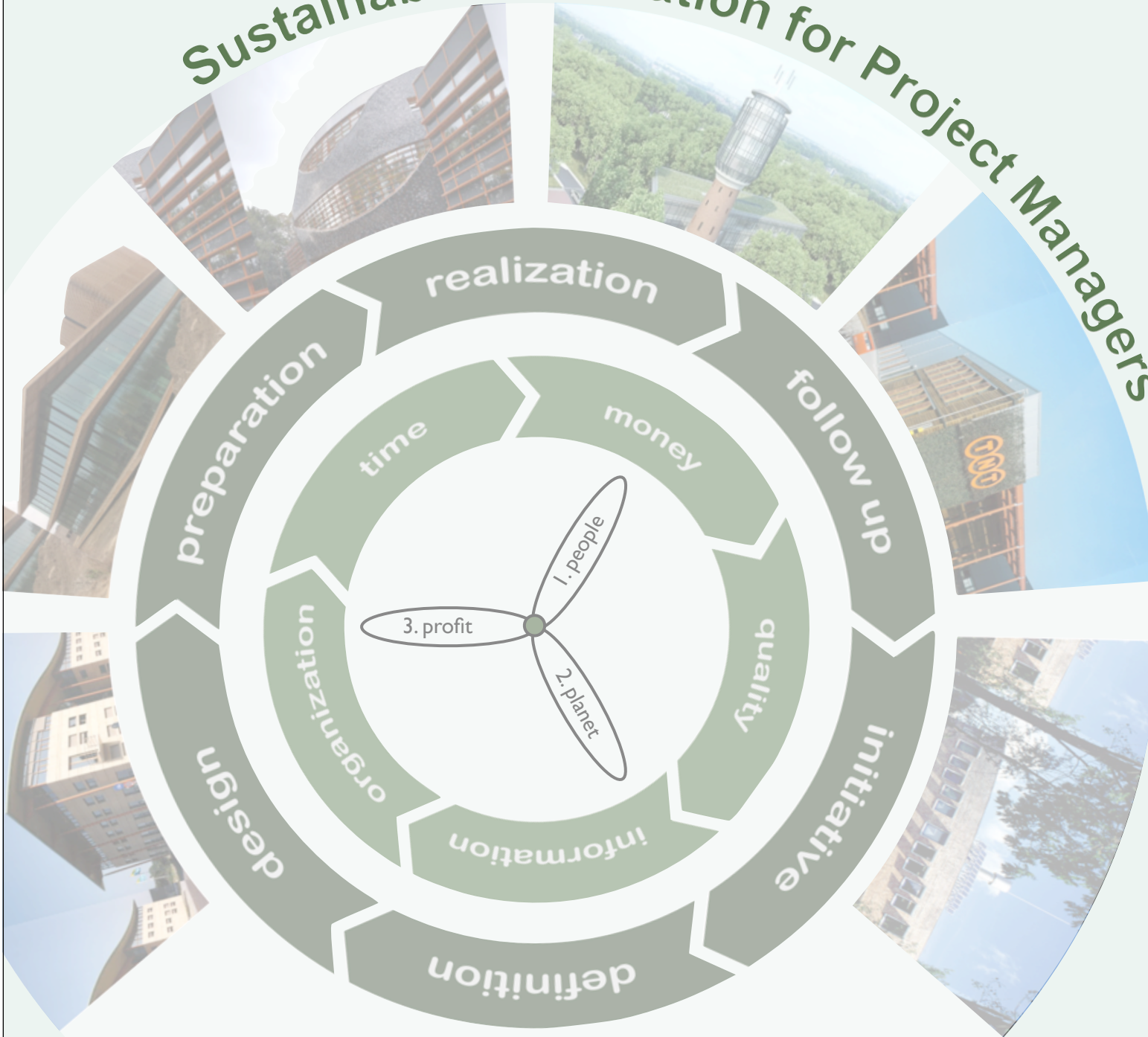


Sustainable Orientation for Project Managers



Pargol Kavandi

20-06-2011

Problem

Research Questions

Research Method

Results

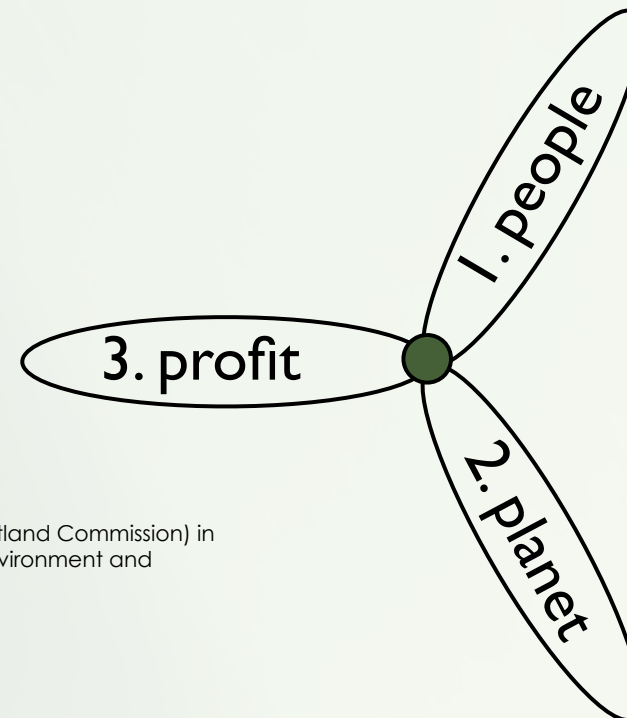


• My approach regarding this MSc thesis

Conclusion

Sustainability

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. ⁽¹⁾



1. The World Commission of Environment and Development (known also as the Brundtland Commission) in 1987. Brundtland. (1987). Our Common Future, Report of the World Commission on Environment and Development.

Increasing rate of sustainable development **1.9%** per year.⁽²⁾

In 2015 **50% energy saving** on all new buildings .⁽³⁾

More **strict requirements** for sustainable new office building .⁽⁴⁾

Projects that are started before **2012 are 25% more energy efficient** than the law requirements. Sustainable **ambitions** have **increased** in recent years.⁽⁵⁾

2- Yua. Z., Haghigata. F, Fungb. B.C.M, Yoshinoc.H , (2010) 1637–1646

3- VROM, 22 april 2008

4- Duurzaam inkopen .Rijkswaterdienst ,2010

5- lente-akkoord.-voorbeeldprojecten

What is the problem exactly ?

Despite the increase in sustainable ambitions within building development, **few ambitions are achieved** at the end of the construction. Sustainable ambitions during the actual construction project almost always shrink.



What is missing? Where is the gap?

- **Current project approach** does not effectively address the **objectives of sustainable development**.⁽⁶⁾
- **Project approach** of sustainable development **has to be adapted**.⁽⁷⁾
 - **Our society is changing.**
 - **Sustainability fits into these changes.** ⁽⁸⁾
- **Redesign and re-imagine** project approach for **creating quality in the long term**.⁽⁹⁾

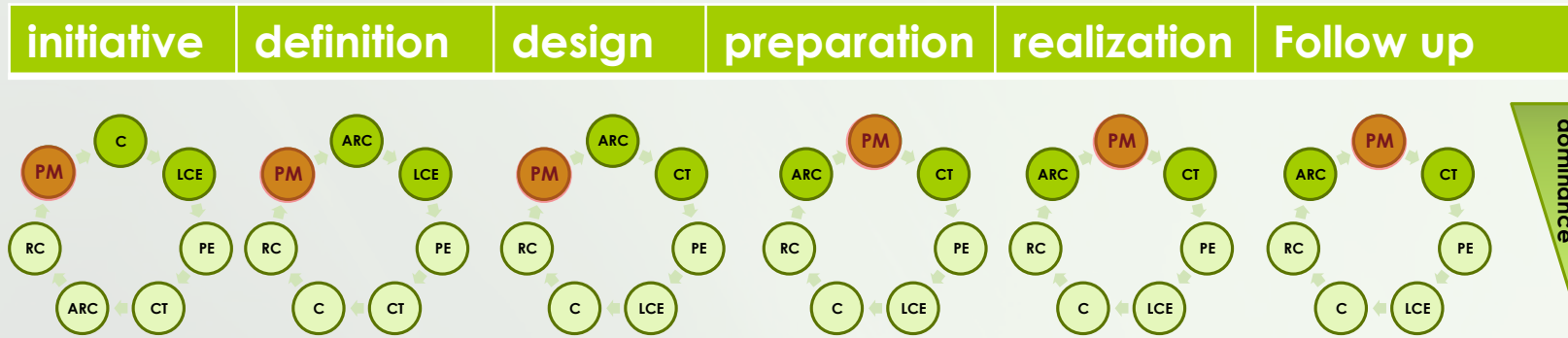
6 - 7 - Sustainable Project Life Cycle Management- Carin Labuschagne and Alan C. Brent 2008

8 - Herzierversie fusie van belangen ,Anke van Hal,2011

9 - Van Hal,A, 2009 the merge of interest!

Despite the **increase in sustainable** ambitions within new office-building development, **few** of these **ambitions are achieved** at the end of the construction .
To realize high sustainable ambitions, there is need for a **new project approach**.

Who is the most appropriate person to safeguard these ambitions during the whole process through new project approaches?



- C Client
- PM project manager
- LCE life cycle economist
- RC Risk and contract adviser
- ARC Architect
- CT Contractor
- C Financial adviser
- PE plan economist
- DT Design team

Construction project management: an integrated approach. Peter Fewings, 2005

Control Aspects:

Tools for project managers to steer the project.

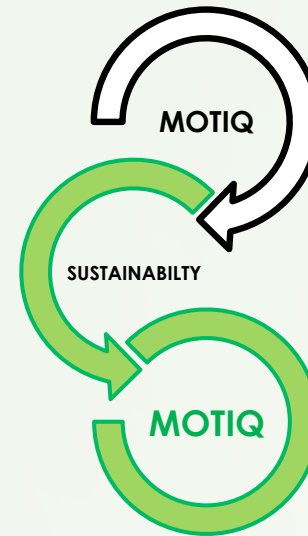
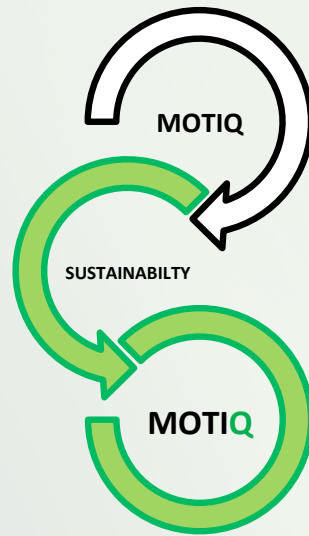
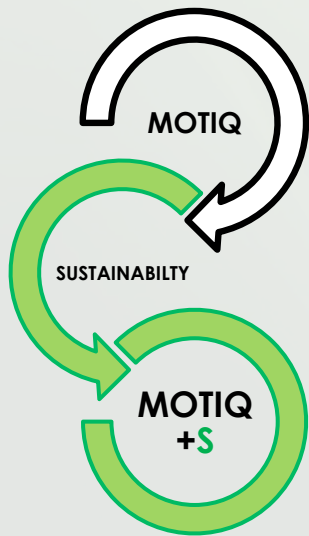
- Time
- Money
- Quality
- Organization
- Information

Client type: **Ambitious Client**

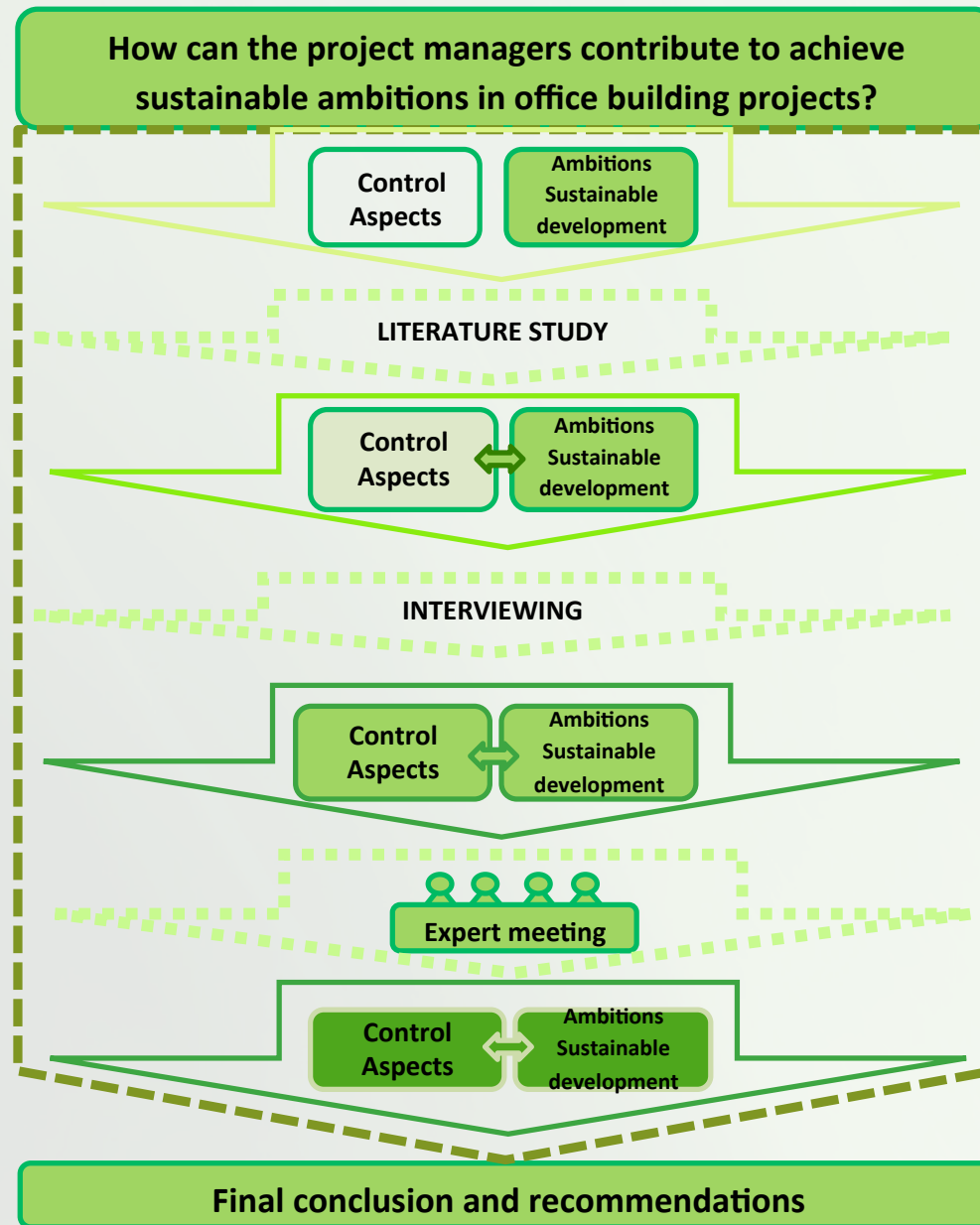
Main Question:

How can project managers contribute to achieving sustainable ambitions in office- building projects?

- 1.What are **sustainable ambitions** in the office building projects?
- 2.What are **points of improvement** towards sustainability in current **project control aspects** in order to growing effectiveness to achieve sustainable ambitions?
- 3.What are **the differences** in project approach of the **sustainable** development with respect to **conventional** project approach with regard to the control aspects to realize the sustainable ambitions?



To integrate a project **manager's tool** (control aspects) with sustainable ambitions in order to identify a new project approach for safeguarding and accomplishing sustainable ambitions.

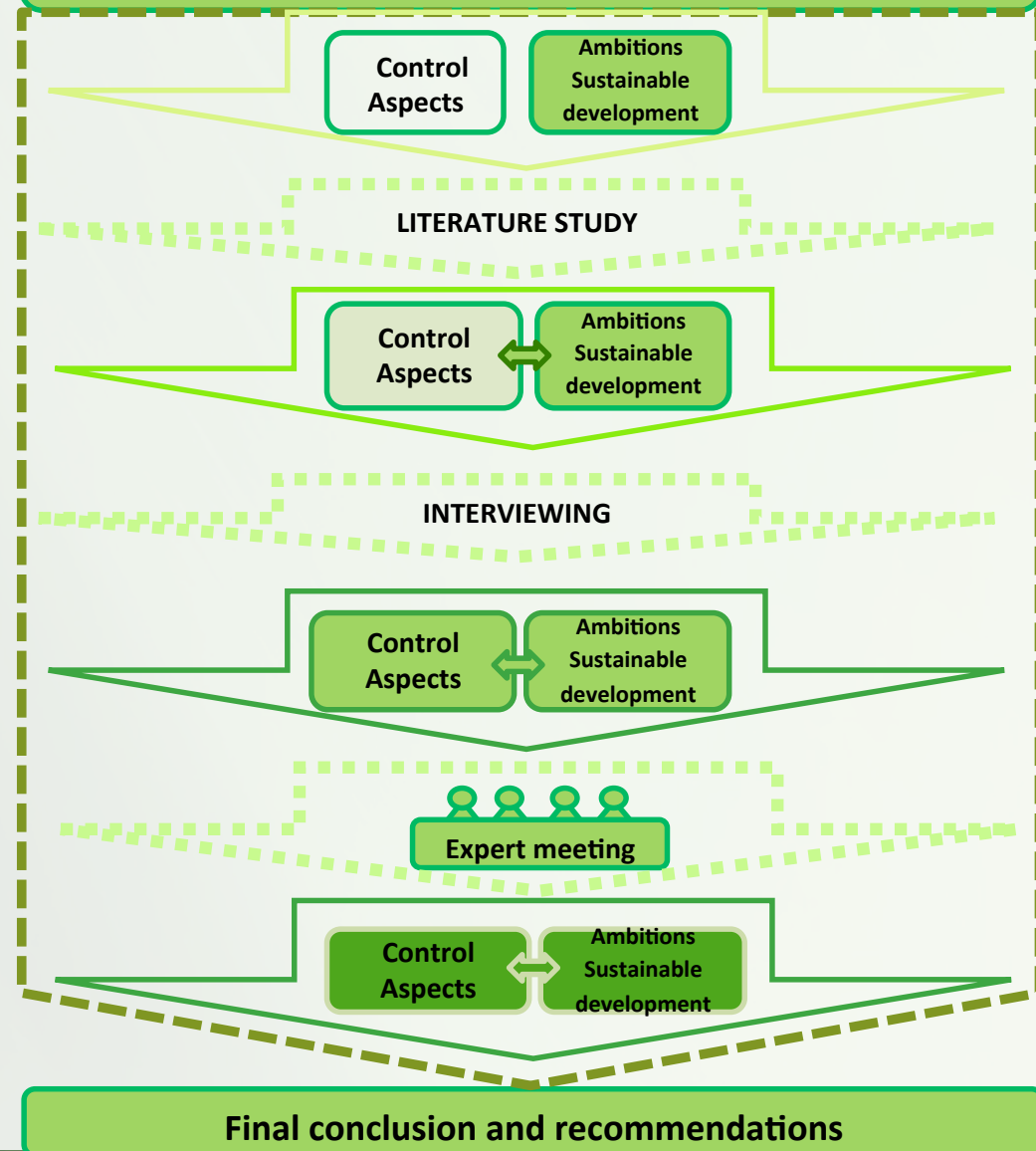


Research Method

Projectmatig werken Draaiboek- Bouwen met ambitie

- Graduation reports :Delft, TU Eindhoven
- Article's –sustainable development ,IDP, sustainable management
- website's -International Institute for Sustainable Development. Integrating Ecology and Real Estate

How can the project managers contribute to achieve sustainable ambitions in office building projects?



Research Method

How can the project managers contribute to achieve sustainable ambitions in office building projects?

Control Aspects

Ambitions Sustainable development

LITERATURE STUDY

Control Aspects

Ambitions Sustainable development

INTERVIEWING

Control Aspects

Ambitions Sustainable development

Expert meeting

Control Aspects

Ambitions Sustainable development

Final conclusion and recommendations

Top six GreenCalc sustainable office building

Research Method



1. Watertoren Bussum
GreenCalc score: 1028



2. TNT Distributiecentrum Veenendaal
GreenCalc score: 632



3. Rijkswaterstaat Terneuzen
GreenCalc score: 323



4. NIOO, Wageningen
GreenCalc score: 285



5. WNF (high ambitions)
GreenCalc score : 269



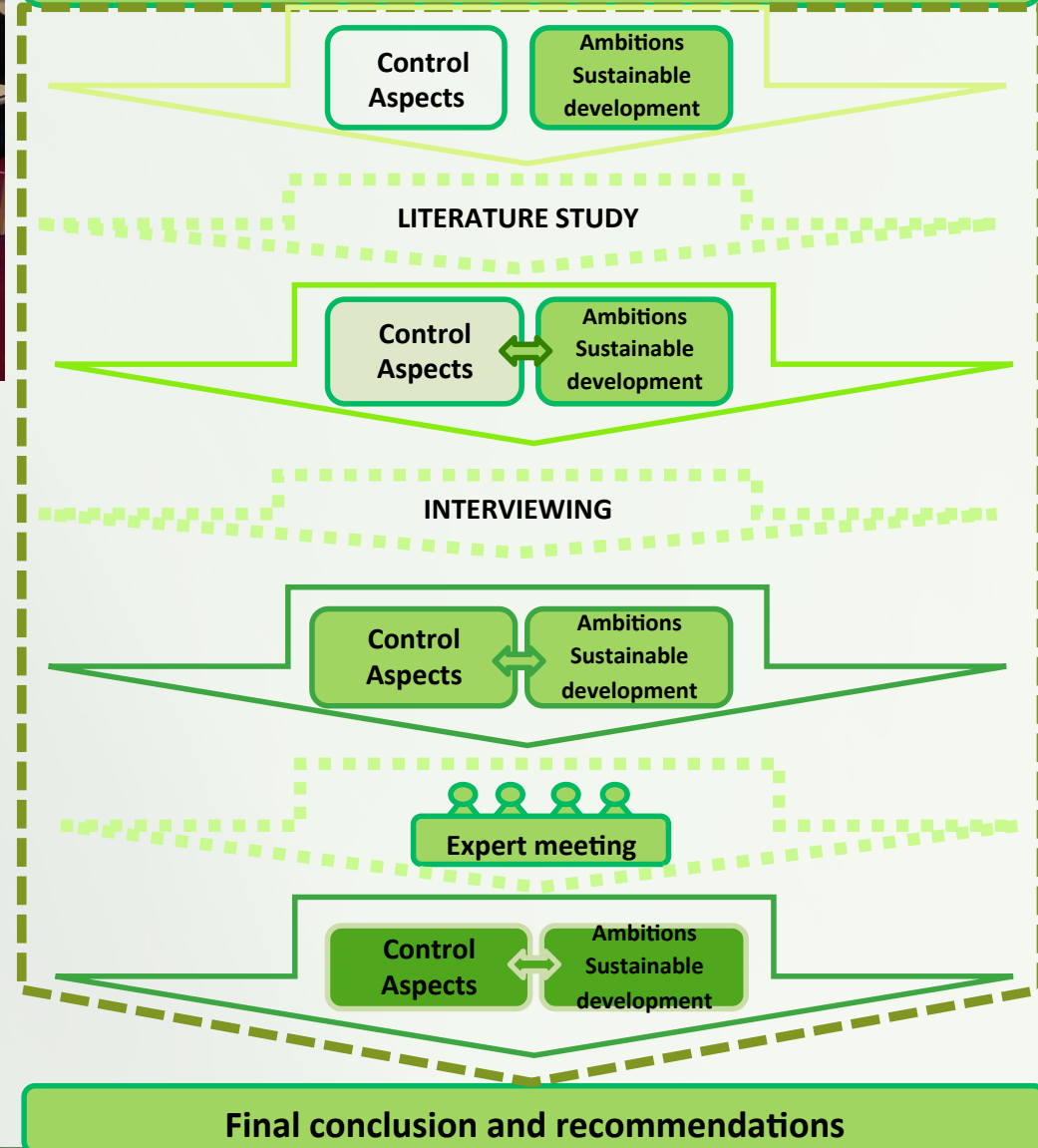
6. Rijkswaterstaat IJmuiden
GreenCalc score: 257

Research Method

Research Method



How can the project managers contribute to achieve sustainable ambitions in office building projects?



- | | |
|--------------------------|---------------------|
| 1. Mr.Paul Bekhuis | Volkerwessels |
| 2. Mr.Peter van den Berg | Rijskgebouwdienst |
| 3. Mr.Dennis Grootenboer | RAU |
| 4. Ms.Anke van Hal | Faculteit Bouwkunde |
| 5. Mr.Jan Hoevers | Hoevers adviesburo |
| 6. Mr.Koos Vercouteren | Faculteit Bouwkunde |
| 7. Mr.Owin Zachariasse | Delta ontwikkeling |
| 8. Ms.Carolien de Vries | Woonstichting DeKey |
| 9. Mr.Theo Smits | Heijmans |

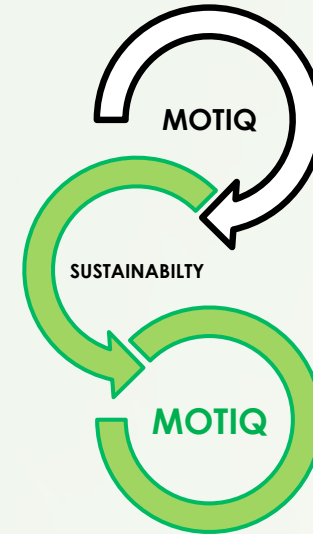
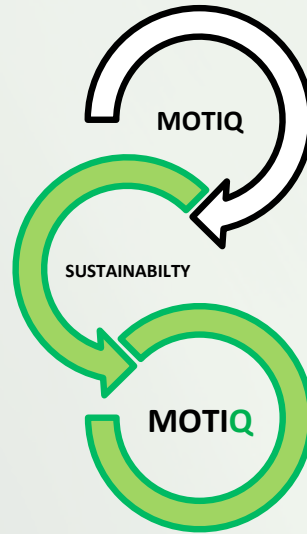
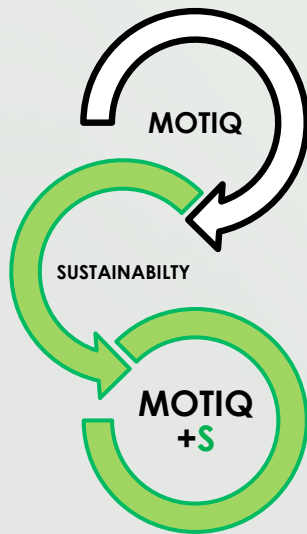
Research Method

Problem

Research Questions

Results

Conclusion



What are sustainable ambitions in the office building projects?

Ambition is not so much the desire to achieve, but the **action or method of getting to that desire**, without the action it is merely a dream. ⁽¹¹⁾

Striving to get ahead to achieve sustainable development and ready to put time and effort into achieving that.

Ambitions → **measurable goals** → **SMART requirements**

11. WikiAnswer.com

What are points of improvement regarding to the control aspects with respect to the sustainable project to achieve growing effectiveness in sustainable project approach?

1. INITIATIVE PHASE

- 1. INFORMATION
- 2. QUALITY
- 3. TIME
- 4. MONEY
- 5. ORGANIZATION

2. DEFINITION PHASE

- 1. INFORMATION
- 2. QUALITY
- 3. TIME
- 4. MONEY
- 5. ORGANIZATION

3. DESIGN PHASE

- 1. INFORMATION
- 2. QUALITY
- 3. TIME
- 4. MONEY
- 5. ORGANIZATION

4. PREPARATION PHASE

- 1. INFORMATION
- 2. QUALITY
- 3. TIME
- 4. MONEY
- 5. ORGANIZATION

5. REALIZATION PHASE

- 1. INFORMATION
- 2. QUALITY
- 3. TIME
- 4. MONEY
- 5. ORGANIZATION

6. FOLLOW UP PHASE

- 1. INFORMATION
- 2. QUALITY
- 3. TIME
- 4. MONEY
- 5. ORGANIZATION



- Inform the Experts
- Changes and decisions are determined and communicated.

Realization phase

Information

- Continually **inform and educate** the contractor and sub-contractor and even the suppliers and vendors regarding the special requirements of the project.
- Complementary decisions have to be **determined and communicated** to all other participants
- Involve the **client and future occupant** representatives and keep them informed and enthusiastic about the progress of the project.
- Ensure that new team members have the necessary and correct **information in a timely** fashion.



Realization phase

Quality

- Construction results have to be **evaluated and examined** with respect to the brief and project definition.
- Assess any complementary **decisions** and probable changes with respect to the brief and project definition.
- Constantly evaluate and examine **all purchases** in terms of their specifications and performance.
- Ensure that **all changes, drawings** and alternatives are in agreement with the project intent.



Realization phase

Money

- Assess any changes and their financial consequences using the same manner of calculation (TCO)
- Make the contractor payments dependent on a team's confirmation of sustainable system performance.



- Planning is communicated
- Check-moment

Realization phase

Time

- Develop appropriate and precise planning due to the **time pressure** in this phase
- Planning should be **communicated** to all team members, and then has to be signed by all team members
- Incorporate the **check moments** into the project schedule



- Regular meetings

Realization phase

Organization

- The roles and responsibilities should be **updated**.
- Plan regular **site meetings** with the entire team to review and examine the approach of design , sustainable techniques and strategies.
- Involve **future occupant** to get familiar with new building and how it operates.
- Organize meetings during this phase in order to **inform and educate** the core team.
- And, if the budget permits, include performance **incentive payments** in contracts for the contractors.





- Start to **define** the sustainability.
- Identify **proper** information to define the project.
- Reform, evaluate and reformulate the client's ambition.
- Show - **visualize** the possible solutions.
- **Continually monitor** that any information needs which relate to the sustainable measures are correctly identified and that the information is supplied, clearly registered.
- It is important to have the **right team** which provides and distributes and examines this information.

- **Visualize information during interviews**
- **Right Team**



- Have a separate **team** which continually identifies, communicates, distributes and monitors the project information.
- **Continually inform** and, as necessary **educated**, the core team.



- The significant **distinction** between sustainable development and conventional development is to **continually inform** the parties and participants with respect to the sustainable goals and objectives.
- The communication of the information in a **clear and interesting** manner is more necessary.
- **Invite the expert** from a successful sustainable project to share their experiences .

• Learning from approach of other successful MSc Thesis



- Have a **communication facilitator**, as necessary, to facilitate and improve the communication and knowledge transfer.
- ‘**Integrated collaboration**’ is the magic word for sustainable development, from the design phase until hammering in the last nail.
- Inform the parties about respective areas of **responsibilities**, intensive level of cooperation and collaboration.
- It is significant to have a **team** for all phases to contribute to and **facilitate the manner of collaboration**.

• **Intensive collaboration/involvement**

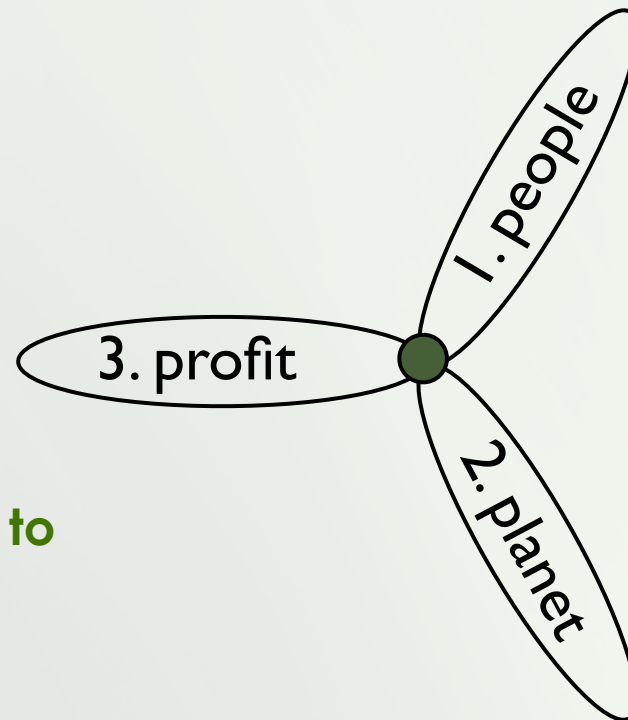


- **Team members**, experts and advisers should examine the **construction documents**, additional decisions and changes regarding the required quality and performance.
- The schedule must include the **check moments**
- Incorporate the **evaluation meetings** and **education meetings** into the schedule.
- Furthermore the distribution of the information has to be fulfilled in a **timely fashion**.
- Moreover it is important to consider for each phase what kind of **information is necessary** and consequently which parties are appropriate for that.

3-What are the differences in project approach of the sustainable development with respect to conventional project approach with regard to the control aspects to realize the sustainable ambitions?

Information followed by organization are the most important control aspects.

How can the project managers contribute to achieve sustainable ambitions in office building projects?



1-Require Information to determine correct ambition.

2-Require Information to find out sustainable solution

3-Require Information to find out financial solution

Information, which should be provided and applied, requires qualified team, right planning and budget.

- **Building information modeling**
- **Contract models**
- **Tender procedure and tender criteria**
- **Other client types**

***Knowledge is not the greatest power but,
applied knowledge is where true power rests.***