NUTRIGENOMICS
ERA CHAIR | WELCOME2

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 952601

Institute
of Animal Reproduction and Food Research
Polish Academy of Sciences
in Olsztyn

RMA

RISING MANAGERS' ACADEMY

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Effective collaboration in research

Patrycja Radek

RMA
RISING MANAGERS' ACADEMY

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LET'S MEET - EXERCISE

- I AM...
- MY PREVIOUS EXPERIENCE IN RESEARCH TEAMS IS....
- MY PREVIOUS EXPERIENCE IN BEING A LEADER IS....
- WHAT I LIKE MOST ABOUT MY JOB IS....
- THE BIGGEST CHALLENGE IN WORKING IN RESEARCH TEAMS IS RELATED TO....
- YOU PROBABLY DON'T KNOW ABOUT ME THAT....

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INNOVATION

- "...is the creation of something both **novel and useful**"
- "innovation is about **challenging the status quo** and introducing new and, one hopes, better products, processes, services or management approaches
- innovation **requires curiosity, experimentation and openness to change**

(Hill L.A., Brandeau G., Truelove E., Lineback K., 2014).

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EXERCISE

- WHAT IS THE TIPICAL REACTION TO ANY CHANGE?

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RESISTANCE TO CHANGE

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CHALLENGING ENVIRONMENT

According to Peter Drucker, **engineers sometimes pride themselves on knowing little about communication** and have no desire to learn more about this area - whereas innovative product development takes place in complex teams and is an advanced communication process

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THE SPECIFIC ASPECTS OF THE INNOVATION BASED PROJECTS

- innovation needs **breaking the rules**
- it is always a **risky process**: complex, complicated and full of challenges as well as contradictions
- Ii means that managing innovation processes is **special mission for the leader**

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WHY INNOVATION IS SO DIFFICULT?

- **finding solutions** that are truly new and useful **is not easy**
- the process of innovation is so **messy and full of the tensions** embodied in each of the paradoxes
- it's **very risky and turbulent**
- tasks are **nonroutine**
- it's **difficult to predict** the achievments
- **complex tasks**, requiring technical skills in multiple areas

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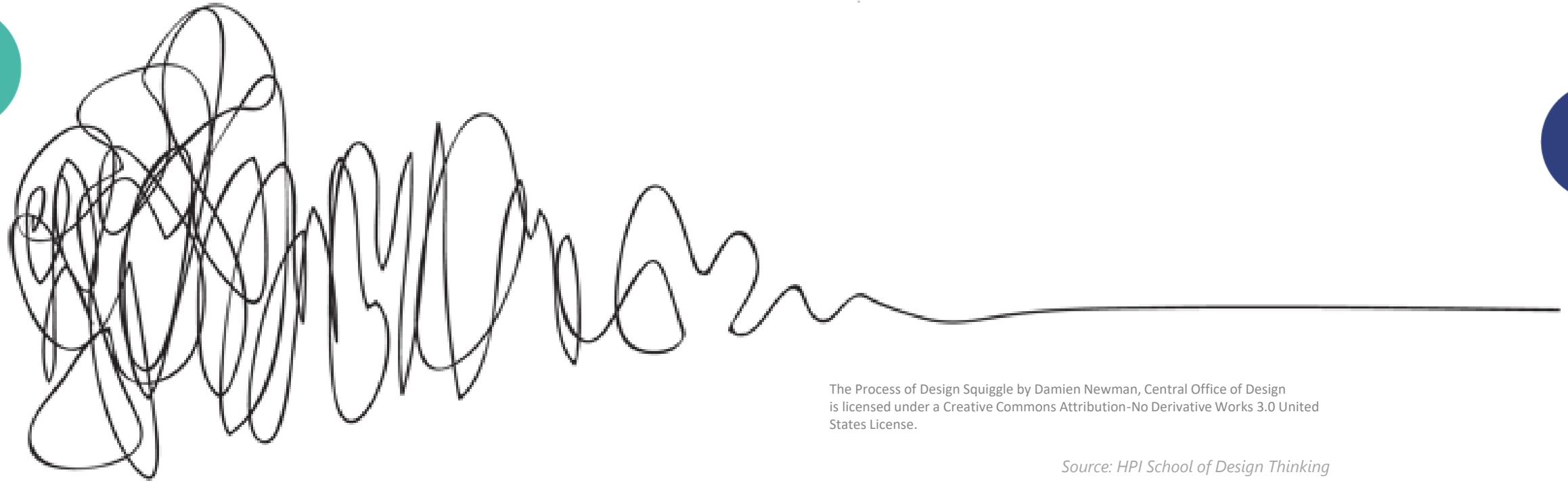
FROM THE CHAOS TO THE SOLUTION



Source: HPI School of Design Thinking

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RESEARCH TEAMS

- "the project group is the vehicle of choice because such groups, often cross functional in membership, can bring right mix of scientists, engineers, and other specialists together to bring in and **process scientific and technological information into technological innovations**
- the need for **complex collaboration** that often extends beyond a given team or organization

Elkins T., Keller R.T., 2003

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RESEARCH WORK

- creative research is very demanding and includes: **idea generation, evaluation of gained projects as well as implementation of ideas to applicable results**
- research projects require often significant resources – **costs and needs rise over the life of project**
- it requires **wide knowledge** to cover different aspects such as: **complexity, sponsoring organization, funds and many different kind of problems**

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RESEARCH WORK

- scientists daily activities consist of **non-defined novel elements**
- **science leaders needs multidisciplinary skills** to manage all aspects of their reality, also social skills are necessary to lead teams and projects
- It is much more over the team work and requires **multidisciplinary team effort**

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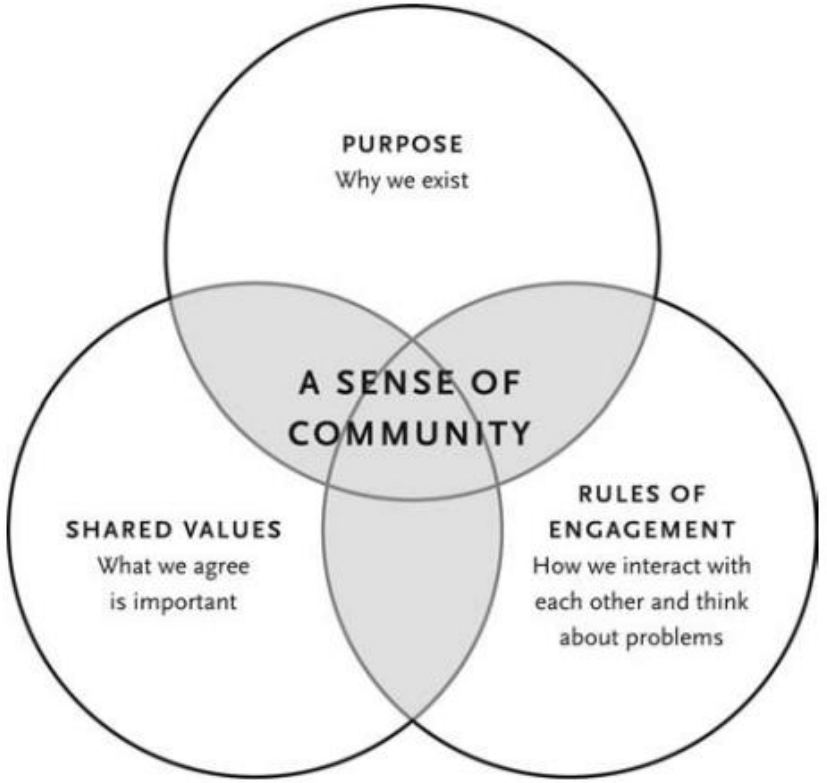
THE WILLINGNESS TO DO THE HARD WORK OF INNOVATION



(Hill L.A., Brandeau G., Truelove E., Lineback K., 2014)

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EXERCISE

- HOW CAN THE LIGHT BULB BE IMPROVED?

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PARADOXAL REALITY OF INNOVATION

"innovation leadership is about bringing the gap between dreams and reality, past and future, certainly and risk, concrete and abstract, us ("we love innovation") and them ("they don't want to change at all") and success and failure.

And all of these dualities are present at the same time."

Buijs J., 2007

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TYPICAL PARADOXES IN THE INNOVATION REALITY

LEASH		HARNESS
INDIVIDUAL		COLLECTIVE
SUPPORT		CONFRONTATION
LEARNING & DEVELOPMENT		PERFORMANCE
IMPROVISATION		STRUCTURE
PATIENCE		URGENCY
BOTTOM UP		TOP DOWN

to adapt behaviors according to the situation at hand

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COLLECTIVE GENIUS

"leaders create the environment that somehow draws out the slice of genius in each individual and then leverages and melds those **many slices into a single work of innovation**

– a new product, a new process,

a new strategy, a new film

– that represents **collective genius**"

(Hill L.A., Brandeau G., Truelove E., Lineback K., 2014).

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MUTUAL INFLUENCE

"leadership in an R&D organization is essentially a process of **mutual influence** between the supervisor and the employees.

Knowledgeable workers don't work toward a goal because someone else has say it.

They work toward it because they believe that it is right"

(Wagner Weick C, Triandis H.C., Jain R.K., 2010).

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EXERCISE

- WHO IS THE LEADER?
- WHAT TRAITS SHOULD THEY HAVE?
- WHAT SHOULD A LEADER NOT DO?

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A LEADER

- A leader is a person who is able to **influence** the behavior of others, **regardless of formal authority.**
- Leadership is based on the ability to perceive and implement common goals, to extract the potential of employees, develop their talents, accumulate knowledge and **use the group's competences to achieve the set goals.**

(Chrostowski et al., 2013).

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LEADERSHIP IN THE R&D

- operates through R&D projects
- a social process of interaction between the supervisor and employees
- the leader develops and leads the team in a complex environment that requires specific management
- the leadership focused on the development of innovation

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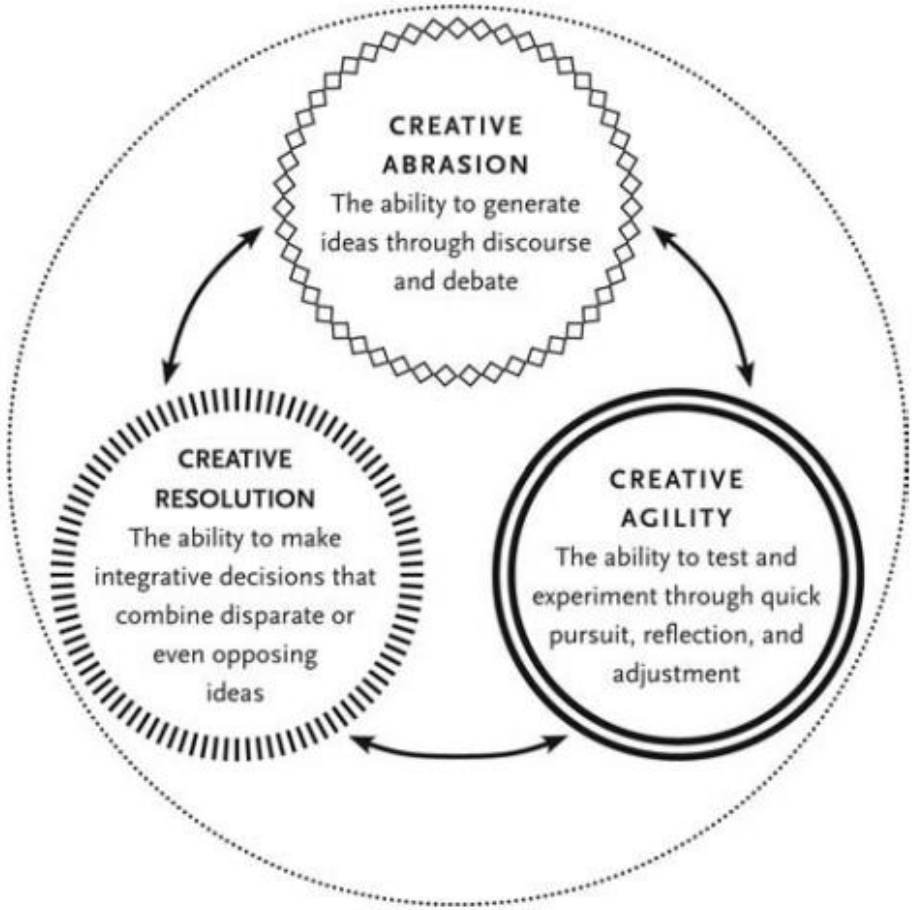
THE ABILITY TO DO THE HARD WORK OF INNOVATION



(Hill L.A., Brandeau G., Truelove E., Lineback K., 2014)

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LEADERSHIP

- you need to create a **place** where people are willing to do the hard work of innovation with its inherent paradoxes and stresses
- you need to build a **community** with a sense of shared purpose, values, and rules of engagement
- you must create an **organization** in which people are able to do the work of innovation

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EXERCISE

- WHAT IS THE DIFFERENCE BETWEEN A LEADER AND A MANAGER?

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MANAGER VS LEADER

Project Managers	Project Leaders
focus on systems	focus on people
appointed by their superiors	chosen by their team members
administer	innovate
focus on conforming and maintaining	focus on challenging and developing
short-term perspective	long-term perspective
like consistency and accept the status quo	flexible and challenge the status quo
are risk averse	are risk opportunists

Burke, Barron, 2014

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MANAGER VS LEADER

Project Managers	Project Leaders
focus on planning, budgeting and the bottom line	create a vision of the future with an eye on the horizon
develop communication systems	develop interpersonal lines of communication
focus on organization structures	focus on people
focus on the problem-solving processes	aim to inspire and motivate
focus on targets and milestones	focus on creating change
want to control their project	are passionate about their project
focus internally on the project	focus externally on the other research groups, client, the competition, the market and ne technology

Burke, Barron, 2014

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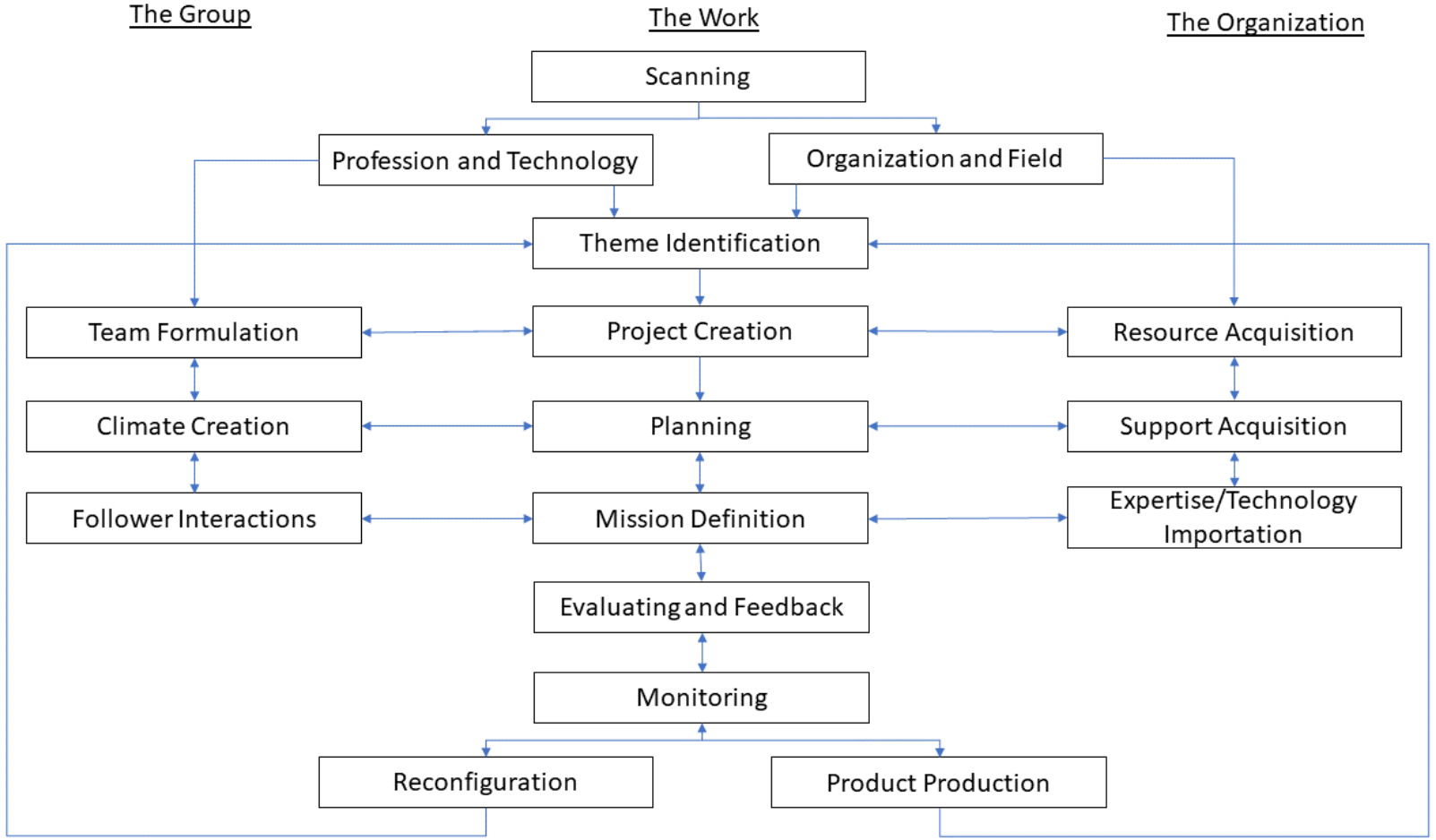
MODEL OF SCIENTIFIC LEADERSHIP



Robledo I.C., Peterson D.R., Mumford M.D., 2012.

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HOW INNOVATION LEADER CAN INFLUENCES THE TEAM?

- Vision
- Flexibility
- Ambidexterity
- Heterarchy
- Creativity
- Coulture and climate building
- .....

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VISION

Vision is a statement of the **desired future** state of something

(Rice et al., 1998)

Team vision refers the extent to which the team has an **attainable, shared, clear vision or set of purposes**

(Gibbon et al., 2002)

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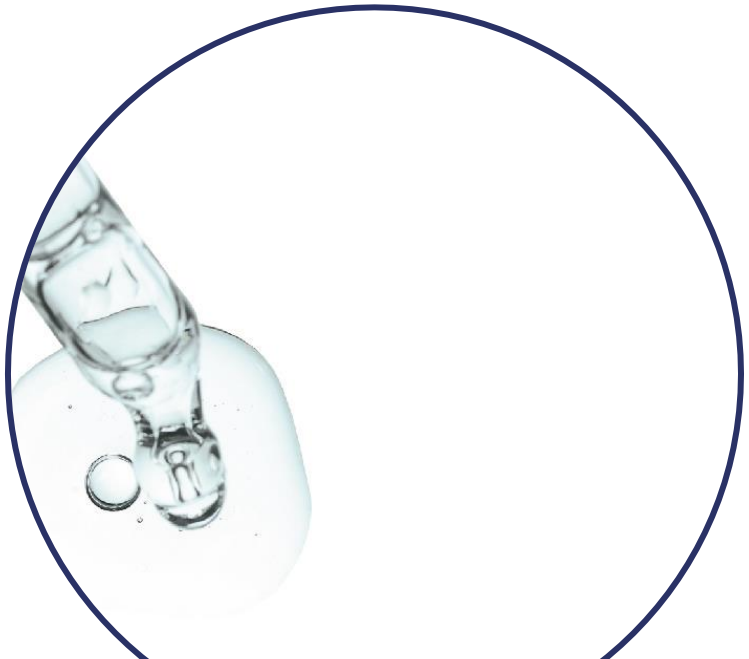
ATRIBUTES OF VISION

- **clear** (transparent) to all members of the organization and participants in the project
- **supported** by others in the organization
- **stable** to ensure predictable working and development conditions



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SOME EXAMPLES

- **Figma** - Make design accessible to everyone
- **Microsoft** - Empower every person and every organization on the planet to achieve more
- **Tesla** - Accelerate the world's transition to sustainable energy
- **Subaru** - To create advanced technology on an ongoing basis and provide consumers with distinctive products
- **Johnson & Johnson** - For every person to use their unique experiences and backgrounds, together – to spark solutions that create a better, healthier world

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EXERCISE

1. Find the research organization that you think is best
2. Go to the website and look for the vision and mission statement.
3. Analyse for the features of the vision.

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VISION **WHY?**

- WHERE ARE WE GOING MOVING FORWARD?
- WHAT DO WE WANT TO ACHIEVE IN THE FUTURE?
- WHAT KIND OF FUTURE SOCIETY DO WE ENVISION?

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MISSION **WHAT? HOW?**

- WHAT DO WE DO TODAY?
- WHAT DO WE SERVE?
- WHAT ARE WE TRYING TO ACOMPLISH?
- WHAT IMPACT DO WE WANT TO ACHIEVE?

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VALUES

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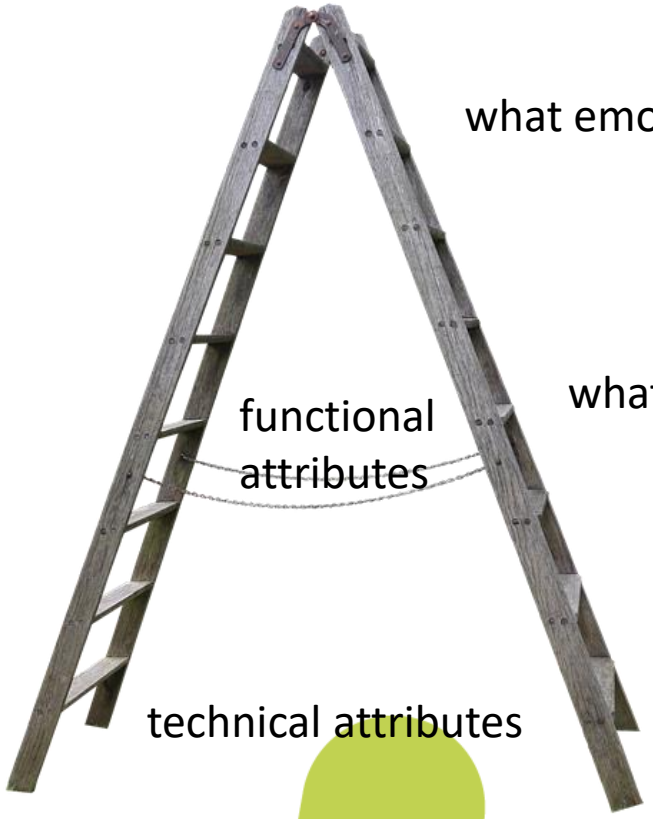
BRAND LADDERING

emotional attributes



what emotions does it evoke?

functional attributes

what does it give me?

technical attributes

what is it like?

Pixabay.com

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FLEXIBILITY

- Cognitive flexibility means **being prepared to deal effectively with a situation that requires a change of plan**, such as an unfavorable test result, a changing technology or a new opportunity.
- It is worth remembering that **leaders are one of the main sources of employees' affective experiences** in the workplace and, with the right behaviors, can influence better creative outcomes, including fluency, flexibility and originality.
- **By receiving and giving autonomy to act, flexibility is also positively influenced.**
- Individuals generate the most creative ideas when they work precisely in a highly autonomous working environment

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FLEXIBILITY

- **Behavioral flexibility is the ability to change behavior to adapt to a specific situation.**
- It is facilitated when a leader has high self-control skills.
- It enables him or her to make behavioral decisions in a conscious manner, knowing how this will affect others (Yukl, 2013).
- Thus, flexibility also means **being able to adapt to conditions and expectations that are constantly changing** (Blanchard et al., 2018)

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FLEXIBILITY

- The research of Quinn and colleagues led to a **model in which the researchers used contrasting sets of behaviors to achieve more effective teams.**
- In thee model, there are **8 leadership roles.**
- Model **of opposing roles and creating mutual tensions between the roles**, which consists of two orthogonal value dimensions: control - flexibility and internal - external focus.

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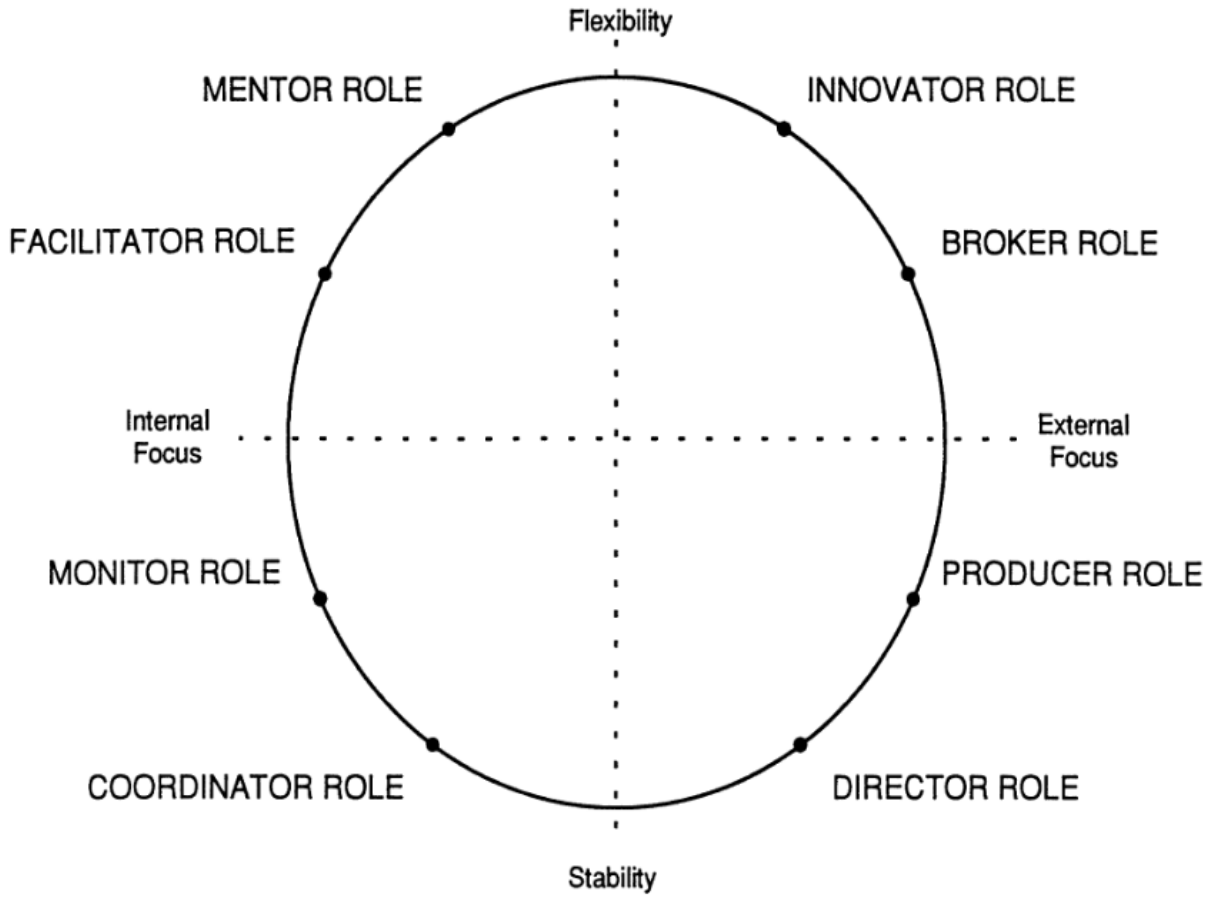
Uproszczony model ról przywódczych Quinna



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AMBIDEXTERITY

- **Exploration** is associated with exploration, variability, risk taking, flexibility, discovery and experimentation.
- **Exploitation** focuses on goal achievement, efficiency and the avoidance of risks and errors, requires increased control of performance and convergent thinking to make proper use of the opportunities already available
- Ambidexterity – **is the ability to both use and improve existing knowledge (exploitation), while simultaneously creating new knowledge (exploration).**
- Literally, the **term means the ability to use both hands efficiently**

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AMBIDEXTERITY

- In innovation processes it is difficult to predict more than a few next steps.
- This means that the requirements for exploration and exploitation change, and many times as part of the innovation development process.
- This is why it is so important to move skillfully between the two, or even to flexibly switching between these opposing modes.

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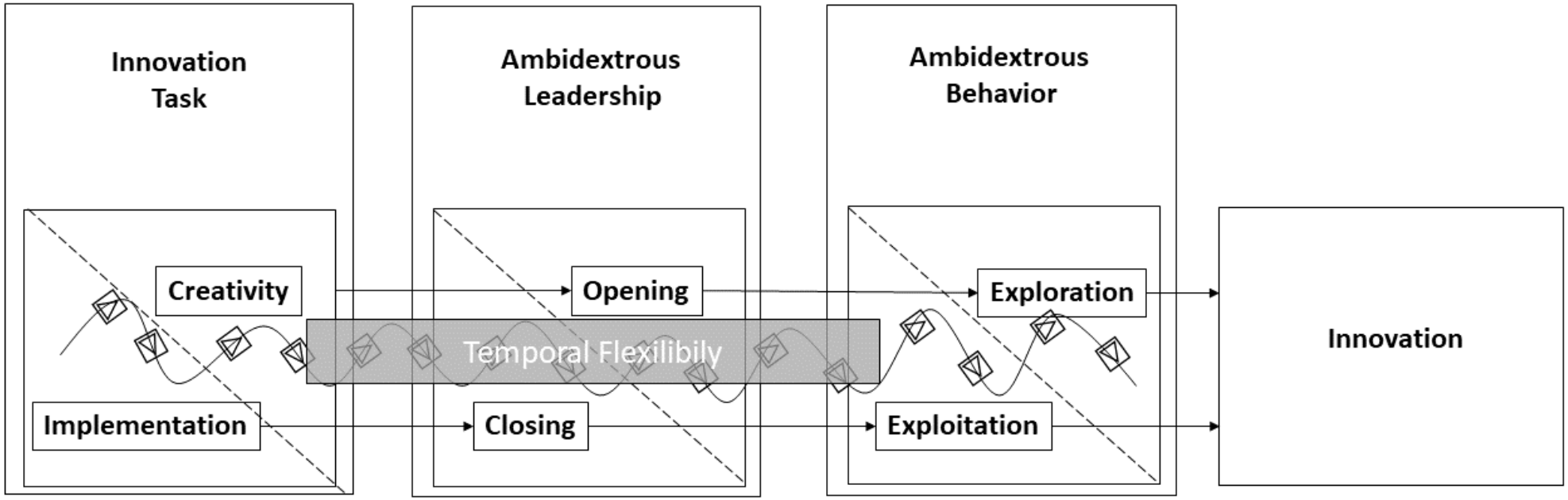
EXPLORATION/EXPLOITATION



Kathrin Rosing, Michael Frese, Andreas Bausch, 2011

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LEADERSHIP MODEL DETERMINING THE EFFECTIVENESS OF R&D TEAMS (P.Radek)

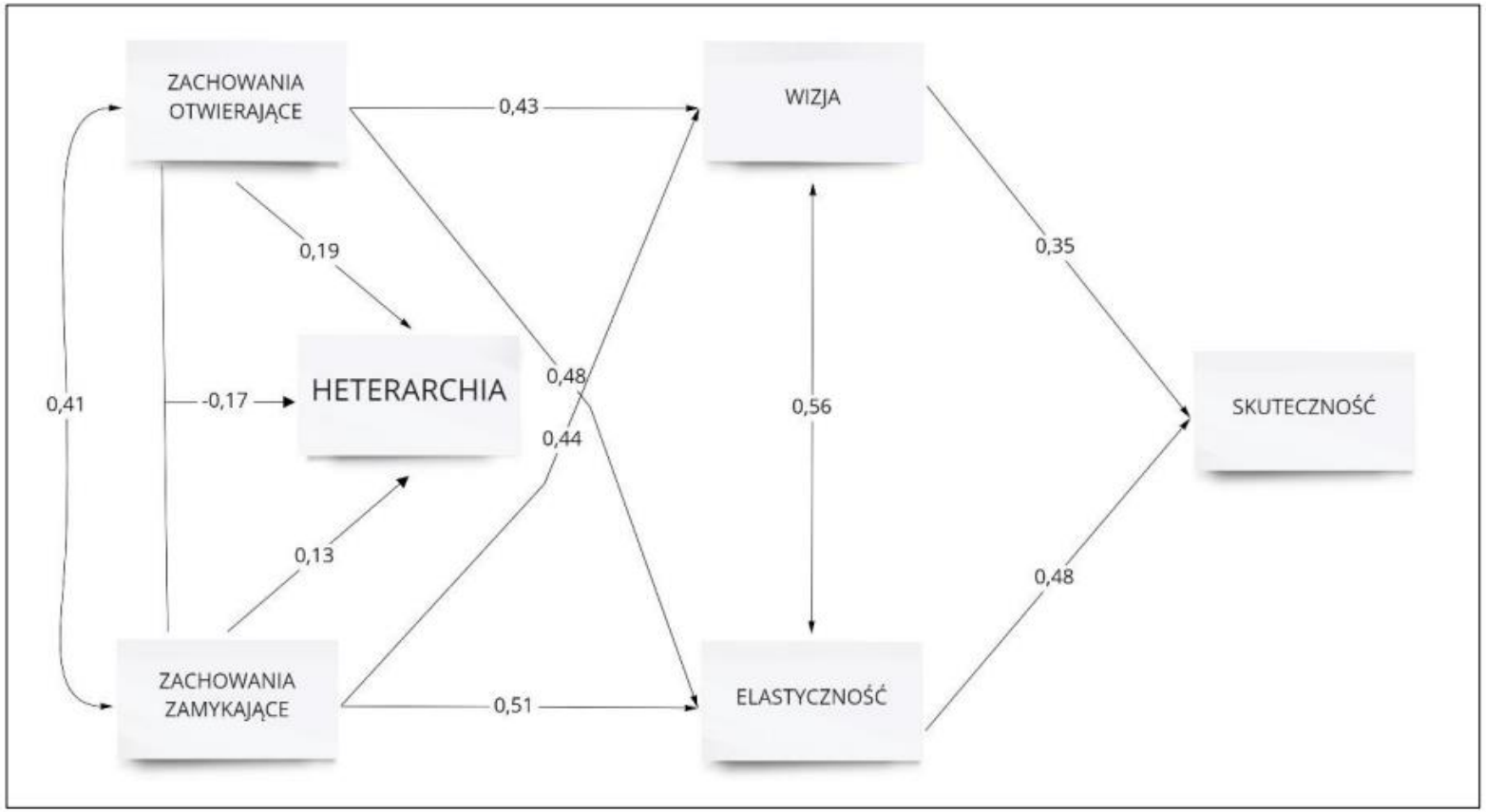

Figure 1. The final model was verified with the use of path modelling (source: own work).

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AMBIDEXTERITY

Exploitation

- is about efficiency
- increasing productivity
- control
- certainty
- variance reduction

Exploration

- is about search
- discovery
- autonomy
- innovation
- embracing variation

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OPENING/CLOSING BEHAVIORS OF THE LEADER

Examples for opening and closing leader behaviors.

Opening leader behaviors	Closing leader behaviors
◆ Allowing different ways of accomplishing a task	◆ Monitoring and controlling goal attainment
◆ Encouraging experimentation with different ideas	◆ Establishing routines
◆ Motivating to take risks	◆ Taking corrective action
◆ Giving possibilities for independent thinking and acting	◆ Controlling adherence to rules
◆ Giving room for own ideas	◆ Paying attention to uniform task accomplishment
◆ Allowing errors	◆ Sanctioning errors
◆ Encouraging error learning	◆ Sticking to plans

Kathrin Rosing, Michael Frese, Andreas Bausch, 2011

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TRANSACTIONAL/TRANSFORMATIONAL LEADERSHIP

https://www.floridatechonline.com/blog/psychology/the-difference-between-transactional-and-transformational-leadership/

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TRANSACTIONAL/TRANSFORMATIONAL LEADERSHIP

Categorization of transformational and transactional leadership behaviors as opening and closing leadership behaviors.

	Opening leader behaviors	Closing leader behaviors
Transformational leadership	• A vision that motivates exploratory behavior • Stimulation of thoughts in very new directions • Communication of the values of openness and tolerance	• A vision that motivates confirmatory behavior • Stimulation of small improvements and enhancement of efficiency • Communication of the values of conscientiousness and rules adherence
Transactional leadership	• Rewarding experimentation • Focus on errors to learn from errors • Setting and monitoring exploration goals	• Rewarding efficiency • Focus on errors to avoid errors • Setting and monitoring exploitation goals

Kathrin Rosing, Michael Frese, Andreas Bausch, 2011

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T-SHAPED PERSON

- The "T" personality combines expertise in one or more selected fields with knowledge and familiarity with entrepreneurship, innovation and leadership

- COMMUNICATION
- EMPATHY
- OPENNESS TO COOPERATION
- ENTITUDE
- DISTANCE FROM SELF
- THE OPPOSITE OF "MY POSITION IS ME"

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MOTIVATION

Creators are motivated by issues such as:

- pleasure associated with exploration and creation
- admiration and recognition from colleagues
- excitement at the thought of the fame that the authorship of some successful idea will bring

(Kuc, 2004)

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CREATIVITY

- Individual and team creativity are starting points for innovation development and are essential throughout the innovation development process.
- **Creativity is the process of generating new ideas and translating them into action by individuals or groups.**
- Individual creativity contributes to group creativity.
- Group creativity is influenced, among other things, by the composition of the group, the course of the group process and group characteristics.
- Group creativity is the shared novelty and usefulness of the final idea developed by a group of people during a complex mental process.

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CREATIVITY

- It is also referred to as leader creativity.
- It refers to the leader's creative personality, which consists of high self-esteem, a willingness to take risks and high curiosity.
- Leader creativity is also associated with the ability to develop ideas, come up with original solutions, developing creative strategies and introducing innovative solutions into the work environment.

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HETERARCHY

Under heterarchy:

- interdependent knowledge is valued
- the development of interpersonal processes that sustain collaboration between researchers is encouraged
- interaction among representatives of different groups, including non-scientists, is developed, which can induce the development of new ideas
- the development of institutional structures that support collaborative learning is promoted

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HETERARCHY

Specialised research units, e.g. in universities or technology companies, tend to operate within a hierarchical structure and often form 'silos', limiting cross-departmental communication and cooperation. Under such conditions of limited access to verified information, it is easy for a climate of distrust to develop

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CLIMATE AND COULTURE

- creating a climate for cooperation and teamwork, planning and coordination team
- building credibility, personal commitment to the mission
- co-creation
- creating a space in which individuals come together, ready for complex collaboration, learning discovery-based and inclusive decision-making
- creative attrition
- open debate
- community, that is united by a common purpose, values and rules of engagement
- controlled conflict

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MANAGEMENT OF RESISTANCE TO CHANGE

„If employees are convinced of the change and are emotionally committed to it, they are much more likely and on their own initiative to carry out activities that support it".

„Many managers focus on what employees DO rather than what they FEEL".

https://przemyslprzyszlosci.gov.pl/zarzadzanie-zmiana-7-kluczowych-czynnikow/

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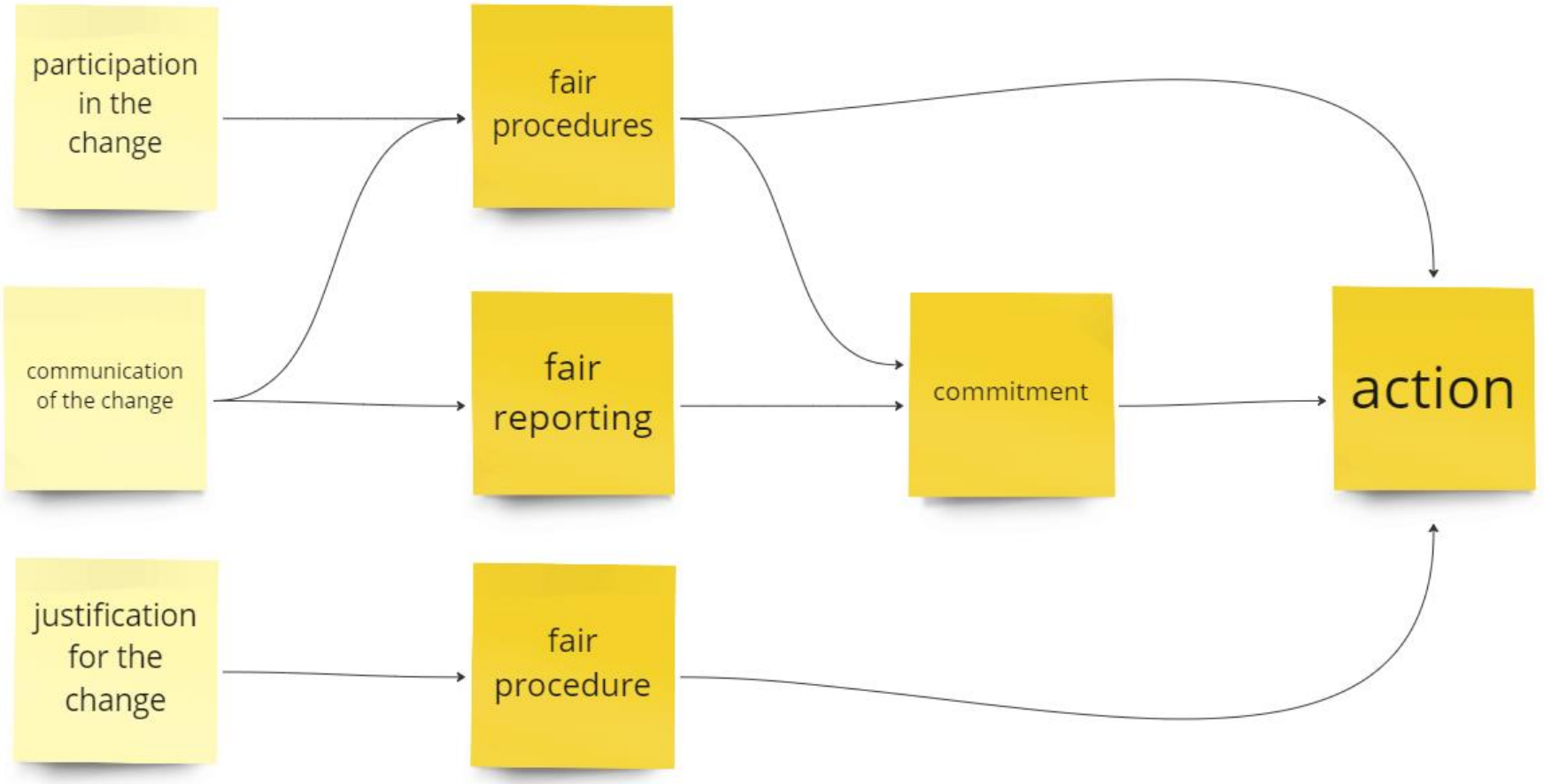

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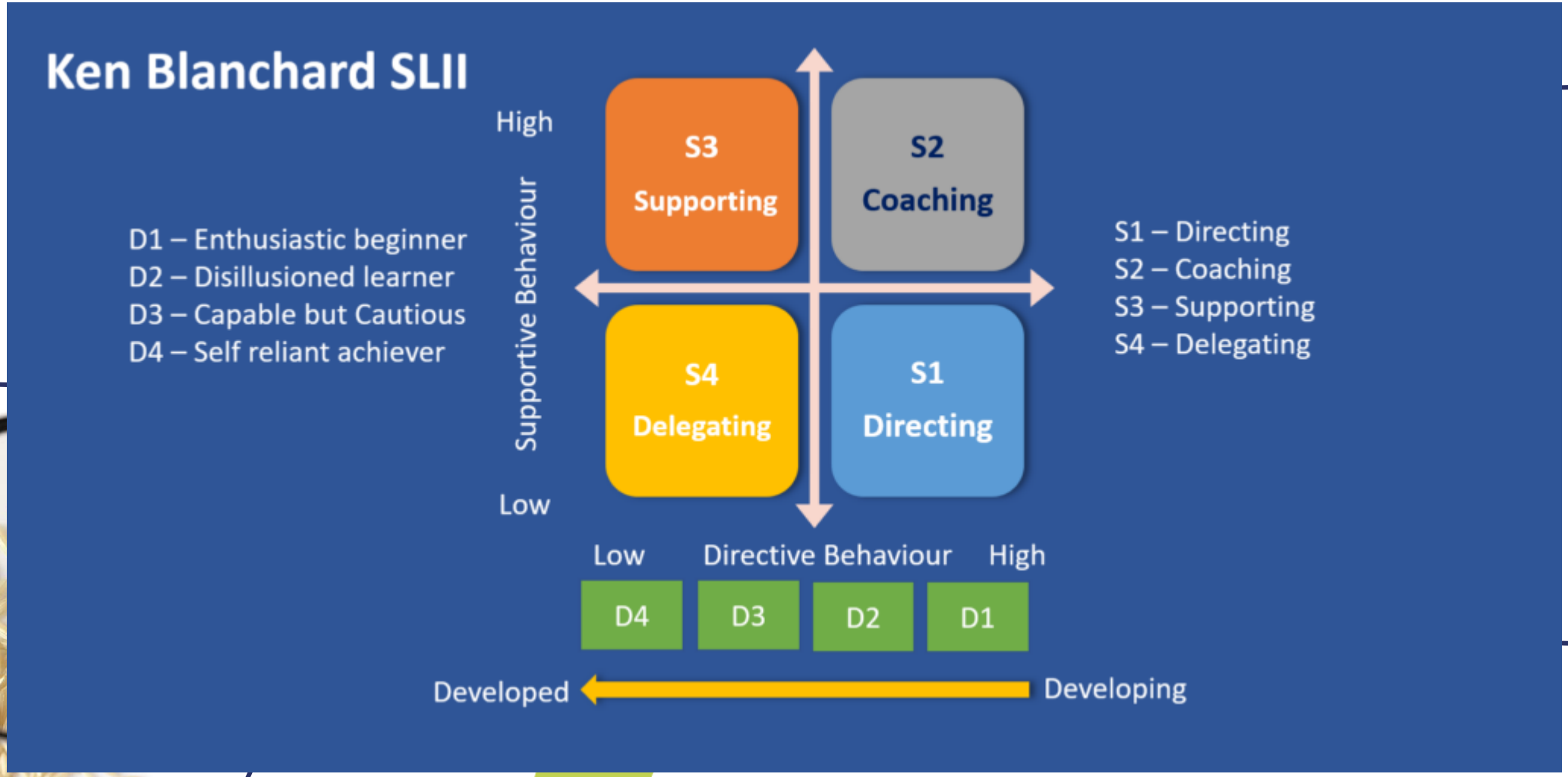
BLANCHARD'S MODEL



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CODE OF PRINCIPLES

RULES FOR WORKING IN "OUR" (INSERT NAME HERE) PROJECT TEAM We stick to the established rules and, if necessary, refer to them in order to shape a good working climate in the project.

The following rules apply to our work in the project. In the course of the project we can modify and develop this together to support our successful teamwork, in which each and everyone feels comfortable.

We stick to the established rules and, if necessary, refer to them in order to shape a good working climate in the project.

As part of the standing rules that serve our good cooperation, we accept that:

1.
2.
3.

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FEEDBACK

SPRECYZUJ		
POZYTYWY (PODOBAŁO MI SIĘ..., ZWRÓCIŁAM UWAGĘ NA... CHCĘ PODKRESLIĆ, ŻE...)	**I** (UNIKAMY „ALE")	**NEGATYWY** (TO NA CO ZWRÓCIŁAM UWAGĘ..., ZAUWAŻYŁAM, ŻE, TO CO ZROBIŁABYM INACZEJ... TO CZEGO MI ZABRAKŁO...)
KONSEKWENCJE (TO JEST WAZNE PONIEWAŻ....)		
ALTERNATYWY (TO CO JA ZROBIŁABYM INACZEJ, TO....; KOLEJNYM RAZEM WAŻNE JEST DLA MNIE BY....)		

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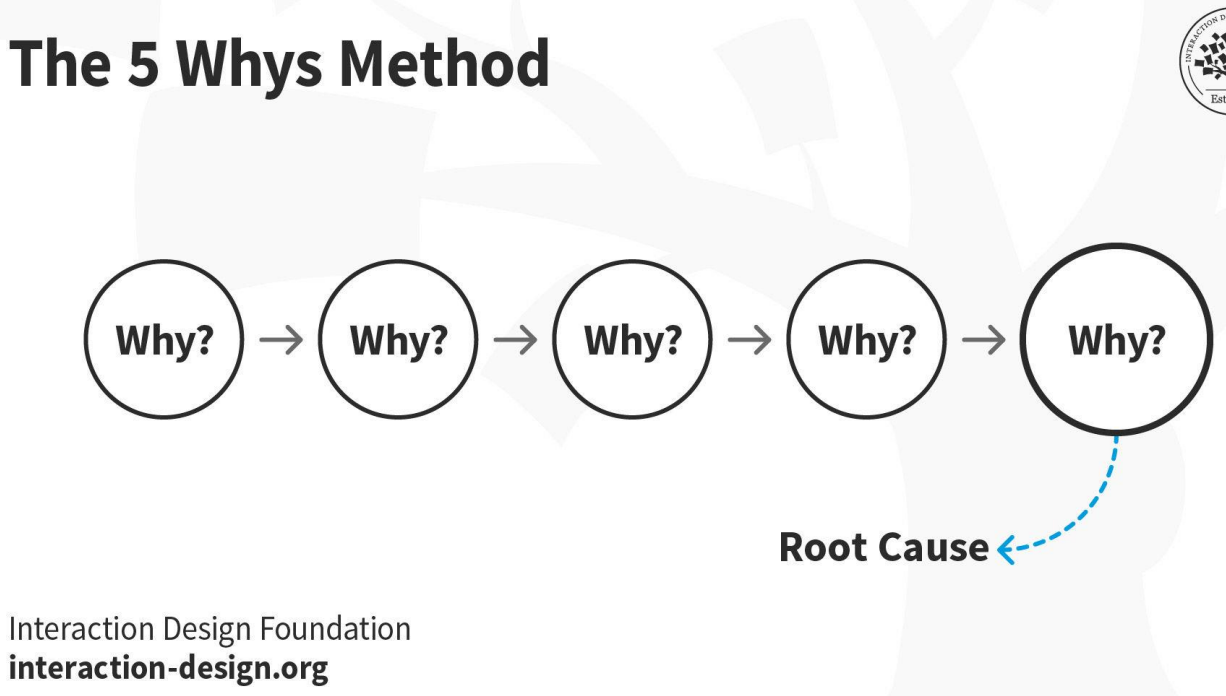
ODPOWIEDZI, 5 WHY

it's about understanding the cause



https://www.interaction-design.org/literature/topics/5-whys

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FEEDBACK GRID, I LIKE I WISH WHAT IF

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INTERVIEW

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Dr eng Patrycja Radek

Strategic leader with many years of experience working on innovative projects as well as developing new business. Expert with interdisciplinary knowledge of the innovation ecosystem. Design thinking consultant, problem solver and mentor of women in STEM. An expert in the leadership of R&D teams.

Key skills: #compliance #people and culture #leadership of innovation teams #design-thinking #strategist #impactful innovation

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