INNOWACJE – WARUNEK KONIECZNY KREOWANIA DOBROBYTU

PROF. WIKTOR ASKANAS

Economic Waves

Economics of Industrial Innovation (1997) by C. Freeman and L. Soete

Cycle number, Approx. Timing.	**First Wave, 1780s - 1840,**	**Second Wave 1840s – 1890s**	**Third Wave 1890s – 1940s**	**Fourth Wave 1940s – 1990s**	**Fifth Wave 1990s – ?**
Kondratieff Waves	Industrial revolution, factory production	Age of steam power and railways	Age of electricity and steel	Age of mass production of automobiles and synthetic materials	Age of microelectronics and computer networks.
Science, Technology, Education, and Training	Apprenticeship, learning by doing, dissenting academies, scientific societies	Professional mechanical and civil engineers, institute of technology, mass primary education	Industrial R&D labs, chemicals and electrical, national laboratories, standards laboratories	Large-scale industrial and government R&D, mass higher education	Data networks, R&D global networks, lifetime education and training
Transport Communication	Canal, carriage roads	Railways (Iron) telegraph	Railways (Steel), telephone	Motor highways, radio and TV, airlines	Information highways, digital networks
Energy Systems	Water power	Steam power	Electricity	Oil	Gas/oil
Cheap Key Factors	Cotton	Coal, iron	Steel	Oil, plastics	Microelectronics

-
- "Aby rewolucja informacyjna byla mozliwa, jednostki, grupy i cale spoleczenstwo musza najpierw zaakceptowac - ogolnie biorac - wieksza jawnosc, przejrzystosc i wieksza droznosc stosunkow i zaleznosci miedzy ludzmi. Jezeli chce sie poruszyc "zblokowana" spolecznosc organizacyjna, trzeba koniecznie aby odrzucila ona ciazaca na niej pasje do nakazow i kontroli i aby przewyciezyla prymitywna rozkazodawcza logike prokurentow, patronow i manadrynow, ktore nia rzadza."

INNOWACJE

- technological innovation is not a 'zero-sum game' in which the rich get richer while the rest of the world drops behind. Rather, it is the prime motor of economic and social development for all — as evidenced by the extent to which there are strong links between the country's research universities and its industrial corporations.

CLOSED INNOVATION

- The old paradigm might be called Closed Innovation (CI). It's a view that says successful innovations require control. Companies must generate their own ideas and then develop them, build them, market them first, distribute them, service them, finance them and support them on their own.

CONSEQUENCES

- This view suggests that we should hire the best and the brightest people, so the smartest people in our industry work for us. Further, we should control our intellectual property, so our competitors don't profit from our ideas.

EROZJA PARADYGMATU

- growing mobility of highly experienced and skilled people
- increasingly fast time to market for many products and services, making the shelf life of a particular technology ever shorter
- burgeoning amount of college and post-college training led knowledge to spill out beyond the corporate central research labs to companies of all sizes in many industries
- START-UP inventors based companies

OPEN INNOVATIONS

- Open Innovation (OI) is a paradigm that assumes firms can and should use external ideas as well as internal ideas, and internal and external paths to market

Under OI

- both external and internal ideas are used to create value
- internal mechanisms are defined to claim some portion of that value
- internal ideas can also be taken to market through external channels, outside the current businesses of the firm, to generate additional value
- ideas can also start outside the firm's own labs and can move inside.

Capability Expansion

- 1. **Idea generation** - Innovation starts with deliberate creative thinking - finding new ideas when and where they are needed - by using specific tools.
- 2. **Idea development** - Our first ideas are often raw and need to be nurtured. We can enhance, combine or connect them to shape more powerful solutions. We transform average ideas into great ones.
- 3. **Idea evaluation** - By learning to evaluate ideas we find those capable of creating the results we want.
- 4. **Idea marketing and proposing** - To get commitment to any new idea takes communication. Learning to sell your idea is as important as finding it in the first place.
- 5. **Ideas implementing** - Transforming our ideas into action plans and results is our goal.
- 6. **Team learning** - The final element is to ensure that team lessons are learned during the innovation process.

NETWORKS RISKS

- REPLACEMENT OF CLUSTERS
- CONTEXT AND CONTENT
- INTELECTUAL PROPERTY RIGHT

DIMENSION OF THE PROBLEM

TYPE / PART	STATIC	INTEGRATOR	DYNAMIC
ORGANIZATIONAL HARDWARE	EQUIPMENT	TECHNOLOGY	PROCESS
INTEGRATOR	SET OF PROCEDURES		INFORMATION
ORGANIZATIONAL SOFTWARE	STAFF	STRUCTURE	DECISION