

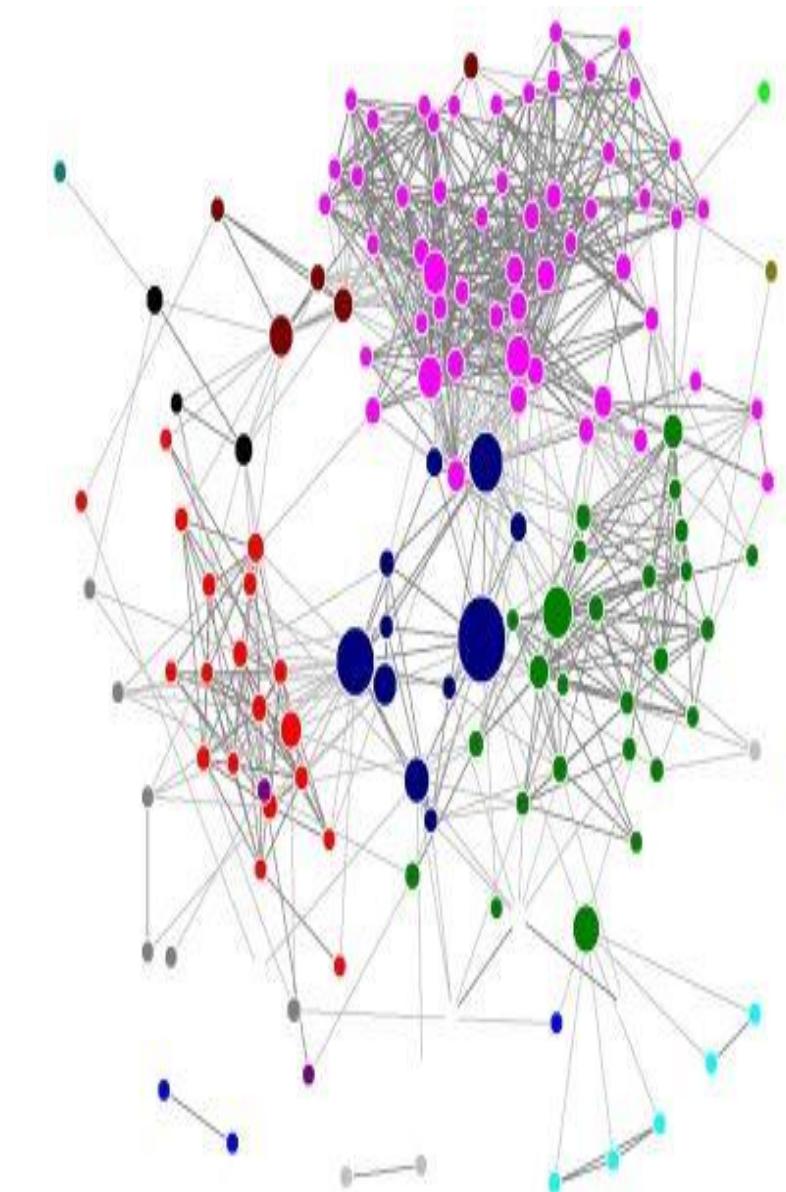
SUB MODULE 4:

**NETWORKS AND COMMUNITIES OF
INNOVATION**

CONTENTS

1. Introduction to networks
2. Types of Networks
3. Networking Tools
4. Importance of Networking
5. Collaborations
6. Why do firm collaborate?
7. Collaboration challenges
8. Communities of Innovators

INTRODUCTION TO NETWORKS



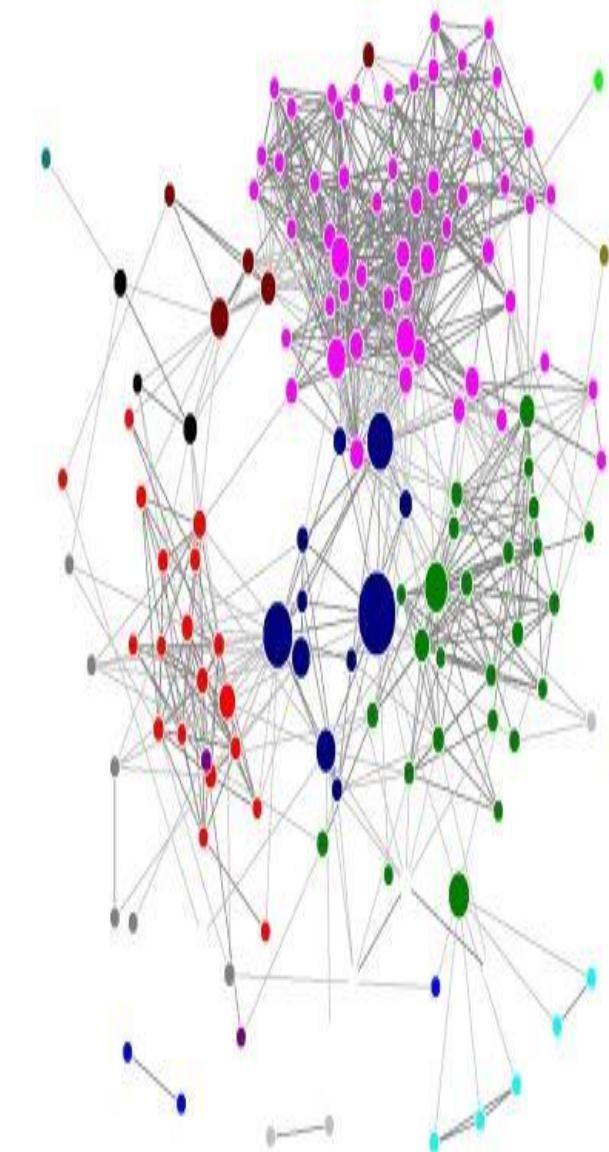
TYPES OF NETWORKS

Networks

Involves the relationship of various actors (individuals, team or organization)

▪ Can be:

- Scientific networks**
- Business networks**
- Social networks**
- Political networks**
- Economical networks**



SCIENTIFIC NETWORKS

- Scientific network consists of a set group of people, who, over a defined period of time, will work on a common research topic to attain a specific outcome
 - Its an opportunity to engage in scientific exchange and cooperation on topics of common interest
 - Network members may include researchers from a single country or from different
 - Example: Two scientists are considered connected if they have authored a paper together

SOCIAL CAPITAL

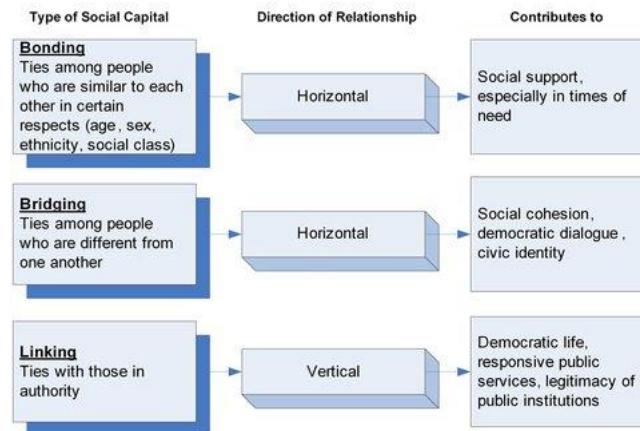
- Social capital is an **economic idea** that refers to the connections between **individuals** and **entities** that can be **economically valuable**

- Social capital refers to networks together with **shared norms, values** and **understandings** that facilitate co-operation within or among groups
 - It includes the **resources available**
 - **information, ideas,**
 - **Business opportunities,**
 - **Financial capital, power and influence,**
 - **Emotional support, trust and cooperation.**

TYPES OF SOCIAL CAPITAL

1. **Bonds:** Links to people based on a sense of **common identity** (“people like us”) –
 - such as **family, close friends** and **people who share our culture or ethnicity**
2. **Bridges:** Links that stretch **beyond a shared sense of identity**,
 - Ties among people of who are different from one another
 - Eg: **distant friends, colleagues and associates**
3. **Linkages:** Links to **people or groups** further up or lower down the **social ladder**
 - Links up with those who have more capital

TYPES OF SOCIAL CAPITAL



IMPORTANCE OF SOCIAL CAPITAL

- Social capital is productive: It enables us to **create value**, get things done, **achieve our goals**, fulfill our missions in life, and make our contributions to the world
- We all have **gifts of natural talent**, but others help us to **nurture** them (to discover, develop, and express that talent)
- Help to develop intelligence: Everyone is born with a **physical brain**; but a **human mind** develops only through **relationships**
- Ongoing human contacts are necessary for **physiological** and **emotional well-being**

NETWORKING TOOLS

- Print media (eg. Magazine, newsletters, etc.)
- Broadcasting media (eg. TV, radios)
- Internet (social networks)
- Direct contact (meetings, workshops, conferences)
- Virtual meetings
- Databases

IMPORTANCE OF NETWORKING

- ❑ Collective thinking
- ❑ Access to resources
- ❑ Costs sharing
- ❑ Risk minimization/ diversification
- ❑ Time saving
- ❑ Widening scope of operation
- ❑ Bridging gaps (scientific/ business/ social)

COLLABORATION: OVERVIEW

- Collaboration is the process of two or more people, entities or organizations working together to complete a task or achieve a goal
- Collaboration is similar to cooperation
- Collaboration means working together with people from across the business to achieve a shared goal
- Collaborative innovation
 - The interaction of co-creativity, knowledge, and mutual learning between two or more people working together toward a common goal of generating new sources of growth, wealth or well-being

COLLABORATION AND OPEN INNOVATION

- *Teamwork is essential to getting things done*
- *In today's global and digital world, challenges are more complex;*
- *It is important to bring more, diverse minds to the table and to break down silos*
- Collaborative process is more than *working together*
- It means the *ability* to think together and *act* on complex projects
- Thinking together is *open innovation*
- Strategic doing guides *open innovation*

- Strategic doing means:
 - **Listen and explore**—What can we do together?
 - **Learn and adjust**—How will we learn together?
 - **Focus and align**—What should we do together?
 - **Link and leverage**—What will we do together?

TYPES OF COLLABORATIONS

1. Open and hierarchical

- Anyone can offer ideas, but the problem and solution are defined and chosen by a given leader
- Example: Through InnoCentive, sponsor companies post scientific problems that are smaller pieces of a larger R&D program/challenge.

2. Open and flat

- Anyone can solicit and offer ideas and there is no single person who has authority over anyone else
- Example: With software company Linux, anyone can participate, define valid innovations, and use any code they deem useful

TYPES OF COLLABORATIONS

3. Closed and hierarchical

- Participants are defined by a leader as well as the ideas and solutions that are developed
- Example: Technology company Apple decides who participates in its network, which concepts get developed, and which products are launched.

4. Closed and flat

- A select group is chosen to offer ideas but solutions are reached jointly
- Example: IBM invited a few select partners for developing semiconductor technologies such as chip-manufacturing processes. Each member has a voice in how technologies are developed.

HOW TO ACHIEVE A SUCCESSFUL COLLABORATION?

- Have a clear understanding of your collaboration needs
 - What do you expect to achieve as a function of collaborating
- Learn how to locate and use available collaboration tools
- Learn how to determine which tools are most relevant to your collaborative effort

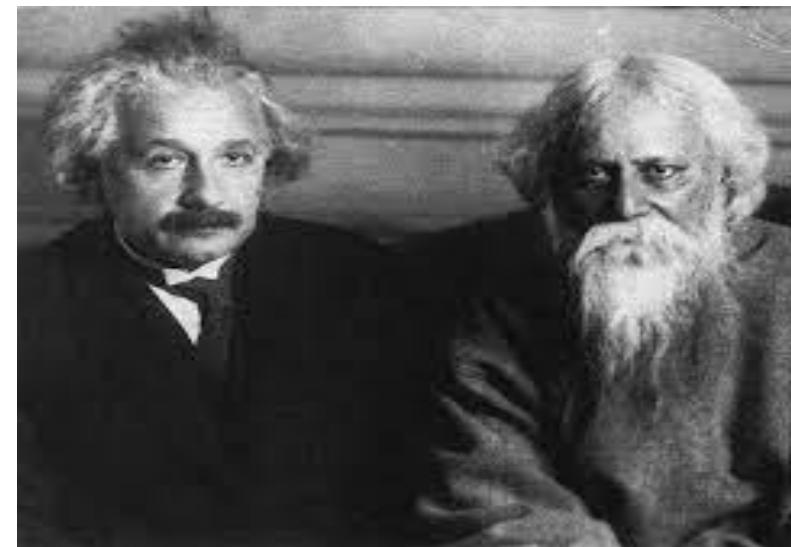
ELEMENTS OF A SUCCESSFUL COLLABORATION



Successful Collaboration

1. Stakeholders with a vested interest in the collaboration
2. Shared vision & common goals for the collaboration
3. Expertise is required
4. Teamwork strategies
5. Motivated partners
6. Open communication
7. Sufficient means to implement and sustain the collaborative effort
8. A detailed **action plan**
9. Trusting relationships among and between the

SCIENTIFIC COLLABORATION ENABLES BREAKTHROUGH



Albert Einstein and Marcel Grossmann collaborated in their search for **a relativistic theory of gravitation** in the years 1912–1914

Grossmann was an **expert in differential geometry and tensor calculus**; the mathematical tool provided a proper **mathematical framework** for Einstein's work on gravity...



In 1962 Watson, Crick (1916–2004), and Wilkins (1916–2004) jointly received **the Nobel Prize in Physiology or Medicine** for their 1953 determination of the structure of deoxyribonucleic acid (DNA)

SCIENTIFIC COLLABORATION ENABLES BREAKTHROUGH



The Nobel Prize in **Physics** 2015 was awarded jointly to Takaaki Kajita and Arthur B. McDonald "for the discovery of neutrino oscillations, which shows that neutrinos have mass"



The Nobel Prize in **Chemistry** 2015 was awarded jointly to Tomas Lindahl, Paul Modrich and Aziz Sancar "for mechanistic studies of DNA repair"

MOBILITY SERVICES FROM BMW AND DAIMLER
UNDER ONE ROOF

DAIMLER

BMW
GROUP

ChargeNow

DriveNow

CAR
2GO



ReachNow

chauffeur privé

mytaxi

CLEVER
TAXI

BEAT

ParkMobile

Parkmobile

ParkNow

NIKE AND APPLE TEAM UP TO LAUNCH NIKE+iPOD



- ❑ Global Collaboration Brought the Worlds of **Sports** & **Music** Together Like Never before
- ❑ The launch of innovative Nike+iPod products
- ❑ The first product developed through this partnership is the **Nike+iPod Sport Kit**
- ❑ A wireless system that allows **Nike+**

COLLABORATION CHALLENGES



FREE RIDING



COLLABORATION TOOLS

- Collaboration **tools** can take many forms.
- Technology that facilitates interaction and collaboration between two or more people
 - *Mobile phones*
 - *messaging services*
 - *file synchronization platforms*
 - *online databases*
- Collaboration tools offer a set of software components and

COLLABORATION TOOLS.... *Communicate with your team*

- People can't collaborate if they don't communicate.
- From instant messaging to video conferencing tools (the best alternative to face-to-face meetings), there are many options for team collaboration tools:
- Flowdock is a group and private chat platform
 - Its most interesting feature is its team inbox which aggregates notifications from other channels, like Twitter and Asana
- GoToMeeting is an online video conferencing software that allows users to schedule meetings and share screens

COLLABORATION TOOLS.... Communicate with your team

- **Slack** : is a popular and well-crafted platform offering instant messaging, file transfers and powerful message search
 - It has many features and dozens of integrations with other tools like Trello and Intercom
- **WebEx** : provides personalized video meeting rooms where users can host and join meetings.
 - People can use WebEx for team collaboration, webinars, training and customer support
- **Asana**: One of the most well-known project management tools,
 - Asana allows users to assign tasks to other members, add followers to

COLLABORATION TOOLS.... Communicate with your team

- Dapulse: is a collaboration tool that helps you communicate, set objectives and assign tasks.
 - Its big advantage: it has a great visual design so it's easy to understand and work with
- ProofHub is a work management tool that offers a comprehensive suite of collaboration and project management functions
 - On this platform, you can organize files, plan and monitor projects and discuss with colleagues and stakeholders
 - ProofHub also lets you review and approve files through an online proofing tool
- Redbooth is an easy-to-use project management tool

COLLABORATION TOOLS.... Communicate with your team

- Wimi offers users their own ‘unified workspaces’ where teams can manage projects and share files and calendars
 - You can control access in each workspace with a rights-based system
 - Wimi Drive file synchronizing software, helps you make the most out of cloud technology
- ***Codingteam:*** Coders can easily collaborate when writing their code through platforms like Codingteam.
 - It offers a free ‘software forge’ that encourages visibility and collective code building

TOP PROJECT COLLABORATION TOOLS FOR REMOTE WORK

□ BEST FOR TEAM MESSAGING: SLACK

- Slack is, first and foremost, a [messaging app](#).
- It's designed to allow teams to communicate with each other as well as [share files](#) within a simple interface.
- It's better [than email](#), because it [allows for instant, synchronous communication](#) similar to [texting](#).
- It's also better than [most chat apps](#), since it's easily searchable and you can [send files back and forth](#) easily
- The [free version of Slack](#) will usually be good enough for [small teams](#), unless you need to [host video calls](#) with multiple participants

□ BEST FOR COLLABORATING ON DOCUMENTS: GOOGLE DRIVE

- [Google Drive](#) is primarily designed for personal storage, but it also works well as a project collaboration tool.
- The free version offers you [15GB of storage](#), and paid options start at [\\$1.99 a month for 100GB](#).
- Unless you're [editing audio or video](#), the free version is usually [more than enough](#) for one person
- Within [Google Drive](#), you can give other [Google Drive](#) users access to your documents.
- You can set [overall default access](#), as well as give [specific people](#) access to [specific documents](#)
- It is useful for [editing Google Documents](#).

TOP PROJECT COLLABORATION TOOLS FOR REMOTE WORK

□ BEST COMPLETE OFFICE SUITE: [MICROSOFT 365](#)

- Each [Microsoft 365](#) user gets a [Skype for Business](#) account for web-based calling and conferencing.
- Users also get [access to Microsoft Teams](#), a [project management app](#)
- There's [no free version of Microsoft 365](#), but pricing starts as low as \$5.00 per user

□ BEST FOR PROJECT MANAGEMENT: [ASANA](#)

- [Asana](#) is designed for [project management](#), not workflow management
- In addition to keeping track of individual tasks, team members can [leave comments](#), [share files](#), and [set deadlines](#)
- But the biggest advantage is the ability to [set tasks](#) so they're dependent on each other

□ BEST FOR VIDEO CHAT: [ZOOM](#)

- With everything that's going on in the world, [Zoom](#) should need no introduction.
- It's a video chat app that [allows up to 100 users](#) to meet simultaneously
- Paid versions of the service [allow for unlimited users](#), as well as [unlimited meeting length](#)
- This makes [Zoom](#) a great project collaboration tool for everyone from independent consultants to large

TOP PROJECT COLLABORATION TOOLS FOR REMOTE WORK

□ BEST APP INTEGRATION: MICROSOFT TEAMS

- [Microsoft Teams](#) is a simple chat app, but it's uniquely useful because it integrates with dozens of other apps.
- To begin with, it works with all [Microsoft 365](#) apps,
- It comes for free with Microsoft 365.
- You can also connect Microsoft Teams with your social media accounts

6 specific categories of collaboration tools:

1. Sustaining Communication and Project Management

2. Sharing and Joint Authoring Programs

3. Creating Collaborative Communities

4. Soliciting Feedback from Additional Solvers

5. Accessing New Knowledge Resources

6. Mobile Applications

1. Sustaining Communication and Project Management

□ Tools in this category can help a team of collaborative innovators stay in contact, schedule events, communicate with a large group, and even chat or conference



InstantPresenter offers full-featured online meeting and presentation services to professionals of all experience levels



Vyew offers a platform where users can share content **by uploading** images, files, documents, and videos into a virtual room



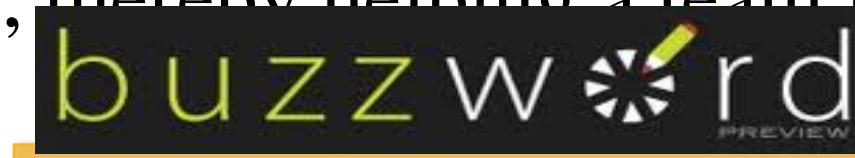
Freepath helps users deliver better multimedia presentations by playing files in their native format

2. SHARING AND JOINT AUTHORING PROGRAMS

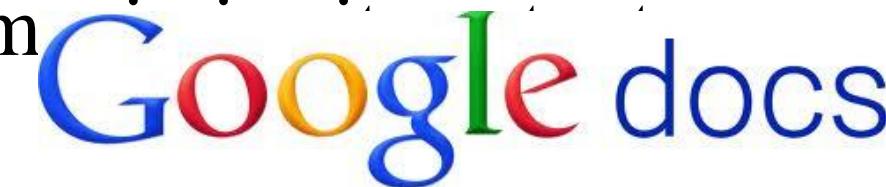
❑ Tools in this category allow for a team to collaborate on authoring documents by using screen sharing, document sharing, and collaborative writing, thereby helping a team m



Scriblink acts as digital whiteboard that lets users share online for real-time collaboration



Adobe Buzzword is a web-based word processor that can be used for collaboration on text documents



Google Docs lets you create different kinds of online documents, work on them in real time with other people, and store your documents online

3. CREATING COLLABORATIVE COMMUNITIES

□ Tools in this category provide means for project outreach, public engagement, and community conversation, and are great ways to build a community that is focused on addressing your organization's



Facebook lets users connect and share among communities that they create by “liking” individuals, ideas, or organizations



WiserEarth is a social media platform that allows people and organizations to connect, collaborate, and share knowledge



Twitter acts as a real-time information network that connects you to the latest information in real time, shared in short 140 character “tweets”

4. SOLICITING FEEDBACK FROM ADDITIONAL SOLVERS

- ❑ Tools in this category enable outside parties to provide constructive and timely feedback to boost the innovation process



IdeaScale lets users submit ideas for feedback from a large user pool



Spigit seeks to make businesses better at innovation and business decisions through community, analytics, and workflow



Amazon Mechanical Turk gives businesses the ability to pose questions to a large network of users, thereby generating real world solutions to real world issues

5. ACCESSING NEW KNOWLEDGE RESOURCES

- Tools in this category make it possible to access new knowledge and resources by bringing the world's knowledge to your fingertips

DocumentCloud

DocumentCloud is a platform that allows users to search and analyze information about uploaded source documents, as well as publish primary documents to the web



HighBeam Research provides access to thousands of credible, professional, published sources



The Directory of Open Access Journals aims to increase the visibility and availability of scientific and scholarly journals

6. MOBILE APPLICATIONS

- ❑ Tools in this category enable collaborators to work from the field or any other location without Internet or computer access via mobile phones



RapidSMS utilizes mobile phones to offer a free and open-source framework for dynamic data collection and communication

OpenXdata Mobile is an open-source tool that lets users collect data on their mobile phones, giving users real-time access to their data



FrontlineSMS enables instantaneous two-way communication on a large scale by the use of mobile phones and computers



a freeware, cross-platform and end-to-end encrypted instant messaging application for smartphones. It uses the Internet to make voice

OTHER TOOLS



Communication

Quora offers a platform where you can propose questions to a large base of users and collaborate on responses



Project Promotion

Ashoka Changemakers hosts collaborative online competitions to identify and connect social innovators and implementers



Cost Reduction

Sponsume is a funding platform where creative people sell perks and rewards to others in order to fund their project

OTHER TOOLS



LinkedIn offers a professional social media network so users can connect with a broader network of professionals



OpenCourseWar e Consortium offers a broad and deep body of open educational content on topics from entrepreneurship to plant biology



Eliciting Feedback

E-tipi provides an online platform for collaboration on submitted ideas, allowing for ideas to evolve into solutions



Increased Exposure

InnoCentive enables crowd-sourced innovation, posing sponsored, submitted problems to a network of 300,000 solvers

HOW TO CHOOSE COLLABORATION TOOLS

- Choose software that meets your individual needs
- Prefer multiple features
 - Some tools offer excellent service but are only focused on one aspect of team collaboration.
 - Give some thought to how efficient this really is.
 - Teams may end up spending time changing between complementary software.
 - It's better to look for a tool that's feature-rich and allows people to use it in many different ways
- Look for ease of use
 - This is obviously one of the most important criteria.
 - If a service works but takes a lot of time to get used to, it won't help teams

HOW TO CHOOSE COLLABORATION TOOLS

- Pay attention to privacy options
 - Collaborating with teams doesn't mean all conversations and files **should be public**.
 - Sometimes, you'll want team members to have **private conversations** or work on **sensitive projects**.
 - Make sure you **look at privacy options** before you choose a service.
- Opt for cloud
 - Cloud-based technology has many advantages.
 - It can solve your version control headaches by allowing you to see recent edits and activity
 - All information is stored online so everyone can be on the same page, no matter where they are
- Ask for integrations and compatibility
 - Remember that it's better to use a tool **with multiple features**? Well, **not always**.
 - Occasionally, you discover a tool that does one thing perfectly. **Integrations are key**.
 - Look for tools that integrate with other **apps or software**.
 - Compatibility is also important.

7. COMMUNITIES OF INNOVATORS



COMMUNITIES OF INNOVATORS



them prior work as they are pursuing their certification, it will help them plan and save on study time when they have such a support system in place. What they could have studied for hours by themselves to grasp certain content, with this support system, they can learn in less time.

- **Sharing knowledge and learning experiences:** This application will give these professionals a platform to share their knowledge, learning materials and experiences to help each other in exam-preparation especially for those with limited access and resources to acquire such learning materials.
- **Networking :** This application adds on a human connection to allow interaction with fellow students unlike other study apps that only upload content and place an autoresponder to answer questions that may arise.

COMMUNITIES OF INNOVATORS



COMMUNITIES OF INNOVATORS

- *Comprised of people (individual/firms/ organizations) who interact and develop relationships which enable them to share knowledge and address problems with regard to innovation*
- Structure of the network can be;
 - Informal
 - formal

Wrap up....!

Innovation Management & Competitiveness

1. Micro Economics of Competitiveness
2. Technological Innovation
3. Innovation Strategy
4. Networks and Communities
5. Value delivery from Innovation