Value Chain Hackers - Documentation

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2026-03-06

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1 Welcome to Value Chain Hackers

2 Welcome

Hello and a warm welcome to the Value Chain Hackers onboarding documentation! I'm Christiaan Verhoef, your guide, mentor, and fellow enthusiast in this exciting journey. Whether you're a student, mentor, or project manager, this guide is here to provide you with all the tools and insights you need to thrive in our vibrant community.

2.1 Our Mission

At Value Chain Hackers, we are on a mission to revolutionize the supply chain industry through relentless innovation, spirited collaboration, and hands-on practical application. We believe in empowering each individual to make meaningful contributions that drive real-world impact. Together, we will tackle the complexities of supply chains and transform challenges into opportunities.

2.2 What to Expect

Over the next 16 weeks, you'll dive into an immersive program designed to challenge your skills, broaden your horizons, and foster strong team dynamics. Here's a glimpse of what lies ahead:

- **Kick-off Hackathon**: Begin with an exhilarating one-day hackathon where you'll meet your team, brainstorm groundbreaking ideas, and set the stage for an unforgettable semester.
- **Bi-Weekly SCRUM Meetings**: Engage in regular check-ins to discuss progress, overcome obstacles, and ensure we are all aligned with our project goals.
- **Mentorship and Support**: Gain from the wisdom and experience of our dedicated mentors, who will act as your patrons, guiding you every step of the way.
- **Hands-On Projects**: Work on real-world supply chain problems, applying your skills and creativity to develop innovative solutions that make a difference.
- **Celebration and Recognition**: Conclude the semester with a grand closing ceremony where you'll showcase your findings, share your experiences, and celebrate your achievements together.

2.3 Getting Started

1. **Read the Documentation**: Dive into the program structure, roles, and responsibilities by reading through this comprehensive documentation.
2. **Join Our Communication Channels**: Connect with your peers and mentors on Discord and stay updated with official announcements via Nextcloud.
3. **Set Up Your Tools**: Ensure you have access to all necessary tools, including Taiga for project management, GitLab for version control, and Jitsi for virtual meetings.
4. **Participate Actively**: Immerse yourself in all scheduled activities, contribute to discussions, and collaborate with your team to maximize this learning experience.

2.4 Contact Information

If you have any questions or need assistance, don't hesitate to reach out:

- **Email**: cg.verhoef@windesheim.nl
- **Discord**: Join our server here

2.5 Conclusion

We are thrilled to have you on board and cannot wait to witness the amazing things you'll achieve as part of the Value Chain Hackers program. Together, let's embark on this transformative journey and make a lasting impact in the world of supply chain management!

Welcome to the team!

Christiaan Verhoef
Value Chain Hackers Leader

3 Introduction

4 Introduction

Welcome to the Value Chain Hackers! In this program, you will embark on an exciting journey to revolutionize the supply chain industry through innovation, collaboration, and practical application. Our goal is to equip you with the tools, knowledge, and support you need to make meaningful contributions and drive real-world impact.

Throughout this program, you'll be challenged to think critically, work collaboratively, and apply your skills to solve complex supply chain problems. You'll have the opportunity to learn from experienced mentors, engage with industry experts, and collaborate with peers who share your passion for innovation.

Get ready to dive into a dynamic and immersive experience that will push your boundaries, expand your horizons, and prepare you to become a leader in the supply chain industry. Together, we'll transform challenges into opportunities and create a brighter future for supply chain management.

4.1 Inspiring Videos

To kickstart your journey, here are some inspiring videos that explore themes related to supply chains, innovation, and teamwork. These videos highlight the power of creativity, resilience, and collaboration in overcoming challenges and achieving success:

4.1.1 How Wolves Change Rivers

An incredible story about how the reintroduction of wolves to Yellowstone National Park changed the entire ecosystem, illustrating the powerful impact of a single change in a system.

Figure 4.1: How Wolves Change Rivers

4.1.2 Simon Sinek: How Great Leaders Inspire Action

Simon Sinek discusses the concept of "Start With Why" and how leaders inspire action by focusing on their purpose and values.

Figure 4.2: How Great Leaders Inspire Action

4.1.3 RSA ANIMATE: Drive: The surprising truth about what motivates us

An animated version of Dan Pink's talk on motivation, exploring the science behind what drives us to work harder and be more creative.

Figure 4.3: Drive: The surprising truth about what motivates us

4.1.4 The Power of Vulnerability - Brené Brown

Brené Brown shares her research on vulnerability, highlighting its importance in fostering innovation, creativity, and change.

Figure 4.4: The Power of Vulnerability

These videos will not only inspire you but also provide valuable insights into innovation, resilience, and the power of teamwork. Enjoy watching them as you embark on your Value Chain Hackers journey!

Let's get started!

5 Why

6 Why

6.1 Why Value Chain Hackers

Welcome to Value Chain Hackers! We are on a mission to revolutionize the supply chain industry through innovation, collaboration, and practical application. By providing you with the necessary resources and building strong, agile teams, we ensure that our participants can make meaningful contributions to the field of supply chain management. Together, we'll tackle the complexities of supply chains and transform challenges into opportunities.

6.1.1 Unleashing Your Potential

Our program is all about unlocking your potential. We believe that every participant has unique strengths and talents that, when harnessed, can lead to extraordinary results. Through Value Chain Hackers, you'll have the opportunity to discover and develop your abilities in a supportive and dynamic environment.

6.1.2 Real-World Impact

We're not just playing around here—our goal is to make a real difference in the world. The supply chain industry is vast and complex, playing a crucial role in our daily lives. By improving supply chains, we can enhance efficiency, reduce waste, and create more sustainable practices. Your work here can lead to tangible, positive changes in the industry and beyond.

6.1.3 Innovation and Creativity

Innovation is at the heart of everything we do. We encourage you to think outside the box, experiment with new ideas, and push the boundaries of what's possible. This is your chance to bring fresh perspectives to the table and come up with creative solutions to challenging problems. Let's have fun with it and see where our imagination can take us!

6.1.4 Collaboration and Community

One of the best parts of Value Chain Hackers is the sense of community. You'll be working alongside passionate individuals who are just as excited about supply chain innovation as you are. Together, we'll build a collaborative environment where ideas can flow freely, and everyone's contributions are valued. Whether it's through brainstorming sessions, hackathons, or casual chats over coffee, you'll find that the power of teamwork can lead to amazing breakthroughs.

6.2 Why Online Learning & Digital Lab

6.2.1 Flexibility and Accessibility

The digital lab provides unparalleled flexibility and accessibility. No matter where you are in the world, you can participate in our program. This allows us to bring together a diverse group of individuals, fostering a rich environment of different perspectives and ideas. Online learning means you can fit your participation around other commitments, ensuring you can engage fully without sacrificing other important aspects of your life.

6.2.2 Cutting-Edge Tools and Resources

By leveraging digital platforms, we provide access to a range of cutting-edge tools and resources. From project management software like Taiga to collaboration tools like Nextcloud and Etherpad, you'll have everything you need at your fingertips. These tools not only facilitate efficient workflow but also enhance your learning experience.

6.2.3 Interactive and Engaging Content

Our online learning approach is designed to be interactive and engaging. With virtual meetings via Jitsi, real-time document editing, and dynamic feedback systems, you'll be actively involved in your learning process. This keeps the experience lively and ensures that you're not just passively consuming information.

6.3 Why AI for Supply Chain

6.3.1 Enhancing Efficiency

AI has the power to transform supply chains by enhancing efficiency. From predictive analytics to automated decision-making, AI tools can help identify bottlenecks, optimize routes, and

forecast demand with greater accuracy. This leads to more efficient operations and significant cost savings.

6.3.2 Driving Innovation

AI is at the forefront of technological innovation. By integrating AI into supply chain management, we open up new possibilities for problem-solving and process improvement. AI can analyze vast amounts of data quickly, providing insights that would be impossible to achieve manually. This drives innovation and helps us stay ahead of industry trends.

6.3.3 Improving Sustainability

AI can also contribute to more sustainable supply chains. By optimizing resources and reducing waste, AI-driven solutions can help companies achieve their sustainability goals. This is increasingly important in a world where environmental considerations are critical to business success.

6.4 Why Scrum Agile Working Methodology

6.4.1 Flexibility and Adaptability

Scrum is all about flexibility and adaptability. In a fast-paced industry like supply chain management, the ability to pivot quickly in response to changing conditions is crucial. Scrum provides a framework that allows teams to respond to changes efficiently, ensuring that projects stay on track even when unexpected challenges arise.

6.4.2 Enhancing Team Collaboration

Scrum emphasizes teamwork and collaboration. By working in sprints and holding regular stand-up meetings, team members stay aligned and engaged. This fosters a collaborative environment where everyone's input is valued, and the collective effort leads to better outcomes.

6.4.3 Continuous Improvement

One of the core principles of Scrum is continuous improvement. Through regular retrospectives, teams reflect on their processes and identify areas for enhancement. This commitment to ongoing improvement ensures that we are always striving to be better, delivering higher quality results with each iteration.

6.4.4 Clear Goals and Accountability

Scrum provides clear goals and accountability. Each sprint has specific objectives, and team members know exactly what is expected of them. This clarity helps keep everyone focused and motivated, driving progress and ensuring that we meet our targets effectively.

7 How

8 How

8.1 How Do We Ensure Our Feedback Is Taken Seriously?

8.1.1 Clear Communication

To ensure our feedback is taken seriously, we prioritize clear and concise communication. We use structured feedback forms and ensure that all comments are actionable and specific. This way, our suggestions are easy to understand and implement.

8.1.2 Constructive Criticism

We focus on providing constructive criticism that is aimed at helping teams improve. By highlighting strengths along with areas for improvement, we create a balanced feedback environment that encourages growth and development.

8.1.3 Regular Feedback Sessions

Regular feedback sessions are scheduled to ensure continuous improvement. These sessions provide an opportunity for open dialogue between students, mentors, and project managers, fostering a culture of trust and collaboration.

8.2 How Can We Make Students Report More Often?

8.2.1 Streamlined Reporting Tools

We provide easy-to-use reporting tools like Taiga for project management and Nextcloud for document sharing. These tools simplify the reporting process, making it quick and efficient for students to submit their progress updates.

8.2.2 Gamification

To make reporting more engaging, we incorporate gamification elements. Students can earn points and badges for timely and thorough reports, which can be redeemed for rewards or recognition at the end of the semester.

8.2.3 Regular Check-Ins

We schedule regular check-ins to keep students on track. These bi-weekly SCRUM meetings ensure that everyone is aligned with their goals and any issues are addressed promptly.

8.3 How Can We Get Teachers to Act as Coaches in Our Project?

8.3.1 Roman-Patreon Model

We adopt the Roman-Patreon model, where experienced teachers act as mentors (patrons) to students (protégés). Teachers are matched with students based on their expertise and interests, fostering a supportive mentor-mentee relationship.

8.3.2 Incentives for Teachers

We provide incentives for teachers to participate as coaches. This can include professional development opportunities, recognition in the academic community, and tangible rewards like gift vouchers or certificates of appreciation.

8.3.3 Collaborative Workshops

We organize collaborative workshops where teachers and students can work together on projects. These workshops provide a platform for teachers to share their knowledge and guide students through practical, hands-on activities.

8.4 How Can We Motivate Students Sufficiently?

8.4.1 Engaging Activities

We incorporate fun and engaging activities throughout the program. From icebreakers and team-building exercises to themed hackathons and social events, there's always something exciting happening to keep students motivated.

8.4.2 Recognition and Rewards

We recognize and reward students for their hard work and achievements. This includes certificates of achievement, internship opportunities, and gift vouchers for outstanding performance.

8.4.3 Clear Goals and Milestones

We set clear goals and milestones to keep students focused and motivated. By breaking down projects into manageable tasks and celebrating each milestone, we create a sense of progress and accomplishment.

8.4.4 Supportive Community

We foster a supportive community where students feel valued and encouraged. Open communication channels, regular mentorship sessions, and peer support groups help create an environment where everyone can thrive.

8.5 Tracking Projects in a Digital Space

8.5.1 Project Management Tools

We use Taiga, an open-source agile project management platform, to manage tasks, sprints, and backlogs. This tool helps students stay organized and track their progress in real-time.

8.5.2 Collaborative Platforms

Nextcloud and Etherpad are our go-to tools for collaboration. These platforms allow students to share documents, edit them in real-time, and keep track of changes, ensuring seamless teamwork.

8.5.3 Regular Updates

Students are encouraged to provide regular updates on their progress. This can be done through bi-weekly SCRUM meetings, monthly consortium meetings, and real-time updates on our digital platforms.

8.5.4 Visual Dashboards

We provide visual dashboards that display project progress, upcoming tasks, and completed milestones. These dashboards make it easy for students to see their achievements and stay motivated.

8.6 Conclusion

By implementing these strategies, we ensure that our feedback is valued, students are engaged and motivated, and projects are effectively tracked in a digital space. Together, we create a dynamic and supportive environment where innovation and collaboration thrive. Let's make this journey exciting and impactful!

9 What

9.1 What We Do at Value Chain Hackers

9.1.1 Real-World Projects

At Value Chain Hackers, we engage in real-world supply chain projects that address actual industry challenges. These projects provide a practical, hands-on learning experience that goes beyond theoretical knowledge. You'll work on tasks that have real impact and contribute to meaningful solutions in the supply chain sector.

9.1.2 Agile-Scrum Methodology

We utilize the Agile-Scrum methodology to manage our projects. This approach ensures that our work is structured, iterative, and flexible, allowing us to adapt to changes quickly and efficiently. Here's a brief overview of the Scrum process:

- **Product Backlog**: A prioritized list of project tasks and requirements.
- **Sprint Planning**: A collaborative meeting to select tasks for the upcoming sprint.
- **Sprint Backlog**: The list of tasks committed to be completed in the sprint.
- **Daily Scrum**: A short, daily meeting to synchronize activities and plan the next 24 hours.
- **Development Work**: The actual work done during the sprint to achieve the sprint goal.
- **Increment**: The sum of all completed backlog items during a sprint.
- **Sprint Review**: A meeting at the end of the sprint to inspect the increment and adapt the backlog.
- **Sprint Retrospective**: A meeting to reflect on the sprint process and identify improvements.

For a detailed breakdown of the Scrum process, refer to the Scrum Process page.

9.1.3 Digital Lab and Online Learning

Our digital lab provides a flexible and accessible learning environment. With tools like Nextcloud, Etherpad, and Jitsi, you'll collaborate seamlessly with your team, regardless of location. This setup ensures that you can engage with the program while balancing other commitments.

9.1.4 AI and Innovation

We integrate AI technologies to enhance our supply chain projects. AI helps in analyzing vast amounts of data, optimizing processes, and predicting future trends. By incorporating AI, we stay at the forefront of innovation and ensure that our solutions are cutting-edge.

9.1.5 Continuous Improvement

Continuous improvement is a core principle of our methodology. Through regular sprint retrospectives and feedback sessions, we constantly seek ways to enhance our processes and outcomes. This iterative approach ensures that we are always learning and improving.

9.1.6 Fun and Engaging Activities

We believe in making the learning experience enjoyable. Throughout the program, we host various activities to keep things lively and engaging. From icebreakers and themed hackathons to social events and team-building exercises, there's always something fun happening to keep you motivated.

9.1.7 Recognition and Rewards

Your hard work and achievements are recognized and rewarded. Whether it's through certificates, internships, or other tangible rewards, we ensure that your contributions are valued. This recognition not only motivates you but also adds to your professional portfolio.

9.1.8 Community and Collaboration

Building a strong community is key to our success. You'll collaborate with peers, mentors, and industry experts, creating a network of support and shared learning. This community-driven approach fosters a sense of belonging and encourages collective growth.

9.1.9 Inspiring Resources

We provide a wealth of resources to inspire and inform you. This includes access to industry reports, academic papers, and inspiring videos that explore themes related to supply chains, innovation, and teamwork. Check out these videos to get started:

9.2 Conclusion

The Value Chain Hackers program is a comprehensive, engaging, and impactful journey into the world of supply chain management. By integrating real-world projects, Agile-Scrum methodology, AI technologies, and a supportive community, we ensure that you have everything you need to succeed. Let's make this experience memorable and transformative!

Welcome to the Value Chain Hackers community!

10 Tools

11 Tools

11.1 Essential Tools for Value Chain Hackers

In the Value Chain Hackers program, we leverage a variety of open-source and self-hosted tools to facilitate collaboration, project management, communication, and more. Here's an overview of the tools you'll be using:

11.1.1 Communication

- **Nextcloud**: An open-source platform for file sharing and collaboration. Use it for sharing documents, managing calendars, and more. Nextcloud
- **Discord**: An online communication tool that integrates seamlessly with our digital workspace, perfect for instant messaging and voice/video calls. Discord

11.1.2 Project Management

- **Taiga**: An open-source agile project management platform. Manage tasks, sprints, and backlogs with ease. Taiga

11.1.3 Collaboration

- **Etherpad**: An open-source collaborative text editor for real-time document editing. Great for working together on documents. Etherpad
- **Nextcloud**: Also used for file sharing and collaboration. Nextcloud

11.1.4 Version Control

- **GitLab**: An open-source Git repository management platform for version control and collaboration. GitLab
- **SmartGit**: A graphical Git client with support for GitHub, Bitbucket, and GitLab. SmartGit
- **GitHub**: Another popular open-source Git repository hosting service. GitHub

11.1.5 Document Creation

- **LibreOffice**: An open-source office suite for creating documents, spreadsheets, and presentations. LibreOffice
- **Quarto**: A tool for creating dynamic documents from Markdown. Quarto
- **Zotero**: An open-source reference management software for organizing research sources and citations. Zotero

11.1.6 Virtual Meetings

- **Jitsi**: An open-source video conferencing platform for hosting virtual meetings and webinars. Jitsi
- **BigBlueButton**: An open-source web conferencing system designed for online learning and collaboration. BigBlueButton

11.1.7 Survey and Feedback

- **LimeSurvey**: An open-source online survey software for creating and conducting surveys and assessments. LimeSurvey
- **Moodle**: An open-source learning management system for creating online courses and assessments. Moodle

11.1.8 Learning Management Systems (LMS)

- **Moodle**: Highly customizable and widely used, supporting course management, assessment tools, and collaborative activities. Moodle
- **Canvas LMS**: Known for its user-friendly interface and support for multimedia content. Canvas LMS
- **Chamilo**: Designed for schools, universities, and corporate training, offering course creation, assessments, communication tools, and reporting. Chamilo
- **ILIAS**: Focused on usability and accessibility, suitable for various educational settings. ILIAS
- **Open edX**: Developed by edX, providing tools for creating and delivering online courses, including interactive content and discussion forums. Open edX
- **Claroline**: Focuses on simplicity and ease of use, suitable for small to medium-sized organizations. Claroline
- **ATutor**: Designed with accessibility in mind, providing features for creating accessible content and adaptive learning. ATutor

11.1.9 Design and Creativity

- **Edraw**: A powerful diagramming tool for creating flowcharts, mind maps, and more. Edraw
- **Penpot**: An open-source design and prototyping platform. Penpot

11.1.10 Note Taking

- **Etherpad**: A collaborative text editor for real-time document editing. Etherpad
- **Privnote**: A tool for creating notes that will self-destruct after being read. Privnote

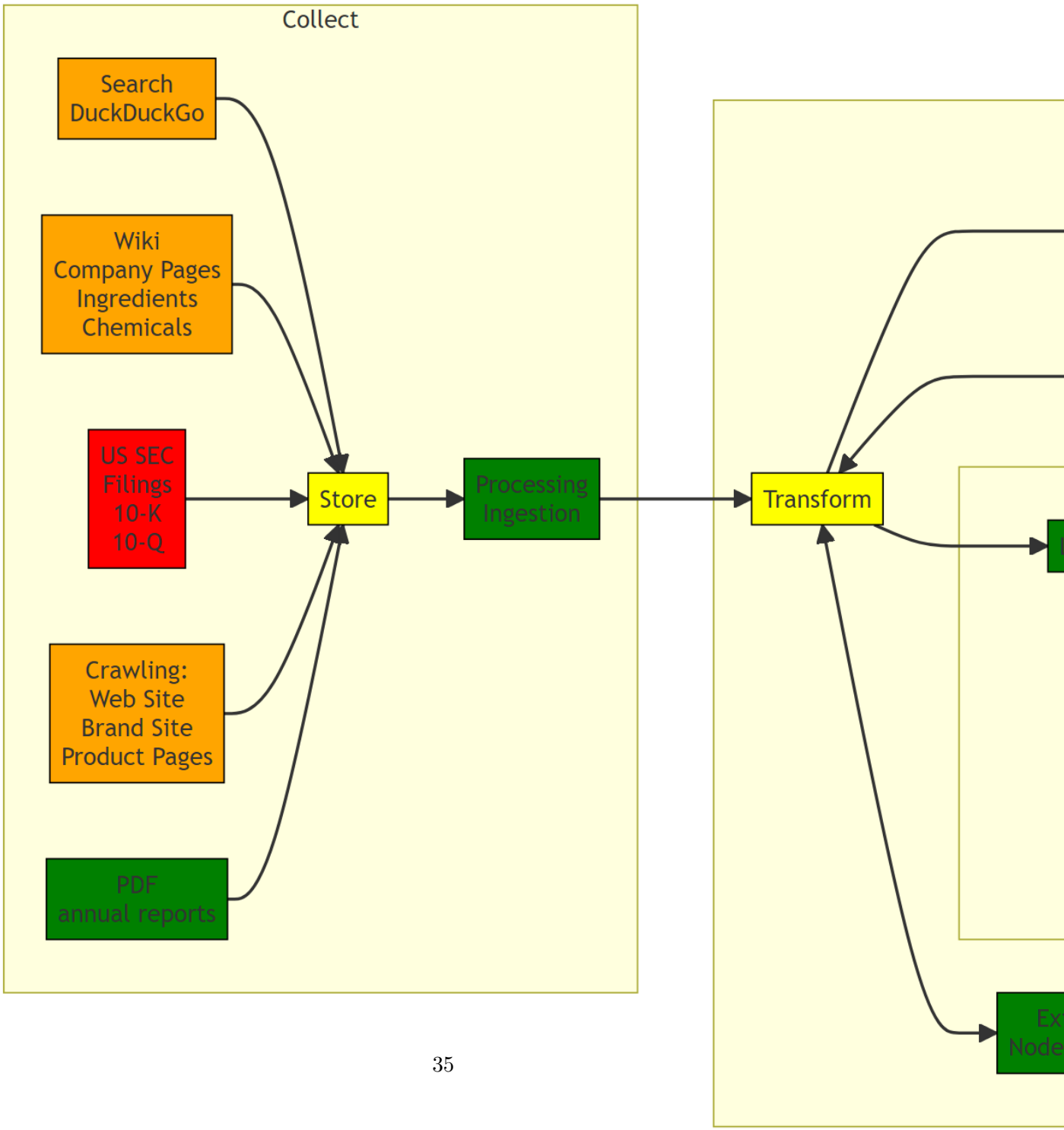
11.2 Conclusion

These tools are essential for the successful execution of your projects within the Value Chain Hackers program. Familiarize yourself with each tool, as they will be integral to your workflow and collaboration efforts. Let's make the most of these resources to innovate and drive impactful change in the supply chain industry!

12 Supply Chain Mapping

12.1 Map Supply Chains using ontologies

Extracting knowledge from large text documents is not a single step. To retrieve valuable information from these a large document or corpus needs to be chuncked and the task needs to be subdivided in multiple sub-tasks.


Collect
Search
DuckDuckGo
Wiki
Company Pages
Ingredients
Chemicals
US SEC
Filings
10-K
10-Q
Crawling:
Web Site
Brand Site
Product Pages
PDF
annual reports
Store
Processing
Ingestion
Transform

12.2 Chunks : Chunkin a large document in pieces

This step will take a large document and chuck it in parts using some overlap to ensure that paragraph that would be cut in their middle are also present in the next chunk of text.

12.3 Preprocess : Remove the grease

This step will tranform the larger text chunks to sentences that are focused on facts, named entities, take-aways and essential points removing the grease of what is not relevant to the extraction process, but present in the textual form of the document.

Pre-Process Prompt

12.4 Extract : Get tuples of knowledge from the text

With the reduced text now the model will attempt to make tuples and nodes according to the ontology. Here too `divide and conquer` will be used, in order to reduce hallucianations it's better to invoke the model multiple times using a subset of the ontlogy each time. This will yield better results and avoid the model to try to makeup nodes for each class of the ontology.

Extracting Prompt

12.5 Validate : Check facts, deduplicate ensure proper syntax

Now we have extracted nodes, we will invoke antoher model to do a quality check on each node, by adding a rag on the actual document this step is able to search back in the document and coroborate different pieces of the document to make the most complete set of tuples and nodes, suppressing normally any hallucinated facts that might have produced by previous steps.

Validation Prompt

12.6 Ingest : Incorporate tuples and nodes to the global graph

With our appured nodes being now filtered and checked for quality we will now query the graph for each of them and add them if they are not a perfect duplicate and reject the nodes that might be too similar using cosine similarity and clustering techniques.

12.7 Technical Budget

technical budget

13 Student Flow

14 Student Flow

Welcome to the Value Chain Hackers program! Here's a detailed flow of your journey through the semester, designed to ensure you get the most out of this experience. Let's dive in!

14.1 1. Kick-off Hackathon

14.1.1 Meet Your Team

- **Objective**: Get to know your teammates, mentors, and project managers.
- **Activities**: Icebreakers, team-building exercises, and brainstorming sessions.
- **Outcome**: Establish initial commitments and project goals.

14.2 2. Project Initialization

14.2.1 Set Up Your Tools

- **Objective**: Ensure you have access to all necessary tools.
- **Tools**: Taiga for project management, GitLab for version control, Nextcloud for file sharing, Jitsi for virtual meetings, and Etherpad for real-time collaboration.
- **Outcome**: Familiarize yourself with the tools and their functionalities.

14.2.2 Initial Planning

- **Objective**: Plan your project and define the scope.
- **Activities**: Create a project roadmap, assign tasks, and set deadlines.
- **Outcome**: A clear project plan with defined milestones.

14.3 3. Bi-Weekly SCRUM Meetings

14.3.1 Regular Check-ins

- **Objective**: Discuss progress, tackle challenges, and ensure alignment with project goals.
- **Activities**: Stand-up meetings, progress reports, and problem-solving sessions.
- **Outcome**: Stay on track and address any issues promptly.

Refer to the Scrum Process for more details on the key components and cycle of SCRUM.

14.4 4. Ongoing Mentorship and Support

14.4.1 Mentor Sessions

- **Objective**: Receive guidance and support from experienced mentors.
- **Activities**: One-on-one meetings, feedback sessions, and collaborative problem-solving.
- **Outcome**: Gain valuable insights and improve your project continuously.

14.5 5. Monthly Cohesion Meetings

14.5.1 Strengthen Teamwork

- **Objective**: Strengthen the bond within your team and address any issues.
- **Activities**: Team-building exercises, open discussions, and collaborative activities.
- **Outcome**: Enhanced teamwork and a supportive team environment.

14.6 6. Consortium Meetings

14.6.1 Share Progress and Exchange Ideas

- **Objective**: Share your progress with external stakeholders and receive feedback.
- **Activities**: Presentations, Q&A sessions, and collaborative discussions.
- **Outcome**: Valuable feedback and new ideas to improve your project.

14.7 7. Quarterly Status Updates

14.7.1 Assess and Prepare

- **Objective**: Assess your progress and prepare for upcoming milestones.
- **Activities**: Status update meetings, milestone reviews, and planning sessions.
- **Outcome**: Stay aligned with project goals and prepare for key presentations.

14.8 8. Semester Closing

14.8.1 Final Presentations

- **Objective**: Present your work, findings, and recommendations.
- **Activities**: Formal presentations, Q&A sessions, and feedback discussions.
- **Outcome**: Showcase your achievements and receive recognition for your hard work.

14.8.2 Celebration and Networking

- **Objective**: Celebrate your achievements and network with peers, mentors, and industry professionals.
- **Activities**: Dinner, drinks, and social events.
- **Outcome**: Build lasting connections and celebrate the end of a successful semester.

14.9 9. Continuous Improvement

14.9.1 Reflect and Improve

- **Objective**: Reflect on your experiences and identify areas for improvement.
- **Activities**: Retrospective meetings, feedback sessions, and personal reflections.
- **Outcome**: Learn from your experiences and prepare for future challenges.

Refer to the Scrum Process to understand the continuous improvement mechanisms embedded in the SCRUM methodology.

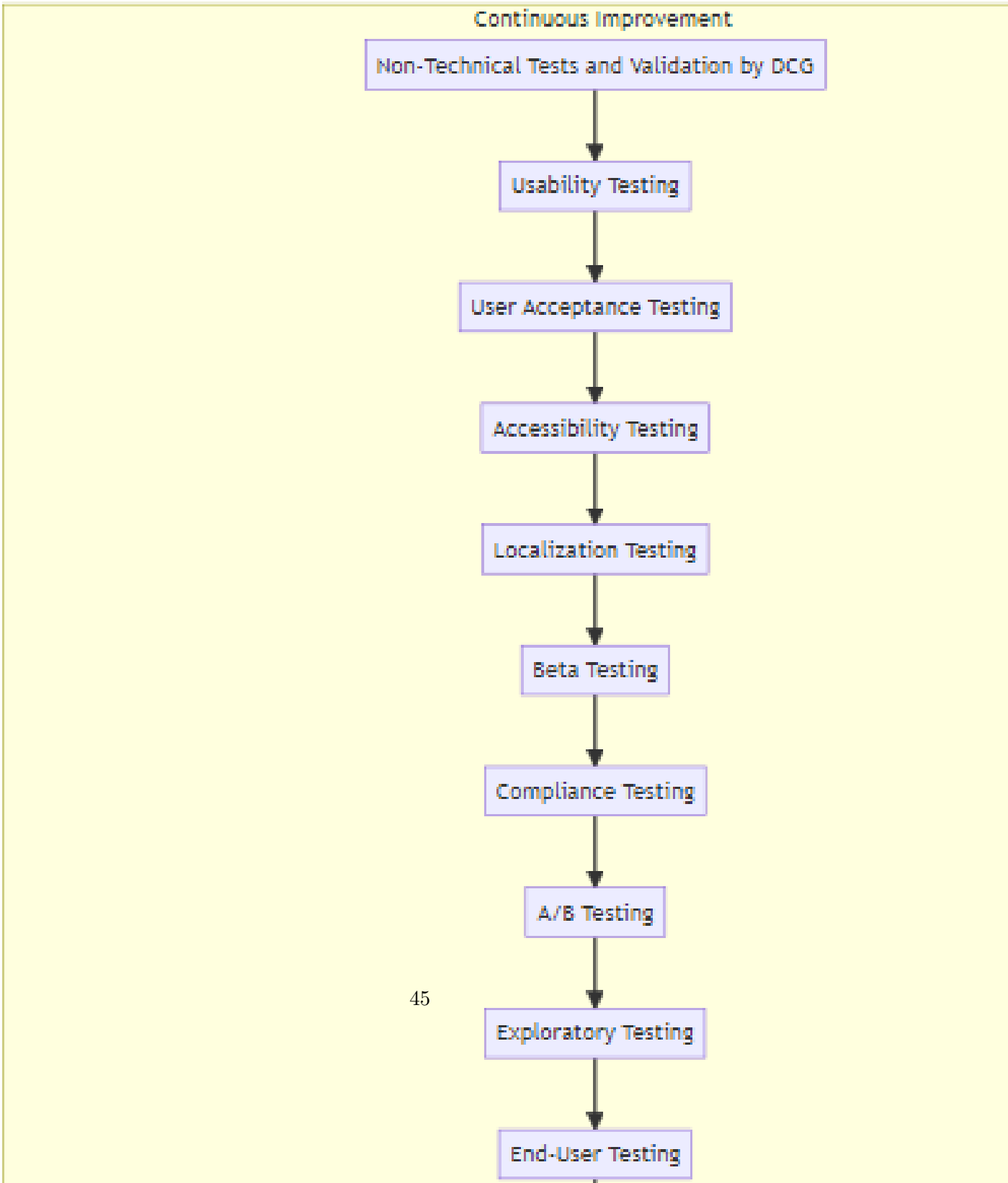
14.10 Conclusion

Your journey through the Value Chain Hackers program is designed to be dynamic, engaging, and impactful. By following this flow, you'll gain valuable skills, make meaningful contributions, and have a fantastic time along the way. Let's embark on this exciting journey together!

15 Scrum Process

16 Scrum Process

16.1 Key Components of Scrum



16.1.1 Product Backlog

The Product Backlog is an ordered list of everything that might be needed in the product and is the single source of requirements for any changes to be made to the product. The Product Owner is responsible for the Product Backlog, including its content, availability, and ordering.

16.1.2 Sprint Planning

Sprint Planning is a collaborative meeting where the Scrum Team discusses what can be delivered in the upcoming sprint and how that work will be achieved. The team selects items from the Product Backlog to include in the Sprint Backlog, sets a sprint goal, and creates a plan to accomplish the work.

16.1.3 Sprint Backlog

The Sprint Backlog is a list of tasks that the Scrum Team commits to completing during the sprint. It is derived from the Product Backlog and includes the sprint goal and the tasks needed to achieve that goal.

16.1.4 Daily Scrum

The Daily Scrum is a short, time-boxed meeting (usually 15 minutes) where the team synchronizes activities and creates a plan for the next 24 hours. Each team member answers three questions: What did I do yesterday? What will I do today? Are there any impediments in my way?

16.1.5 Development Work

During the sprint, the Scrum Team works on the tasks in the Sprint Backlog to create a potentially shippable product increment. The team self-organizes to achieve the sprint goal.

16.1.6 Increment

An Increment is the sum of all the Product Backlog items completed during a sprint and all previous sprints. The Increment must be in usable condition regardless of whether the Product Owner decides to release it.

16.1.7 Sprint Review

The Sprint Review is held at the end of the sprint to inspect the increment and adapt the Product Backlog if needed. The Scrum Team and stakeholders discuss what was accomplished during the sprint and what could be done next to optimize value.

16.1.8 Sprint Retrospective

The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next sprint. This meeting focuses on the process, tools, and relationships.

16.1.9 Product Backlog Refinement

Product Backlog Refinement is the ongoing process of reviewing and amending the Product Backlog. The Product Owner and the Scrum Team collaborate to ensure that the backlog is refined and ready for future sprints.

16.2 Scrum Cycle

16.2.1 Start with the Product Backlog

The Product Owner maintains and prioritizes the Product Backlog based on stakeholder input and business value.

16.2.2 Sprint Planning

The Scrum Team selects items from the Product Backlog for the Sprint Backlog, defines the sprint goal, and plans how to accomplish the work.

16.2.3 Daily Scrum Meetings

The team meets daily to synchronize efforts, identify impediments, and adjust plans as needed.

16.2.4 Development Work

The team works on tasks in the Sprint Backlog, aiming to create a potentially shippable product increment.

16.2.5 Sprint Review

At the end of the sprint, the team reviews the increment with stakeholders and adapts the Product Backlog based on feedback.

16.2.6 Sprint Retrospective

The team reflects on the sprint process, identifies improvements, and plans for the next sprint.

16.2.7 Repeat

The cycle repeats with the next Sprint Planning meeting, building upon the continuous improvements identified in the Sprint Retrospective.

16.3 Why

The European Union (EU) emphasizes innovation, efficiency, and high-quality outputs in its funding programs. In rapidly evolving sectors like social impact investing, traditional linear project management approaches such as the Waterfall model often fall short due to their inflexibility and delayed response to changes. Agile-Scrum, with its iterative cycles, continuous stakeholder engagement, and focus on delivering incremental value, aligns perfectly with the EU's goals of fostering innovative solutions, maximizing resource efficiency, and maintaining high standards of project outcomes.

16.4 How

Agile-Scrum achieves these objectives through its dynamic and responsive framework. By utilizing short, iterative development cycles (sprints), Agile-Scrum allows for regular feedback and adaptation, ensuring that projects remain relevant and aligned with current stakeholder needs. This empirical process control model emphasizes inspection, adaptation, and transparency, enabling teams to pivot and refine their trajectory based on actual project data and stakeholder feedback. Continuous stakeholder involvement through regular sprint reviews and

planning meetings fosters transparency and collaborative engagement, reducing rework and enhancing project alignment. Additionally, Agile-Scrum integrates continuous testing and regular retrospectives into each sprint, ensuring ongoing quality assurance and continuous improvement, which are crucial for maintaining high standards and delivering robust and reliable final products.

16.5 What

By adopting Agile-Scrum, EU-funded projects can significantly increase their success rates and efficiency. Agile methodologies are roughly twice as likely to succeed compared to traditional Waterfall projects, largely due to their adaptability and responsiveness to change. They also reduce costs and deliver projects faster by addressing issues incrementally and ensuring continuous alignment with stakeholder needs. Furthermore, continuous stakeholder involvement and collaboration foster a participatory governance model, aligning with the EU's principles. Finally, Agile-Scrum's focus on regular retrospectives and iterative testing ensures that projects meet the EU's commitment to excellence and innovation, reducing the likelihood of late-stage failures and enhancing overall project quality. This comprehensive approach not only aligns with the EU's strategic goals but also maximizes the impact and efficiency of its funding.

16.5.1 1. Flexibility and Responsiveness to Change

16.5.1.1 Dynamic Market Needs

- **Traditional Approach:** The Waterfall model, commonly used in traditional EU-funded projects, involves a linear and sequential development process. While it allows for thorough initial planning, it is often inflexible to changes once the project is underway. This rigidity can be detrimental in rapidly evolving sectors like social impact investing, where stakeholder needs and regulatory landscapes are continually shifting.
- **Agile-Scrum:** Agile methodologies, particularly Scrum, are designed to handle change. Scrum's iterative cycles (sprints) allow the project to incorporate feedback and adapt to new requirements regularly. This continuous adaptability ensures that the final product remains relevant and valuable to stakeholders.

16.5.1.2 Empirical Process Control

- **Traditional Approach:** Relies on a detailed upfront specification and planning, which assumes that all requirements are known from the start. This assumption often leads to scope creep or the need for extensive changes as new insights emerge.

- **Agile-Scrum:** Uses an empirical process control model, which emphasizes inspection, adaptation, and transparency. By regularly reviewing progress and making adjustments based on actual project data and stakeholder feedback, Agile-Scrum ensures that the project can pivot and refine its trajectory as needed.

16.5.2 2. Incremental Delivery and Early Value Realization

16.5.2.1 Incremental Value Delivery

- **Traditional Approach:** Often, deliverables in traditional projects are only produced towards the end of the project lifecycle. This delay can result in a longer time before stakeholders see any tangible benefits, which can be particularly problematic if initial assumptions prove incorrect.
- **Agile-Scrum:** Emphasizes incremental delivery of product increments at the end of each sprint. This approach not only allows stakeholders to see early and continuous value but also provides regular opportunities for feedback, ensuring the project remains aligned with stakeholder needs.

16.5.2.2 Risk Mitigation

- **Traditional Approach:** Risk is often identified and managed through extensive planning phases, but unforeseen issues may not become apparent until later stages.
- **Agile-Scrum:** By delivering work in small, manageable increments and continuously integrating and testing components, potential risks and issues are identified and addressed early. This proactive approach significantly reduces the likelihood of critical issues arising late in the project.

16.5.3 3. Enhanced Stakeholder Collaboration and Communication

16.5.3.1 Engagement and Transparency

- **Traditional Approach:** Stakeholder engagement typically occurs at predetermined milestones, which may lead to gaps in communication and misalignment with stakeholder expectations.
- **Agile-Scrum:** Involves stakeholders throughout the project lifecycle through regular sprint reviews and planning meetings. This frequent interaction ensures transparency, fosters trust, and keeps stakeholders engaged and informed about the project's progress and challenges.

16.5.3.2 Collaborative Environment

- **Traditional Approach:** Often promotes siloed work environments where teams may work independently on different project phases.
- **Agile-Scrum:** Encourages a collaborative, cross-functional team environment. Teams work together throughout all project phases, enhancing communication, knowledge sharing, and collective ownership of the project outcomes.

16.5.4 4. Continuous Improvement and Quality Focus

16.5.4.1 Iterative Quality Assurance

- **Traditional Approach:** Quality assurance is typically a distinct phase near the end of the project, which can lead to the discovery of critical issues late in the development process.
- **Agile-Scrum:** Integrates continuous testing and quality assurance into each sprint. This ongoing focus on quality ensures that issues are detected and resolved promptly, leading to a more robust and reliable final product.

16.5.4.2 Retrospective Culture

- **Traditional Approach:** Project evaluations and lessons learned sessions are usually conducted at the project's conclusion, which may be too late to benefit the current project.
- **Agile-Scrum:** Incorporates regular sprint retrospectives, allowing the team to reflect on their processes, identify areas for improvement, and implement changes in subsequent sprints. This culture of continuous improvement enhances team performance and project outcomes over time.

16.6 Why Scrum is Right for This EU Funding Call

16.6.1 1. Alignment with EU's Innovation Goals

16.6.1.1 Flexibility and Responsiveness to Change

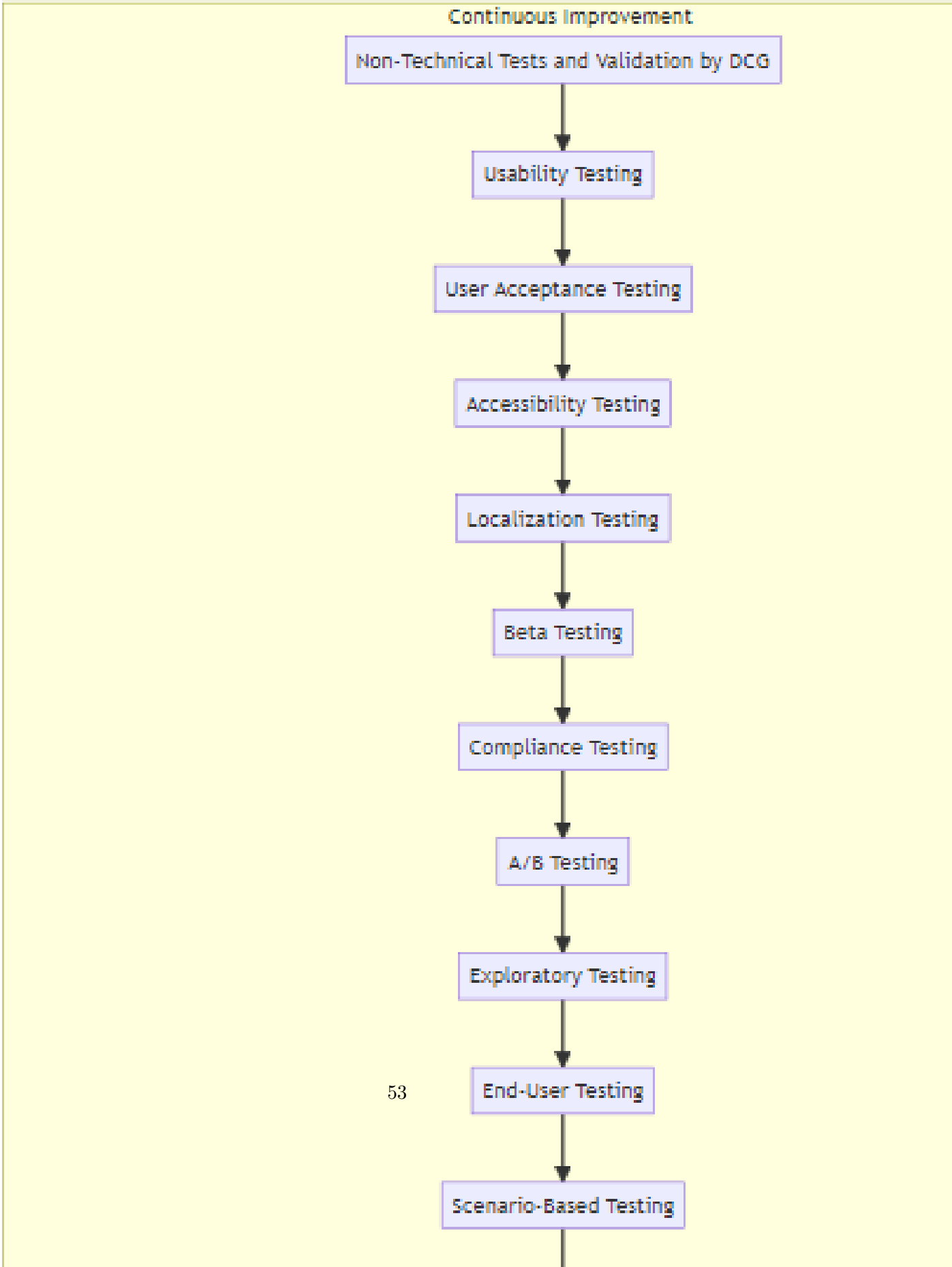
- **EU Perspective:** The European Union emphasizes innovation and adaptability in its funding programs. Agile-Scrum's iterative cycles are particularly suited to the EU's objectives of fostering innovative solutions and adapting to emerging trends and technologies. This flexibility ensures that projects remain relevant and can pivot quickly in response to new data or stakeholder feedback.

- **Supporting Data:** Agile projects are roughly twice as likely to succeed compared to traditional Waterfall projects due to their ability to adapt and respond to changes quickly (Visual Paradigm) (Opensource.com).

16.6.2 2. Efficient Use of Resources

16.6.2.1 Incremental Delivery and Early Value Realization

- **EU Perspective:** The EU aims to maximize the impact of its funding by ensuring that projects deliver value efficiently. Scrum's incremental delivery ensures that each


Continuous Improvement
Non-Technical Tests and Validation by DCG
Usability Testing
User Acceptance Testing
Accessibility Testing
Localization Testing
Beta Testing
Compliance Testing
A/B Testing
Exploratory Testing
End-User Testing
Scenario-Based Testing

test test

17 Roles

18 Roles

In the Value Chain Hackers program, each participant has a specific role that contributes to the overall success of the projects. Understanding these roles and their responsibilities is crucial for effective collaboration and achieving our goals.

18.1 Key Roles and Responsibilities

18.1.1 1. Project Manager

Responsibilities: - Oversee project planning, execution, and delivery. - Coordinate between different teams and stakeholders. - Ensure that project timelines and goals are met. - Facilitate communication and resolve conflicts within the team. - Conduct regular check-ins and provide updates on project progress.

18.1.2 2. Product Owner

Responsibilities: - Define the project vision and objectives. - Maintain and prioritize the product backlog. - Ensure that the team is working on the highest-value tasks. - Collaborate with stakeholders to gather requirements and feedback. - Make decisions regarding the scope and features of the product.

18.1.3 3. Scrum Master

Responsibilities: - Facilitate Scrum ceremonies (Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective). - Remove impediments and obstacles that hinder team progress. - Ensure that the team follows Agile principles and practices. - Coach the team on continuous improvement and self-organization. - Protect the team from external distractions and interruptions.

18.1.4 4. Team Member

Responsibilities: - Actively participate in all Scrum ceremonies. - Collaborate with other team members to complete tasks and achieve sprint goals. - Deliver high-quality work that meets the Definition of Done. - Continuously seek ways to improve skills and knowledge. - Communicate effectively and openly with the team.

18.1.5 5. Mentor

Responsibilities: - Provide guidance and support to the team members. - Share expertise and knowledge relevant to the project. - Help team members overcome challenges and obstacles. - Offer feedback and suggestions for improvement. - Act as a role model and inspire the team to achieve their best.

18.1.6 6. Stakeholder

Responsibilities: - Provide input and feedback on project requirements and deliverables. - Review progress and outcomes during Sprint Reviews. - Ensure that the project aligns with organizational goals and needs. - Support the team by providing resources and removing barriers. - Engage with the team regularly to stay informed about the project status.

18.2 Roman Patronage Model

In our program, we draw inspiration from the Roman patronage model to enhance teacher involvement. Teachers act as patrons, providing students with guidance, resources, and support throughout the project. This model fosters a mentor-mentee relationship, where teachers:

- Offer their expertise and experience to guide students.
- Help students navigate challenges and develop their skills.
- Provide regular feedback and constructive criticism.
- Encourage students to take ownership of their learning and growth.
- Create a supportive and motivating learning environment.

18.3 Tracking Projects in a Digital Space

To ensure transparency and accountability, we use various digital tools to track project progress and facilitate collaboration. These tools include:

- **Taiga**: For project management and task tracking.

- **Nextcloud**: For file sharing and collaboration.
- **Etherpad**: For real-time document editing and collaboration.
- **GitLab**: For version control and code collaboration.
- **Jitsi**: For virtual meetings and video conferencing.

By leveraging these tools, we create a cohesive digital workspace where all team members can stay informed, collaborate effectively, and track their progress in real-time.

18.4 Conclusion

Understanding your role and the responsibilities that come with it is essential for the success of our projects. By embracing your role and collaborating with your team, you will contribute to the innovative and impactful solutions we strive to create at Value Chain Hackers. Let's work together to achieve our goals and make a difference in the supply chain industry!

19 Resources

20 Resources

In the Value Chain Hackers program, we provide a wealth of resources to support your learning, development, and project success. These resources include tools, platforms, reading materials, and inspiring videos that will help you thrive in our innovative environment.

20.1 Tools and Platforms

20.1.1 Communication

- **Nextcloud**: An open-source platform for file sharing and collaboration. Use it for sharing documents, managing calendars, and more. Nextcloud
- **Discord**: An online communication tool that integrates seamlessly with our digital workspace, perfect for instant messaging and voice/video calls. Discord

20.1.2 Project Management

- **Taiga**: An open-source agile project management platform. Manage tasks, sprints, and backlogs with ease. Taiga

20.1.3 Collaboration

- **Etherpad**: An open-source collaborative text editor for real-time document editing. Great for working together on documents. Etherpad
- **Nextcloud**: Also used for file sharing and collaboration. Nextcloud

20.1.4 Version Control

- **GitLab**: An open-source Git repository management platform for version control and collaboration. GitLab
- **SmartGit**: A graphical Git client with support for GitHub, Bitbucket, and GitLab. SmartGit
- **GitHub**: Another popular open-source Git repository hosting service. GitHub

20.1.5 Document Creation

- **LibreOffice**: An open-source office suite for creating documents, spreadsheets, and presentations. LibreOffice
- **Quarto**: A tool for creating dynamic documents from Markdown. Quarto
- **Zotero**: An open-source reference management software for organizing research sources and citations. Zotero

20.1.6 Virtual Meetings

- **Jitsi**: An open-source video conferencing platform for hosting virtual meetings and webinars. Jitsi
- **BigBlueButton**: An open-source web conferencing system designed for online learning and collaboration. BigBlueButton

20.1.7 Survey and Feedback

- **LimeSurvey**: An open-source online survey software for creating and conducting surveys and assessments. LimeSurvey
- **Moodle**: An open-source learning management system for creating online courses and assessments. Moodle

20.1.8 Design and Creativity

- **Edraw**: A powerful diagramming tool for creating flowcharts, mind maps, and more. Edraw
- **Penpot**: An open-source design and prototyping platform. Penpot

20.1.9 Note Taking

- **Etherpad**: A collaborative text editor for real-time document editing. Etherpad
- **Privnote**: A tool for creating notes that will self-destruct after being read. Privnote

20.2 Reading Materials

- **Supply Chain Management: Strategy, Planning, and Operation** by Sunil Chopra and Peter Meindl: A comprehensive guide to understanding supply chain management principles and practices.
- **The Goal: A Process of Ongoing Improvement** by Eliyahu M. Goldratt and Jeff Cox: A novel that teaches the principles of process improvement in a manufacturing environment.
- **Logistics & Supply Chain Management** by Martin Christopher: An essential book for understanding the complexities and strategies involved in logistics and supply chain management.
- **AI Superpowers: China, Silicon Valley, and the New World Order** by Kai-Fu Lee: A book exploring the future of artificial intelligence and its impact on various industries, including supply chains.
- **Scrum: The Art of Doing Twice the Work in Half the Time** by Jeff Sutherland: An insightful book on the Scrum methodology and how it can be applied to enhance productivity and project management.

20.3 Inspiring Videos

- **How Wolves Change Rivers**: An incredible story about the impact of reintroducing wolves to Yellowstone National Park.

- **Simon Sinek: How Great Leaders Inspire Action**: A talk on the concept of "Start

With Why" and inspiring leadership.

- **RSA ANIMATE: Drive: The surprising truth about what motivates us**: An an-

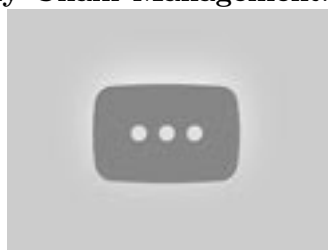
imated version of Dan Pink's talk on motivation.

- **The Power of Vulnerability - Brené Brown**: Research on vulnerability and its im-

portance in fostering innovation. 

- **The Value of Supply Chain Management**: A comprehensive overview of the importance of supply chains in today's economy. 
- **The Power of Data in Supply Chains**: How data analytics is transforming the supply chain industry. 
- **Inside the Amazon Warehouse**: An inside look at the logistics and operations of

Amazon's fulfillment centers. 

- **The Future of AI in Supply Chain Management**: Exploring the potential of AI to revolutionize supply chains. 

20.4 Conclusion

These resources are designed to support your journey in the Value Chain Hackers program. By utilizing these tools, platforms, reading materials, and videos, you'll be well-equipped to tackle the challenges and opportunities in supply chain management. Let's make the most of these resources to innovate and drive impactful change in the supply chain industry!

21 Summary

22 Summary

22.1 Reflecting on Our Journey

As we come to the end of this onboarding documentation, let's take a moment to reflect on the journey ahead with the Value Chain Hackers program. This program is designed to equip you with the skills, knowledge, and resources needed to make a significant impact in the field of supply chain management.

22.2 Key Takeaways

22.2.1 Embracing Innovation

At the heart of Value Chain Hackers is a commitment to innovation. We leverage cutting-edge tools, methodologies, and technologies to tackle real-world supply chain challenges. From AI integration to Agile-Scrum methodologies, we are always pushing the boundaries of what's possible.

22.2.2 Collaborative Learning

Collaboration is a cornerstone of our approach. By working closely with peers, mentors, and industry experts, you'll gain diverse perspectives and insights. Our digital lab ensures that collaboration happens seamlessly, no matter where you are.

22.2.3 Real-World Impact

Every project you undertake here is designed to have a real-world impact. You'll be working on practical problems, developing solutions that can be implemented in the industry. This hands-on experience is invaluable in preparing you for your future career.

22.2.4 Continuous Improvement

The Agile-Scrum framework emphasizes continuous improvement. Through regular feedback, retrospectives, and iterative development, you'll constantly refine your skills and solutions. This mindset of continuous learning and adaptation is crucial in today's fast-paced world.

22.2.5 Community and Support

You are not alone in this journey. The Value Chain Hackers community is here to support you every step of the way. From mentors providing guidance to peers offering collaboration, you have a network that is dedicated to your success.

22.3 Next Steps

1. **Engage with the Community**: Join our communication channels on Discord and stay connected with your peers and mentors.
2. **Dive into Projects**: Start working on your assigned projects, using the tools and resources provided to make meaningful progress.
3. **Seek Feedback**: Regularly engage with your mentors and peers for feedback and insights to improve your work.
4. **Participate Actively**: Take part in all scheduled activities, from SCRUM meetings to hackathons, to make the most of this learning experience.
5. **Reflect and Improve**: Use retrospectives and feedback sessions to reflect on your progress and identify areas for improvement.

22.4 Final Thoughts

The Value Chain Hackers program is more than just a learning experience; it's an opportunity to make a difference. By harnessing the power of collaboration, innovation, and continuous improvement, you'll develop solutions that can transform the supply chain industry. We're excited to see the amazing things you'll achieve and the impact you'll make.

Welcome aboard, and let's hack the value chain together!

Christiaan Verhoef Value Chain Hackers Leader

23 Presentations

23.0.1 13-06-2024 planning

- **Date:** june 13, 2024
- **Description:** This presentation coveres the **planning** to do the first infrastructure launch
- View Slides

23.0.2 30-05-2024 Planning

- **Date:** May 30, 2024
- **Description:** planning from Sprint 1 with sebastien
- View Slides

23.0.3 22-05-2024 presentation

- **Date:** May 30, 2024
- **Description:** This presentation covers the planning phase for our upcoming projects.
- View Slides

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style DailyScrum fill:#ffa500, stroke:#000000
style Development fill:#008000, stroke:#000000
style Testing fill:#008000, stroke:#000000
style Review fill:#ffa500, stroke:#000000
style Retrospective fill:#ffa500, stroke:#000000
style ProductRelease fill:#ff0000, stroke:#000000

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```

```
    Backlog --> SprintPlanning[Sprint Planning]
    SprintPlanning --> Sprint[Sprint]
    Sprint --> DailyScrum[Daily Scrum]
    Sprint --> Development[Development]
    Development --> Testing[Testing]
    Testing --> Review[Sprint Review]
    Review --> Retrospective[Sprint Retrospective]
    Retrospective --> Backlog
    Review --> ProductRelease[Product Release]
end
```

24 References

25 References

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