shoes to try to understand them.

-Brainstorming - This was the most recommended technique as most participants had used it before. Participant G specifically said that he believed that brainstorming with different experts from various sectors would play a key role in finding solutions for cancer.

- Thinking hats - When a group is asked to consider a problem with one hat (perspective) at a time, they are less likely to be in disputes than when thinking from all perspectives.

- Design thinking - This technique was suggested by Participant B and was supported by Participant G. This method can be used by the pharmaceutical sector when designing medication for cancer patients.

-Reverse thinking- This was a method suggested by Participant B.

-5 Whys-Participant B also thought this would be a useful method as it is a questioning method that could leave to the main cause of the cancer problem we are trying to find solutions for.

#### *Maximizing idea generation*

There were quite a lot of good points from the participants. Participant A's suggestions were based on research she had done before. She added, that previously, she thought people would be more encouraged to give ideas by providing financial rewards but she found out it was not the case. Mixed rewards encouraged people to give more ideas and in some cases, just non-financial rewards would lead to more ideas as well. Participant A added that we also have to pay attention to which idea generators are involved and then select the best method. On the other hand, Participant B felt that we would best encourage idea generation by recognizing people who generate good innovative ideas and give rewards, this was also suggested by Participants C, D & E. This point came up again during the interview with Participant G who said that the best idea generators should be given grants to push their ideas further in research. Participant G added that we could also introduce symposiums and seminars for best idea generators so that they could learn more. There was another interesting point from Participant A about ensuring that we provided feedback to idea generators. She stated that providing feedback will maximize idea generation since idea generators will feel heard even when their ideas are not the best.

All the ways of maximizing idea generation as suggested by the participants of the interviews of the research would encourage more ideas in the idea generation process.

#### *How to minimize cost and time through web-based idea management*

The participants agreed that it is logical to save a lot of time and money by using IMS. Participant A stated that the systems are generally not costly to acquire, they are 24/7 open for idea input without any kind of geographical limitations. Participant G had an interesting point, he said that the IM systems will encourage collaboration on various types of research. With collaborations, we will reduce having different groups working on the same research with different resources. They can work together and will reduce the period taken on a single project and also the resources. The rest of the participants argued that the system being online, with no actual field data, idea generation will automatically equal reduced cost and time in idea generation.

#### *Challenges of adopting MIOP and Web-based IM in EU's Cancer mission*

These two frameworks were new to most participants and I assume that this will be the same with stakeholders from different sectors. Most participants suggested that we first had to educate people about these frameworks, how they work etc. We also had to create awareness about cancer in general. Participant G thought that the biggest challenge would be data application and data action from the data we acquire. He added that the idea would come from different geographical areas, from people with different conditions and circumstances, hence implementation would be complicated. According to Participant A, there would be no challenge at all, we are merging all sectors we will be encouraging working together, which will encourage a lot of knowledge sharing. Participant A also added that the values behind the medical systems admission are saying about sharing the knowledge to better design thinking elements like open innovation etc.

#### *Interviewee's opinion of the efficiency of Web-based IM in Cancer mission*

There was a lot of positive feedback except for Participant F. Participant A stated that she was adamant about the idea that there are these missions, and then come the sector that we create smaller projects out of that. So it asked to involve different kinds of players in this game to share these ideas to generate these ideas together. Participant A felt the idea management system is like the tool that we use for this, she knows the Idea management part of these processes pretty well. So they think that rapidly matches the whole concept. Participant F however did not have a positive feeling about the concept. He argued that there is a lot of research being done in university hospitals hence we don't need to have ideas from other sectors. Participant F added that even if there would be good ideas from the web-based idea management it would be difficult to implement them in real life. He also added that there already exists software that doctors use to be up to date with new research that has been done in different fields all over the world called PubMed; he felt there is no need for another platform.



## 5 DISCUSSION AND CONTRIBUTIONS

### *Integrating both Web-based idea management and mission-oriented innovation frameworks in the fight against cancer*

This study shows that there will be a positive impact of using both mission-oriented innovation policy framework and web-based idea management in the fight against Cancer. MIOPs have already been used in the healthcare system, especially in the mission to beat cancer, with a lot of European Union countries embracing it. Different countries are using different approaches to fight cancer with the example of Germany which has opted to include forums for public opinion to make the fight against cancer more patient-based. This example shows that we can experiment with missions and the importance of obtaining and sharing innovative ideas and experiences along the way (Asplund, 2022).

Cancer not only affects the patient's physical health it also affects them, financially. Cancer treatments are very expensive, hence it puts a lot of strain on their families, communities, and the healthcare systems all around the world (Asplund, 2022). Since cancer remains among the top killer diseases stakeholders from different sectors and different types of actors need to take action in all stages of the disease, from creating awareness, prevention, early detection, diagnosis, treatment, and care, also the life after surviving cancer (Ricciardi, 2020).

With a lot of stakeholders being involved in the fight against cancer Parker (2022) states that we need a system that keeps track of ideas and manages them from the time they are submitted to the time they are implemented to ensure that all ideas are viewed. IMS is the best system to use as stated by Participant A, since it can be used in any situation we only need to adapt it to our specific context of fighting against cancer. IMS will help us be able to answer a lot of questions concerning cancer in all stages of the disease as suggested by Participant B from the causes and effects of the disease to checkups and screening, how family can support etc.

Mikelsone (2023) in an unpublished manuscript stated that IMS would help define specific missions and give stakeholders a better understanding of the mission; in this case, IMS will help stakeholders understand cancer better. IMS helps different stakeholders in finding solutions and also helps support the implementation of the innovative ideas that are selected from the process (Mikelsone, 2023). The analysis of the findings indicates agreement with the concept of integrating the two frameworks.

I believe integrating both web-based idea management and mission-oriented innovation frameworks will have a great contribution to the cancer mission. IMS will help define the missions and also be able to bring together different stakeholders' ideas and contributions to cancer. The two frameworks will accelerate the achievement EUs goal of '3 million lives saved, living longer and better by 2030'.

### *Best strategy to apply Web-based idea management in the EU cancer mission*

From the interviews, we realized that no best strategy would work for all situations. We will adjust depending on which group of idea generators we are working with and the particular situation. Having a clearly outlined web-based idea management process, as shown in (Figure 9) and (Figure 10) would be ideal and we would adjust it depending on the stakeholder, situation, and the resources available for the process.



Figure 10: (Nieminen, 2018)

Participants B, C, D & E suggested that for this particular problem, of the fight against cancer. We had first to create awareness and educate people about both Cancer and how the whole web-based idea management system works to be able to generate maximum ideas. Providing feedback was also added as an important part of the idea management process with Participant B. She added that providing feedback to idea generators will encourage people to give more ideas since they will know that their contribution was recognized. In my opinion, there are a lot of strategies that we could use to apply web-based idea management, but different strategies can be used depending on what work would best which each particular sector/group of people.

### *Impact of adopting web-based idea management*

These are basically the benefits that will come along because of using a web-based idea management system. There is a big impact if we use good strategies as analyzed from the interviews and from literature (Gerlach and Brem, 2017). The impacts could be as follows;

Enhanced collaboration- participant G said that the impact of adopting web-based idea management will be positive as it will encourage close collaboration among different sectors and different fields in this fight against cancer. This was supported by literature of Mikelsone et al. (2021) who indicated that web-based management will stimulate co-creation. It will bring both internal and external cooperation and encourage more commitment to the project being worked on. Web-based idea management will increase teamwork among all stakeholders using the system. The system also improves motivation with all the networking that comes with people from different sectors all over the world using the same system (Mikelsone et al., 2021).

Provide a tool for acquiring, evaluating, and developing knowledge and ideas (Mikelsone et al., 2019) - Participant B also stated that the main impact of adopting IMS would be to collect ideas from various sources on the cancer mission. It would be like both a national and international movement. Anybody in the world would be able to participate without limitations of time or distance. This statement was identified in literature (Mikelsone et al., 2019) as it stated that web-based IM identifies, develops new ideas, and stores the ideas. The system provides structured, controlled, and Improved IM processes. Web-based IM saves time since there are no geographic, time, or involvement barriers (Mikelsone et al., 2019).

Supports innovation process- Web-based idea management motivates innovation culture within organizations and idea generators. Web-based IM creates a higher creativity speed (Mikelsone et al., 2019). The authors (Mikelsone et al., 2021) discussed that web-based IM enhances the achievement of companies' objectives in terms of innovation management. These statements were supported by participants A and C who stated that web-based idea management would lead to a better Healthcare system. They added that the system will be able to capture ideas from both the healthcare personnel and the patients' side of view of cancer. The ideas would help all stakeholders to do better on necessary parts. Probably find better solutions for cancer to be able to achieve the EUs goal and also the third sustainable development goal which is good health and well-being. I believe there would be a positive impact of adopting web-based idea management. We would be able to have a high quantity of ideas from different sectors from whichever part of the world, having a high quantity of ideas leads to a higher possibility of having many quality innovative ideas.

#### *Ways to optimize Web-based IMS efficiency*

To optimize web idea management's efficiency there are practices we need to follow that will ensure all processes are exploited to the maximum.

Provide a clear guideline on what and how activities are going to take place, and expectations- As we had seen earlier a clear step-by-step procedure of the whole idea management system gives confidence to ideators and encourages them. Participant A suggested that it's best to state clear processes from idea generation, idea evaluation, or through to the implementation processes as it will help get better results. To optimize the efficiency of web-based idea management, we need to develop a clear process that enables us to filter through ideas in a reasonable and timely manner in relation to what we want to achieve in the cancer mission (Kulakauskaite, 2019). Having a clear guideline on what and how activities are going to take place, from the idea generation to the implementation, keeping in mind the goals we want to achieve would definitely the efficiency of the system.

Communication and regular feedback - As we have seen idea generators and all stakeholders love to be kept in the loop of the web-based idea management process. Participants A and G had on different occasions stated that feedback is very

important to stakeholders. Ideators too want to be informed on what happens to their ideas, whether they are selected for implementation or not. To optimize the use of the system we have to ensure the ideators and all stakeholders in general are kept in light of all the steps. According to Kashyap, (n.d) communication and feedback have a very important impact on ideas and finding solutions to problems. Communication and feedback enable the formation of healthy relations. We definitely need healthy relations in the cancer mission if it is going to be a success. We need to inform everyone involved clearly and openly on each step of the web-based idea management process. All stakeholders need to know what happens in all stages of the ideas, the resources being used, etc. (Alessi et al., 2015).

Encourage collaborations and discussions - Societal grand challenges cannot be solved with one single organization. George et al. (2016) stated that grand challenges are global problems that we need to address through a coordinated and collaborative effort. This statement was also supported by literature (Mazzucato, 2017) which stated that we all need to join hands and come up with innovative ideas to be able to tackle these grand challenges. The grand challenges need many different sectors to work together to develop the old ways and come up with new ways too (Mazzucato, 2017). Cancer is one of the grand challenges collaboration and discussions from all sectors is needed. From the analysis of the interview findings, there was a clear agreement that we can optimize the use of web-based idea management by encouraging collaboration and discussions. There are a lot of sectors that should all be involved in this fight against cancer, pharmaceutical sectors, hospitals, citizens, etc. All these sectors need to collaborate to find the solution for cancer and achieve the EUs cancer goal and third sustainable development goal.

Encourage active participation - The more innovative ideas are generated the more we can make the best use of the idea management system. The more ideas we are able to capture in the system the more chances of finding quality ideas that can be of use in the cancer mission. There are a lot of ways we can encourage participation. We can introduce rewards, which can be either financial, non-financial, or mixed (Mikelson et al., 2022b). All interview participants agreed that introducing rewards would encourage more active participation. Participant G suggested that especially providing grants to the best ideators to develop their ideas and do more research about them would encourage people to actively participate in idea generation. I believe there are a lot of different ways we could optimize the use of web-based idea management. We have to ensure the idea processes are clear, from generation, and evaluation to implementation. We could ensure we have experts to handle the systems in an efficient way and also ensure we provide feedback to idea generators.

#### *Sectors involved in idea generation*

Cancer is one biggest societal grand challenges. Cancer is one of the top five missions that are under the Horizon Europe Framework Programme for Research and Innovation (Asplund, 2022). Cancer being a grand challenge it needs a lot of sectors and stakeholders coming together. Each sector could help in one way or another

in all cancer mission projects from creating awareness, prevention, early screening, diagnosis, improved personalized treatment, and providing quality of life for patients and their families ([European commission, 2021](#)). Participant A suggested that to create really good ideas, it is important to vote for diverse thinking crowds.

Many countries have embraced and joined the cancer mission. Some of these countries are focused on using all the resources they can get. According to [Asplund \(2022\)](#) missions give room for each country to come up with cancer solutions depending on what resources they have could be financial, technical, or human resources. Some countries, an example Germany, have decided to even include the public in this cancer mission by having open public forums. These public forums aim that also have a patient-based view on cancer ([Asplund, 2022](#))

Below is a list of sectors that could be of great addition to the mission against cancer. The list is from the interview findings, any sector that was mentioned by any interviewee was added in the list. The involvement of citizens was added to the list from literature ([Asplund, 2022](#)). All sectors below working together each on its areas of expertise would be able to bring solutions to mission projects i.e. Creating awareness, prevention, screening, diagnosis, improved personalized treatments, and care for affected patients and their families ([European commission, 2021](#)).

- Research and development institutions- There are a lot of research and development institutions that are involved in research on cancer e.g. OECD, Observatory for Public Sector Innovation (OPSI) ([Asplund, 2022](#)), Horizon Europe Framework Programme for Research and Innovation, International Agency for Research for Cancer (IARC). If all these institutions could be able to collaborate using a similar system where they could share their ideas and knowledge, the cancer mission will be achieved sooner.
- Individual researchers & Citizens- Having an open public forum that can capture every individual's ideas and knowledge on cancer would accelerate the cancer mission. We would be able to also have the patients' views on cancer, their families' views, and not just the experts and medical practitioners. We would make it patient based as some countries are already doing ([Asplund, 2022](#)).
- Academia- This is a sector that involves academic institutions e.g. universities. Universities should also be involved in research on cancer; they can also create awareness about cancer.
- Public sector & policymakers- There are a lot of ways that the public sector and policymakers can spearhead the cancer mission. They could fund or offer subsidies to research institutions that are researching on the mission ([Simoens and Huys, 2022](#)). They would ensure hospitals are well equipped to handle cancer from screening to treatments by not taxing heavily on the equipment and medications ([Simoens and Huys, 2022](#)).
- Pharmaceutical sector –This is an important sector. The pharmaceutical sector

can help come up with personalized improved medication for patients. Participant G suggested that governments and health organizations should provide grants and funding to the pharmaceutical sector to spearhead cancer medications and treatment research.

- IT sector. (AI, etc.) – The IT sector is very important. The sector can come up with excellent idea management systems, to ensure an efficient web-based idea management process. This sector was Participant B’s suggestion.
- Hospitals, senior houses- These are places that deal with cancer patients the most. Participant D’s opinion was that these are the sectors that handle the most cancer patients. The best way was to analyze the statistics of the cancer patients, which cancer occurs most, and from which regions. This would make it easy to go to the specific cause and be able to prevent it.
- Social media – With the current technological advances social media is considered the fastest way to pass information to a large group of people at a particular period. Social media is the most cost-effective method to create awareness about cancer (Arora and Sharma, 2013). Participant C mentioned that social media is a powerful tool and there are a huge percentage of people that use it. Hence, it would be ideal to be part of the sectors involved in the cancer mission.

All sectors or stakeholders that could be of any value to the cancer mission should be involved. There are specific, single, isolated, well-defined key focus points on the mission cancer (Mazzucato and Dibb, 2019). These focus points are called mission projects. They are divisions will the mission to make it easier to handle the whole mission. The figure below shows an example illustration.

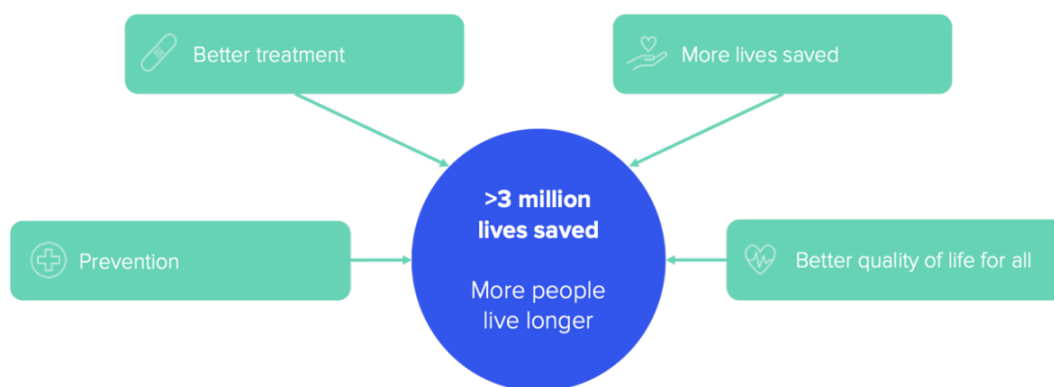


Figure 11: (The Innovation Consultants, 2022)

Creating awareness- The findings from interviews indicate that creating awareness is the first mission project. Participants C, D, G, and E really believed that many people do not have knowledge of cancer, especially in the regions they come from. The participants suggested that we need to educate people on cancer, and the factors that lead to its causes i.e. diets. How we can prevent cancer and encourage frequent screening.

Understanding of cancer- All stakeholders from all sectors need to understand the monster we are dealing with. There should be sufficient knowledge about cancer. The use of web-based idea management can help stakeholders understand cancer better by defining the mission as stated by [Mikelsone \(2023\)](#) in an unpublished manuscript.

Prevention and early detection- People need to be encouraged to do frequent check-ups and screenings. There is a high chance of cancer survival if it's detected at an early stage. Participant C stated that many cancer patients in their region do not get cured because they show up to hospitals when the cancer is already spread and is impossible to cure. People should be urged to do regular check-ups and on the signs and symptoms, they should keep watch of. Governments and policymakers should ensure that the check-ups are affordable to their citizens, by either reducing taxes for the machines used to do the check-ups in hospitals or subsidise the bill of the check-ups after they are done ([Simoens and Huys, 2022](#)) etc.

Diagnosis and treatment- Every individual should be aware that they should visit a doctor as soon as they see the first symptom. Cancer patients should be treated as soon as they are diagnosed. There should be minimal delays from the day of diagnosis and treatment, as this reduces the chances of cancer spreading ([World Health Organization, 2010](#)).

Quality of life for patients and their families- Cancer causes burdens to both the caregivers and patients; it can be financial, emotional, and physical. The caregivers need to be emotionally and physically prepared to handle the cancer patients as they play a very important role in the recovery of the patients ([Lee et al., 2015](#)). Participant D stated that the response that the family members/ caregivers give to the patients determines the way they will respond to treatment and the will to get better. Many people see cancer as a death sentence, especially in Africa where there are extreme cases of poverty. Hence, when people get cancer they don't get proper treatment for fear of being a financial burden to their caregivers and the whole family in general.

#### *Web-based IM techniques*

Web-based idea management techniques are structures and strategies that organizations put in place to be able to generate ideas, evaluate them and implement them. These techniques are highly influenced by organizational culture, tools, and means of fostering innovation available ([Girmscheid and Hartmann, 2001](#)). The list below is from both interview findings and an additional one, SWOT analysis, which was from literature ([Skye, 2023](#)).

- Delphi Technique- Participant B suggested that this particular technique would help in finding innovative ideas that will help in finding solutions to mission cancer at it Participant B it involves acquiring answers to a research question through opinions of experts ([Haughey, 2010](#)).

- Roleplay- This technique has been used by Participant D, although it was for Diabetes patients. The technique had a positive impact in their experiment hence participant D believed it will be of positive impact on cancer patients too. We would be able to understand patients' points of view, their main challenges and work towards finding solutions. Role play would also help all stakeholders understand what we should expect and do if they or their family members got cancer (Cohen, 2020).
- Brainstorming- All participants used this technique in one way or another. They believed that the spontaneous contribution of ideas would lead to finding or building up (Bernstein, 2017) of good ideas that can be implemented to find solutions for cancer.
- Thinking hats- Participant B felt that this technique would also have a huge impact on the cancer mission. One hat (perspective) should be considered at a time to reduce conflict instead of looking at all perspectives at the same time (Channell, 2021). They are also referred to as De Bono's Six Thinking Hats technique (Elmans, 2022).
- Design thinking – Design thinking is a technique that is going to be very useful in mission cancer. Design thinking is solution-based rather than problem-based. It focuses on finding user problems and providing solutions to the problem, it is user-centric (Stevens, 2019). This technique was recommended by participants B and G who think that this technique would help the pharmaceutical company to come up with personalized improved cancer treatments.
- Reverse thinking-Reverse thinking is identifying the problem reversing it and thinking of the opposite of what you want to achieve (Kimbell, 2011). It is basically identifying the problem, and then reversing the problem. According to (Elmansy, 2015) after reversing the problem collect ideas and reverse the ideas. Lastly, evaluate the ideas and identify solutions to the problems. This technique according to participant B will help us find solutions for cancer.
- 5 whys- This is a technique that was proposed by Participant B since it would help us come to the root cause of cancer. This technique is referred to as root cause analysis (Paradies, 2019). Finding the root cause of cancer is the beginning of finding solutions to end it.
- SWOT analysis- This technique was recommended by any participant but I believe it would also be of help in this mission. This technique will help all stakeholders understand what kind of challenges they are likely to face and be able to determine which opportunities they can make the best use of (Skye, 2023) to be able to find solutions in this mission.

There are a lot of idea management techniques that we could use. We should ensure we use a technique that would best suit the specific idea generators that are involved in the idea management process.



### *Maximizing idea generation*

Idea generation is very important in the web-based idea management process. The aim is to have a huge quantity of ideas which practically raises the proportion of potentially innovative ideas that can be implemented (Mikelsone et al., 2022b). Maximum idea generation should be the major goal during idea generation. There are different ways of ensuring maximum idea generation i.e. Introducing rewards, communicating and providing feedback, using a well-defined idea management process, and having clear goals and objectives.

**Introducing rewards-** All participants in one way or another suggested that introducing rewards; financial, non-financial, or mixed would encourage people to share more ideas (Mikelsone et al., 2022a). Although participant A from their previous research discovered that having only financial rewards will not encourage people to share ideas that are a different line of thought. Participant F's concerns that he was not sure how much people will be willing to participate in giving their ideas, because there is so much commercial thought behind it. The concerns were answered through Participant A's in previous research. Non-financial rewards or mixed rewards would encourage more idea generation. Participants A, C, D & E felt that the best way was recognition; by recognizing the best ideators more people together would be encouraged to contribute their ideas. Providing grants to develop ideas, was suggested by Participant G, who also added that rewarding the best ideators to go to seminars and concerts would be a good way to encourage more idea generation.

**Communication and providing feedback-** Communication and providing feedback are very important. Idea generators need to feel appreciated by being involved in all processes of the ideation process (Alessi et al., 2015). Participant A stated that people will be more encouraged to keep generating if they know what happens to their ideas whether they are selected for implementation or not.

**Using a well-defined idea management system, and process and having clear goals and objectives-** Using an idea management system that idea generators would easily understand how it works and how to use it will encourage more people to give ideas. Having a web-based idea management process that the idea generators can follow on the process of what happens from after the ideas are captured to the end stage will encourage more idea generation too (Kulakauskaitė, 2019). Ideators are more encouraged when they know what the goals and objectives of the whole process are.

### *How to minimize cost and time through web-based idea management*

**By enhancing centralized collaboration-** The system allows people from different parts of the world to work together without physical meetings, travel costs, etc. Since cancer is a grand challenge that requires collaborative effort (George et al., 2016). Participant G stated that IM systems will encourage collaboration on various types of research. With collaborations, we will reduce having different groups working on the same research with different resources. They can work together and will

reduce the period taken on a single project and also the resources.

Direct idea submission, automated idea evaluation – Identifying a good web-based idea management system that suits the sectors and the ideators is very important (Mikelsone et al., 2022b). With the web-based idea management system, there will be no need for physical data collection. Hence, no data travel costs for data collectors or time spent on travel. Idea generators can directly add their ideas directly into the system from whichever part they are with no costs. Participant A stated that the system automatically does the evaluation and differentiates ideas that are similar and new ideas. This makes the idea evaluation and implementation faster and less costly.

Online activities- The world has rapidly advanced technologically in recent years. Using online systems i.e. Web-based idea management system is the best way, there will be faster innovation and higher quality results with reduced costs (Smith, 2020). Participant A stated that the systems are generally not costly to acquire, they are 24/7 open for idea input without any kind of geographical limitations. With all activities being online, from idea generation to automated evaluation and ideators being able to follow the implementation process in the system, it will save both time and money.

#### *Challenges of adopting MOIP and Web-based IM in EU's Cancer mission*

Managing the data- The mission-oriented innovated policy is used on cancer with the aim of finding innovative solutions based on three dimensions, contestation, complexity, and the uncertainty of the outcome (Wanzenböck et al., 2020). Based on the objectives and missions projects being worked on in this cancer mission, we need to pay attention to the ideas that are selected in the web-based idea management process. Participant G thought that the biggest challenge would be data application and data action from the data we acquire. He added that the idea would come from different geographical areas, from people with different conditions and circumstances, hence implementation would be complicated. The ideas selected should be in relation to the objectives and mission projects we want to achieve. Hence, the idea action and implementation would not be complicated even if the ideators are from different areas with different circumstances and conditions. There needs to be a backup if the generated ideas are too much for a given period. Idea management systems selected to be used in this process should be able to handle any quantities of data in a given project, with efficient idea capture, evaluation, and selection.

Compatibility- The mission-oriented innovation policy and web-based idea management system are completely different frameworks. The two frameworks have to be integrated smoothly by ensuring all necessary tools that will enable them to work together are put in place. It is important to identify the behaviors of the researchers using the MIOP and the ideators that are going to use the web-based idea management (Zhu et al., 2023). Especially how they would interact with each other to find cancer solutions to be able to identify the best IM system to use that would be

integrated best (Zhu et al., 2023).

Data security and privacy regulations – There are many sectors that will be involved in the idea generation process. Huge quantities of data will be captured. The huge quantities of data may be overwhelming to the systems. Tracking all the data with the correct ideators while keeping all data secure and following the data privacy regulations may be a complex task (Shaikh, 2021). The idea management system chosen to be used in the idea management process should be secure enough to ensure idea generators cannot interfere with important data in the system. Data security and privacy regulations are very important, idea managers should ensure they are given a high priority. More people will be encouraged to give their ideas with the assurance that their ideas will be safe and all privacy regulations would be followed.

Resources and funding- Mission-oriented innovation policy bases its research on the potential of science, technology, and innovation (STI) involving government and civil society (Jütting, 2020) to enable and accelerate the transition towards the Sustainable Development Goals (SDGs) (Miedzinski et al., 2019). Using a mission-oriented innovation policy framework for the research on cancer will need funding and resources. The data captured and selected during the web-based idea management process for further research using the MIOP framework will need funding and resources to be efficient and qualify for implementation.

Maintaining continuous collaboration- It can be challenging to ensure there is continuous participation of stakeholders in the web-based idea management system. Handling cancer needs a lot of collaborative effort (George et al., 2016) from all stakeholders involved. Stakeholders should be involved in all stages of the web-based idea management process as this will encourage continuous collaboration. There needs to be continuous communication and feedback from the idea managers as Participant A had suggested. We could also ensure continuous collaboration through the introduction of rewards for best ideas (Mikelson et al., 2022b). Stakeholders participating in the idea generation should be shown that they are appreciated by recognizing them and their ideas.

The challenges can, however, be managed through idea managers having an organized and structured method of problem-solving. Idea managers can constantly review the tools used for the frameworks to ensure efficiency. Idea managers should ensure that there is continuous participation and collaboration from stakeholders. There should be sufficient and steady funding and resources to finance the whole project from idea capture, research, and the implementation of innovative ideas. All data privacy and regulations should be followed strictly to avoid irregularities and mishandling of data. Idea managers should choose an idea management system that is good and sufficient for the sectors that are involved in the ideation process. The system should be able to handle huge quantities of data at all stages of the ideation process efficiently.

### *Interviewee's opinion of the efficiency of Web-based IM in Cancer mission*

Different Participants had different opinions on the efficiency of web-based idea management in the cancer mission. Most participants agreed that it would be of great importance in the cancer mission. There are many sectors involved in this cancer mission; they all need to share ideas that will provide solutions for cancer. Participant A felt the idea management system is like the tool that we use for this, she knows the Idea management part of these processes pretty well.

Although most participants were positive on the efficiency of the system participant F had a different opinion. He argued that there is a lot of research being done in university hospitals hence the medical sector does not need to receive ideas from other sectors. Participant F added that even if there would be good ideas from the web-based idea management it would be difficult to implement them in real life. He also added that there already exists software that doctors use to be up to date with new research that has been done in different fields all over the world called PubMed; they added that there is no need for another platform. Participant F felt that ideas are highly commercialized in the medical sector and that people especially from the medical sector i.e. doctors, pharmaceutical companies etc. would not be willing to give their ideas in the web-based idea management system.

I believe a web-based idea management system will be very efficient. The system will be able to capture ideas from so many different sectors with no geographical boundaries. The idea management process is fast, efficient, and reliable. Hence, there is an assurance that the after ideas are generated they will be evaluated on time and the best ones selected for implementation. This way there is fast communication and feedback provided to the stakeholders. Providing feedback to stakeholders encourages more participation. Web-based idea management can be a continuous process until we achieve the EUs goal of '3 million lives saved, living longer and better by 2030'.

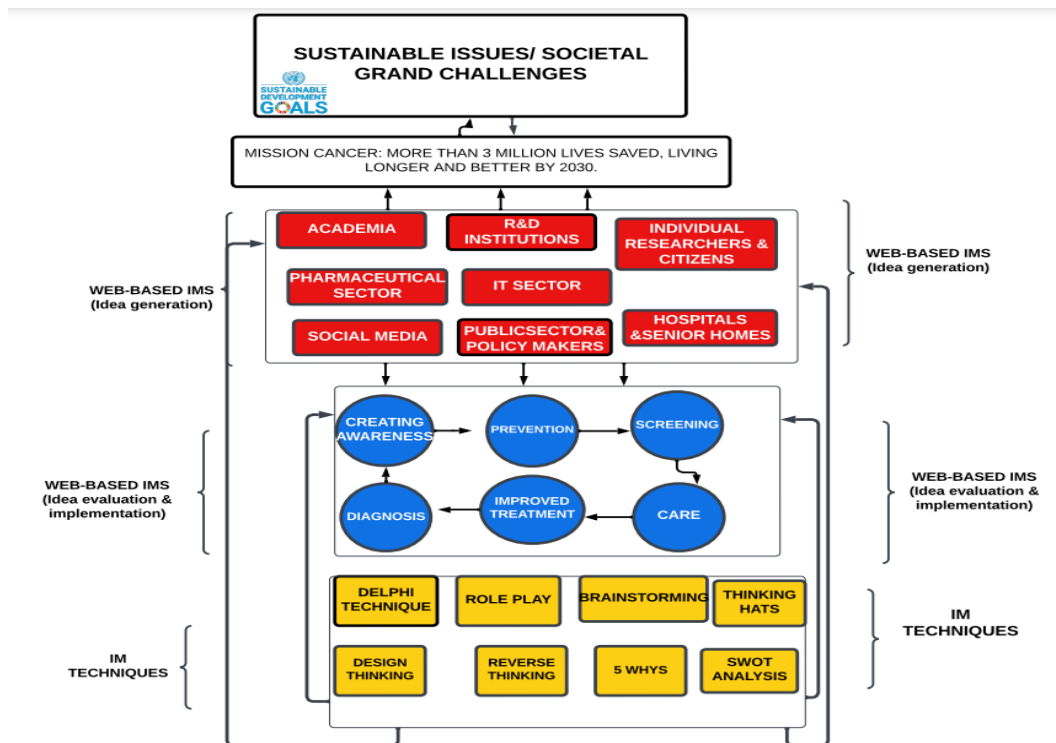


Figure 12: By Author, Mission Innovations (Mazzucato, 2018), adapted

The figure above shows an illustration of how we can find solutions for cancer using both the mission-oriented innovation framework and the idea management systems. The two frameworks can lead to the achievement of the SDG 'good health and well-being' and the European Union's goal of '3 million lives saved living longer and better by 2030'.

There are sectors that will have a great impact on the research on cancer by generating relevant innovative ideas. The aim is that the sectors join hands and work together to find solutions for cancer. Cancer being a grand challenge requires insights from many perspectives (Mazzucato, 2020). The sectors include academia, research and development institutions, individual researchers and citizens of countries in general, the pharmaceutical sector, the IT sector, social media, the public sector and policymakers, hospitals, and senior homes. These are many sectors and huge loads of data will be generated. The web-based IMS is needed to capture these ideas that are generated from all sectors for easy evaluation. The Web-based IMS will also help the stakeholders from the different sectors to collaborate and work together as they will be using one system (Mikelson, 2023). IMS could help stakeholders understand the specific mission we want to achieve better as Mikelson (2023) had stated in an unpublished manuscript.

Different sectors that are involved in this mission can use different idea management techniques that will suit them best to generate innovative ideas. There are many idea management techniques that can be used in this project. They include the

Delphi technique, role play, brainstorming, thinking hats, design thinking, reverse thinking, 5 whys, and SWOT analysis. All the idea management techniques were defined in previous sections of this paper. These techniques influence efficient idea generation.

Ideas generated in this web-based idea management are to be used to find solutions to mission projects. The mission projects of the cancer mission as seen from the literature and results of interview analysis, creating awareness, cancer prevention, regular screening of citizens, early diagnosis; early diagnosis prevents the spread of cancer and increases chances of survival, improved personalized treatment and care of cancer patients and their caregivers and families ([European commission, 2021](#)). After research has been done using the mission-oriented innovation policy, web-based idea management and its techniques can be used in the evaluation process. Idea management systems could also help support the implementation process ([Mikelsone, 2023](#)) of the outcome of the research done on the best innovative ideas.

The diagram Figure 12 shows how we can easily integrate both web-based idea management and web-based idea management to come up with solutions for cancer. The two frameworks will have a great positive impact on the cancer mission.

## 6 RESEARCH CONCLUSION

Web-based idea management and sustainability are in a connected realm since we all want to find solutions for sustainability-related issues and societal grand challenges for the comfortable living of the current generation without affecting the needs of the coming generations ([World Commission on Environment and Development, 1987](#)). Grand challenges are complex, hence they need many perspectives ([Mazzucato, 2020](#)) from different sectors. The idea management system has the tool to efficiently capture ideas from all stakeholders, evaluate them, and help in the implementation process ([Mikelsone, 2023](#)). Using web-based idea management in the context of mission-oriented innovation policy, in particular on the cancer mission, will be having a very positive impact.

From this research, we can agree that using the two frameworks in the cancer mission will be of great benefit. Web-based idea management provides a platform and techniques which all sectors can use to collaborate since cancer needs collaborative effort ([George et al., 2016](#)). By integrating mission-oriented innovation policy, the collective effort and resources can be used to spearhead research to discover more sustainable innovative ideas for the cancer mission. The system and idea managers ensure there is continuous participation which is equivalent to a continuous innovation process until we find a solution for the cancer mission and its mission projects e.g. creating cancer awareness, cancer prevention, screening, diagnosis, improved personalized treatment, and care for cancer patients and survivors together with their families.

This research has shown that integrating both web-based idea management and mission-oriented innovation policy can help us achieve the European Union's cancer mission goal of 'improving the lives of more than 3 million people by 2030 through prevention, cure and for those affected by cancer including their families, to live longer and better' ([European commission, 2021](#)). Achieving this goal makes the third United Nations Vision 2030 sustainable development goal of good health and well-being for all attainable.

## **7 LIMITATIONS OF THE STUDY AND FUTURE RECOMMENDATIONS**

There is not a lot of research that has been done yet on the topic of web-based idea management. This made it difficult to get sufficient information in the literature review based on my research topic. The available literature on web-based idea management was mostly on business organizations and product development. Relating web-based idea management with solving grand challenges, i.e. cancer was not an easy task as there was not much reference to relate to.

During this study, a question arose on how efficient the implementation process is. For future studies, there can be identification of the challenges of the implementation process and how they can be managed.



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