



Section 7. Technical sciences. Applied research

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SYSTEMIC IMPLEMENTATION OF INNOVATION IN THE TEXTILE INDUSTRY (Innovation and Its Systemic Implementation Under Contemporary Conditions in the Light Industry Sector. Methodology for Developing Innovation Motivation According to the Creative Design System of Malyeryk Khrystyna)

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Abstract

The article examines the relationship between innovation and its creator, with particular emphasis on the role of professional reputation, knowledge, creativity, and expertise in determining the successful development and practical implementation of innovative solutions. The limitations of existing innovation financing mechanisms and investment models in supporting the sustainable development of innovation-oriented projects are considered. Particular attention is given to the importance of education, continuing professional development, and specialized training in strengthening the innovative and creative potential of specialists. The article substantiates the need for new educational models adapted to advanced manufacturing technologies, digital production systems, and knowledge-driven innovation. The development of innovation competencies and interdisciplinary thinking is considered an essential prerequisite for enhancing specialists' ability to generate, develop, and successfully implement innovative solutions in the modern textile and light industry sectors.

Keywords: *Systemic implementation of innovation; systemic implementation of innovation in the textile industry and the production of innovative textile materials; innovation motivation according to the creative design system of Malyeryk Khrystyna; assessment of the nature and outcomes of implementing an innovation model; systematic organization and management of innovation projects and innovation-oriented initiatives; innovation process management practices; specialized professional development programs and advanced training for emerging professions created by the transition of industrial production toward high technologies and digital manufacturing*

Innovation and Its Systemic Implementation Under Contemporary Conditions; A Methodology for Developing Innovative Design Motivation According to the Malyeryk Khrystyna System

Innovation cannot be separated from its creator.

Behind every innovation stands its author, and very often the personality and talent of the creator determine both the nature of the innovation and the outcome of implementing each innovative idea.

The creative reputation of an author or inventor is the hallmark and public face of an innovative product or technology.

In our opinion, conducting lotteries whose proceeds may help finance innovation processes neither solves nor, in principle, can solve the problem of insufficient funding for the systematic and consistent development of innovation infrastructure.

Likewise, the latest approaches, techniques, and methods of organizing investments provide only limited support for the purposeful and systematic implementation of innovation projects or projects of an innovative nature.

One of the fundamental reasons for this situation is the association of a project with the creative work of a particular inventor. As a rule, investors trust certain inventors, often anticipating each new invention created by them, while paying little attention to the work of others.

As demonstrated by the practice of innovation management, for the statistically average generator of ideas and future inventor, successful promotion of ideas and inventions is largely determined by the fundamental education received, beginning with secondary school, continuing through higher education, and, most importantly, in the opinion of the authors of this publication, through specialized continuing education courses and new professional orientation programs developed in response to the transition of modern industry toward advanced and digital technologies.

Research in this direction is ongoing, and publications reporting the results of such studies continue to appear regularly.

Many researchers first turn to the study of the genetic characteristics of future gen-

erators of innovative ideas and founders of innovative start-ups. One such example is presented below.

Scientists have identified hereditary characteristics associated with improved electrical conductivity of signals in the brain and with higher intelligence test scores.

The study involved 472 volunteers from Australia, including 85 pairs of genetically identical (monozygotic) twins, 100 pairs of non-identical twins, as well as their biological brothers and sisters. During the study, the participants completed IQ tests and underwent magnetic resonance imaging (MRI).

The researchers examined the volume of specific brain structures and the characteristics of nerve impulse transmission by neurons. They measured the electrical insulation of individual nerve fibers, with higher insulation corresponding to faster signal transmission by neurons. The obtained results were then compared with the participants' genetic data.

The researchers identified 24 variants of six genes associated with improved electrical conductivity in the brain. These variants represented single-nucleotide polymorphisms (SNPs) – variations in the DNA sequence involving a single nucleotide. In addition to improved electrical conductivity, several of the identified polymorphisms were also associated with intelligence test scores that were several points higher.

According to the analysis, the genes containing these polymorphisms formed a functional network, in which the presence of a favorable variant of one gene enhanced the performance of another. In other words, these “intelligence-associated” polymorphisms exhibited a synergistic effect.

Previously, the same authors published a study identifying genetic characteristics that influence the volume of the hippocampus, a brain structure associated with memory and emotions.

Many leading technology companies invest substantial resources in artificial intelligence research. One widely discussed example involved the development of a large-scale artificial neural network capable of independently recognizing visual objects. According to published reports, researchers trained the system using large collections of unlabeled images extracted from online vid-

eo resources. During the learning process, the neural network successfully developed the ability to recognize images of cats, as well as human faces and bodies, without explicit human supervision.

Although the ability to recognize cats may appear trivial from a human perspective, it represented an important milestone in artificial intelligence research. This result is frequently discussed in the context of Moravec's paradox, which states that tasks humans perform effortlessly, such as visual perception and object recognition, are often significantly more difficult for computers than highly structured intellectual activities such as playing chess or solving mathematical problems.

The researchers themselves emphasized that their artificial neural network remained extremely limited in comparison with the human visual cortex, whose number of neurons and synaptic connections exceeds that of artificial systems by many orders of magnitude. This observation suggests that successful progress in artificial intelligence requires not only computational resources but also scientifically grounded methodologies, interdisciplinary research teams, and systematic engineering approaches.

Regardless of their immediate practical outcomes, such investigations contribute to a deeper understanding of existing scientific and technological challenges. At the same time, there remains a noticeable shortage of effective methodological frameworks capable of systematically overcoming complex engineering problems encountered during innovation processes.

From the perspective of practical invention and engineering design, one of the most comprehensive methodological approaches remains the Theory of Inventive Problem Solving (TRIZ) together with the Algorithm of Inventive Problem Solving (ARIZ). These methodologies provide structured analytical tools for identifying technical contradictions, generating innovative concepts, and guiding the systematic development of engineering solutions across projects of varying complexity.

Successful application of TRIZ and ARIZ requires considerably more than theoretical familiarity with their principles. In addition to comprehensive engineering knowledge and practical design experience, specialists must

possess the ability to creatively adapt these methodologies to real industrial conditions while taking into account the specific technological constraints of each innovation project.

Particularly important for innovation projects implemented in the United States is the ability of multidisciplinary specialists to combine expertise in the fundamental sciences with practical knowledge of TRIZ and ARIZ while simultaneously understanding U.S. engineering standards, regulatory requirements, and industrial design practices. Such interdisciplinary competence enables more effective adaptation of innovative concepts to the technical, legal, and commercial requirements of specific projects.

It should also be recognized that the technological environment existing at the time TRIZ and ARIZ were originally developed differed substantially from today's digital engineering landscape. Their successful application therefore requires integration with modern computational technologies, including digital product design, computer simulation, virtual prototyping, and engineering animation. Combining the universal principles of TRIZ and ARIZ with contemporary computer-aided design technologies significantly expands the effectiveness of innovative engineering development.

Numerous attempts have been made to establish educational programs capable of preparing comprehensively trained innovation specialists possessing both deep engineering knowledge and creative problem-solving skills. However, these efforts have frequently encountered substantial methodological and organizational challenges.

A significant step toward addressing this issue was achieved through the development of a structured methodology for cultivating innovation-oriented design motivation. Unlike educational approaches based primarily on spontaneous creativity or intuitive idea generation, this methodology emphasizes a systematic understanding of TRIZ and ARIZ and their close relationship with the fundamental principles of science, particularly classical physics, engineering, and industrial design.

The principal contribution of Maly-eryk Khrystyna, the author of this educational methodology, lies in combining

multidisciplinary professional education with extensive practical experience in applying TRIZ and ARIZ to resolve complex technical contradictions. Through academic study, professional training, and research conducted at universities in the United States, she acquired a comprehensive understanding of contemporary approaches to technological innovation and identified effective methods for integrating these practices into educational programs based on TRIZ and ARIZ.

As a result of her academic and professional activities in the United States, she developed more than twenty educational and pedagogical integrative teaching concepts representing pioneering instructional innovations. She subsequently published more than ten scientific articles and methodological guidelines presenting practical recommendations and structured instructional approaches intended for specialists engaged in the development of innovative products and advanced technologies supporting the innovation ecosystems of the United States and other countries.

TRIZ and ARIZ in the Contemporary Innovation Environment

To begin, let us return to the current understanding of the Theory of Inventive Problem Solving (TRIZ) and the Algorithm of Inventive Problem Solving (ARIZ).

Modern TRIZ encompasses several schools of thought that continue to develop the classical methodology while introducing new concepts and disciplines that were not originally included in the classical framework. The technically mature core of classical TRIZ – including the Inventive Principles, ARIZ, and Substance-Field (Su-Field) Analysis – has remained largely unchanged. Consequently, the activities of many contemporary TRIZ schools are directed primarily toward reinterpretation, restructuring, and promotion of the methodology rather than toward expanding its technical foundation. As a result, their work is often considered to have a stronger philosophical and educational orientation than a purely engineering focus. Today, TRIZ is actively applied in areas such as business management, marketing, advertising, education, the arts, and ear-

ly childhood development, although it was originally created as a systematic methodology for engineering creativity and technological innovation.

Classical TRIZ represents a general engineering methodology. However, effective practical application requires the development of specialized versions adapted to specific technological domains. Such specialized versions differ in the structure and content of their knowledge bases, analytical tools, and engineering information resources. Several major industrial corporations have already adapted selected TRIZ principles to their own technological environments. In our opinion, a specialized version of TRIZ should likewise be developed for startup companies, emphasizing the rapid commercialization of innovative technologies and products.

At present, no specialized versions of TRIZ have been developed specifically to stimulate scientific discoveries in disciplines such as physics, chemistry, biology, or related natural sciences.

As a designer of beachwear collections, Malyeryk Khrystyna approached this issue critically by examining the logical relationships between the fundamental principles of industrial design and innovative engineering concepts, which frequently extend beyond the classical frameworks of exact sciences and traditional engineering disciplines.

One of the principal limitations affecting further development of TRIZ is the absence of a comprehensive methodology for analyzing initial problem situations, diagnosing technological contradictions, and forecasting future engineering challenges that subsequently become the objectives of innovation. Addressing this limitation requires the development of a modern design methodology focused on creating solutions that are compatible with future technological requirements. The educational methodology developed by Malyeryk Khrystyna significantly reduces these limitations by directing students' analytical capabilities and creative potential toward the most promising innovation pathways.

Another important trend in technological development is the growing importance of intellectual property protection. As competition for authorship and ownership of tech-

nological innovations increases, so does the demand for personnel capable of generating patentable engineering solutions. Consequently, innovation activities require increasingly sophisticated methodological support, educational frameworks, and software tools. From this perspective, the theoretical foundations supporting innovation should continue to expand rather than remain restricted to traditional interpretations.

While the successors of Genrich Altshuller have understandably preserved the classical interpretation of TRIZ, contemporary technological realities create opportunities for complementary methodological developments. Such developments do not replace classical TRIZ but instead extend its practical applicability under modern engineering conditions. To avoid unnecessary methodological disputes, newly developed approaches to innovation modeling may appropriately receive independent designations while remaining conceptually compatible with the fundamental principles established by classical TRIZ.

The widespread adoption of computer-aided engineering technologies has fundamentally transformed modern product development. Today it has become increasingly difficult to distinguish between virtual engineering activities and traditional industrial design, as both have become integrated components of a unified development process.

According to Malyeryk Khrystyna, the most effective mechanism for integrating classical engineering principles with modern digital technologies is a systematic educational methodology based on composition-oriented learning. Within this framework, the fundamental laws of classical physics and theoretical mechanics are taught simultaneously with three-dimensional computer-aided design, digital modeling, engineering simulation, and virtual representation of physical processes.

Such an educational methodology enables learners of different educational levels and professional backgrounds to combine classical engineering knowledge with advanced digital technologies in balanced proportions, thereby maximizing both creative efficiency and engineering effectiveness.

The following examples from contemporary high-technology innovation illustrate this integrated methodological approach.

There is little need to emphasize the strategic importance of computer and information security technologies in today's digital society. Instead, the following discussion demonstrates how the combination of classical scientific principles with heuristic innovation methodologies can generate effective technological solutions within this rapidly evolving field.

Innovations in Computer Security Based on Electromagnetic Resonance and Resonance Spectroscopy

Corporate computer networks are frequently vulnerable to increasingly sophisticated cyberattacks despite the implementation of conventional cybersecurity measures.

Numerous examples could be presented; however, one particularly significant case illustrates the scale of this problem.

Beginning in July 2011, the internal computer network of the House of Representatives of the Japanese Parliament was subjected to repeated cyberattacks. According to information published by Japanese media citing anonymous governmental sources, attackers obtained access credentials to parliamentary e-mail accounts through the deployment of malicious software. It was assumed that the primary objective of the attack was to obtain information related to Japan's defense policy and international relations.

Reports further indicated that the initial malware originated from a server registered in China; however, investigators were unable to determine who had originally uploaded the malicious software to that server.

This was by no means the first cyberattack targeting the computer systems of the House of Representatives of the Japanese Parliament. At the same time, no evidence was found indicating that the attackers had altered, deleted, or relocated any information stored within the Parliament's internal network.

Reports of the cyberattack on the Japanese parliamentary network appeared approximately one month after the first publicly documented attack against Japan's defense industry. In that incident, hackers compromised the computer network of Mitsubishi Heavy Industries Ltd. (MHI), a corporation engaged in the manufacture of naval vessels, missile systems, and components for nuclear power plants.

However, the problem is not confined to a single country. Cybersecurity threats continuously migrate across national borders, with technologically advanced countries typically becoming the primary targets.

Threats to users' information are diverse and include self-propagating computer viruses, phishing websites designed to obtain confidential information through deception, and a wide range of malicious software applications.

Modern web browsers incorporate built-in mechanisms designed to protect users from many of these threats by warning them when they attempt to access websites that may compromise the security of their computers. According to analyses published by NSS Labs, one of the highest levels of protection against such threats was provided by the SmartScreen technology integrated into Microsoft Internet Explorer.

Subsequent generations of Internet Explorer further improved SmartScreen technology. At its peak, newer versions of the Microsoft browser reportedly blocked between two and five million attacks against users' computers every day, representing a level of protection several times greater than that demonstrated by competing browsers during the same period.

Initially, the principal function of SmartScreen consisted of evaluating website addresses for suspicious characteristics. The system calculated the reputation of individual web resources using numerous parameters, including the website address itself, traffic frequency, domain characteristics, associated IP addresses, and DNS infrastructure. This comprehensive reputation analysis significantly increased the cost and complexity for cybercriminals attempting to relocate malicious infrastructure after being identified and blacklisted.

Beginning with Internet Explorer 7, Microsoft introduced phishing detection capabilities, enabling the browser to identify fraudulent websites designed to imitate legitimate online resources. Since the introduction of this technology, Microsoft browsers reportedly detected more than 160 million phishing websites. Furthermore, since the release of Internet Explorer 8, approximately 1.5 billion malware-related attacks were reportedly prevented. Overall, Internet Explorer was

estimated to mitigate approximately 90% of known web-based security threats.

The remaining threats were addressed through the introduction of an additional SmartScreen protection layer based on application reputation analysis. At the time of its introduction, comparable functionality was not available in competing web browsers.

According to Microsoft, approximately one out of every fourteen downloaded applications contained malicious software. Since most users lack the expertise required to distinguish legitimate software from malicious programs, Internet Explorer utilized application reputation analysis to provide users with security recommendations before software installation.

Application reputation was determined through evaluation of multiple factors. The browser verified digital code-signing certificates issued by software developers, assigning higher confidence to digitally signed applications. Additional factors included the age and historical reputation of the hosting website, with newly created domains receiving lower trust scores than well-established software distribution platforms. In many cases, reputation analysis enabled potentially malicious applications to be identified before conventional antivirus software detected them.

Because the majority of reputable software publishers had already established positive trust profiles, approximately 90% of software downloads proceeded without security warnings. Conversely, when previously unknown applications were encountered, SmartScreen displayed a warning. Microsoft estimated that users who ignored these warnings had a 25% to 70% probability of downloading malicious software. Fortunately, approximately 95% of users followed the browser's recommendations and refrained from executing suspicious applications.

The browser generated high-priority security alerts only when the estimated risk reached particularly elevated levels. According to Microsoft's internal estimates, an average user of the latest Internet Explorer version encountered such warnings only about twice per year.

The practical effectiveness of this security architecture was reflected in Microsoft's projections that the application reputation mechanism alone would prevent more than 20

million malware infections every month, excluding the additional protection provided by conventional SmartScreen website filtering.

The effectiveness of such reputation-based protection systems depends directly upon the volume of accumulated security intelligence. Consequently, the longer SmartScreen remained in operation, the closer its overall detection capability approached comprehensive protection, resulting in a continuously increasing number of successfully protected computer systems.

Nevertheless, in our opinion, the most promising approach to solving the entire spectrum of modern cybersecurity challenges is the application of an innovative integrative methodology for the identification and authentication of optical information storage media based on the physical principles of electromagnetic resonance. This technology was developed and experimentally evaluated in California and utilizes the unique electromagnetic resonance characteristics of optical data storage devices as an additional mechanism for information protection and authentication.

A brief description of the proposed innovative technologies is presented below:

Innovative Products Based on Electromagnetic Resonance Identification Technology

The first proposed innovation is a micro-resonance sensor designed for integration into the spindle assembly of optical data reading and recording devices.

The product consists of a miniature resonance sensor incorporating numerous possible topological configurations of highly sensitive nanoscale detectors, with considerable flexibility in both detector arrangement and detector quantity. The sensor is installed within the receiving unit of the spindle assembly of an optical storage drive and is integrated with dedicated software responsible for interpreting signals generated by the detectors. Following successful identification, the software authorizes operation of the optical drive; if proper identification cannot be established, access to the drive is automatically blocked. Reliable operation requires precise correspondence between the spatial coordinates of the nanoscale detectors within the sensor and the coordinates of the na-

noscale coding implants incorporated into the optical storage medium.

The principal advantages of the proposed technology include:

- exceptionally high measurement accuracy;
- simple and reliable mechanical design;
- long operational lifetime;
- completely non-contact measurement;
- compatibility with existing optical storage architectures as well as future-generation optical memory systems, including terabyte-capacity optical media;
- construction entirely from standard industrial components, resulting in high reliability, low manufacturing costs, and production without specialized fabrication equipment;
- compatibility of detector manufacturing with conventional semiconductor production technologies;
- extremely low power consumption, requiring only a few milliwatts for sensor operation;
- capability of recognizing virtually any nanoscale implant topology;
- capability of identifying ultra-pure materials and distinguishing materials differing at the isotopic level;
- suitability for integration into automated control systems extending beyond optical storage technologies; and
- exceptionally high sensitivity capable of detecting signals generated by ferromagnetic nanopowders even when the total material volume does not exceed approximately **100 cubic nanometers**, while maintaining stable autonomous operation under external electromagnetic interference.

A second proposed innovation is an **optical storage medium incorporating coding information generated by nanoscale magnetic implants**.

The product consists of a conventional optical storage disc in which nanoscale magnetic capsules enclosed within non-magnetic shells are embedded according to a predetermined topological pattern at a specified depth inside the storage medium. Prior to bonding the two halves of the optical disc, microscopic recesses corresponding to the

dimensions of the magnetic nanocapsules are formed within the substrate. The capsules are subsequently positioned inside these recesses before final assembly using conventional optical disc manufacturing technology.

Such optical media remain compatible with standard optical drives whenever information is recorded without employing the resonance coding procedure. However, when data are encoded using the proposed resonance identification technology, the stored information can be accessed only by optical drives equipped with the corresponding micro-resonance sensor, provided that the spatial coordinates of the embedded nanoscale implants exactly correspond to the coordinates of the sensor's nanoscale detectors.

This approach enables large corporate organizations to establish proprietary optical storage infrastructures consisting of customized optical drives installed throughout their computer systems together with uniquely coded optical media containing organization-specific implant topologies. Under these conditions, unauthorized reading of confidential information becomes impossible without possession of the corresponding resonance-identification hardware, thereby providing an additional physical layer of information security against unauthorized access, theft, duplication, or other malicious activities.

The ability to develop this integrated technological solution within a comparatively short period became possible through the continuous professional retraining methodology applied throughout the project. This methodology was developed by Malyeryk Khrystyna and emphasizes systematic innovation education, interdisciplinary engineering training, and practical integration of modern technological approaches.

Legislative Limitations and the Efficiency of the Innovation Process

Recent international competitiveness assessments once again demonstrate the changing balance among the world's leading economies.

While **Hong Kong** retained first place, the **United States**, which had previously shared the leading position, ranked slightly lower, followed by **Switzerland**, which ad-

vanced significantly compared with previous years. The world's ten most competitive economies also included **Singapore, Sweden, Canada, Taiwan, Norway, Germany, and Qatar**.

According to the **IMD World Competitiveness Center**, despite numerous economic and political challenges, the United States continues to occupy a central position in the global economy because of the exceptional dynamism of its companies and their strong capacity for innovation.

The Center further emphasized that the competitiveness of the United States exerts a substantial influence on virtually every developed and emerging economy, creating a unique global innovation environment that currently has no comparable equivalent elsewhere.

The IMD competitiveness evaluation is based on **329 separate indicators** covering national economic performance, government efficiency, business efficiency, and infrastructure development.

In continuation of these observations, we believe that greater attention devoted to integrative methodologies for retraining innovation specialists, combined with other strategic development factors, may further accelerate the competitiveness of the world's leading economies.

In our opinion, the integrative educational and methodological developments created by Malyeryk Khrystyna can make a meaningful contribution to this process.

Moreover, such educational methodologies may also accelerate progress in fundamental scientific research.

One representative example concerns the first successful experimental confirmation of the **ergodic theorem**, one of the fundamental principles describing the behavior of dynamic systems.

Dynamic systems evolve over time, and in ergodic systems the statistical behavior of individual particles corresponds to that of the entire system. Consequently, repeated measurements of a single particle produce the same statistical characteristics as measurements performed on the complete ensemble.

For many years, direct experimental verification remained impossible because measurements of individual particles required highly diluted suspensions with slow particle

motion, whereas measurements of complete systems required dense particle populations moving at considerably higher velocities.

Researchers eventually overcame these limitations by constructing an experimental system based on nanoporous materials containing channels only a few nanometers in diameter. Fluorescent dye molecules dispersed within an alcohol solution served as experimental particles, allowing individual molecules to be tracked with exceptionally high positional accuracy while simultaneously enabling characterization of the complete molecular ensemble.

The experimental results demonstrated that measurements performed on individual molecules and on the complete system produced statistically identical results, thereby providing direct experimental confirmation of the ergodic theorem.

Because these investigations involve emulsions – and particularly nanoscale emulsions – their results are of considerable technological importance. Reports describing these experiments immediately stimulated the development of new engineering concepts that were subsequently tested in leading research laboratories.

Since the authors of the present publication participated directly in these developments, we believe there are substantial grounds to conclude that the methodological framework developed by Malyeryk Khrystyna enabled an immediate technological response to significant advances in fundamental scientific research, thereby facilitating rapid transformation of scientific discoveries into practical engineering innovations.

Integrating the Algorithm of Inventive Problem Solving (ARIZ) with Contemporary Commercialization Theories

The Theory of Inventive Problem Solving (TRIZ) and all subsequently developed versions of the Algorithm of Inventive Problem Solving (ARIZ) were created during a historical period and within an economic environment in which the commercialization of innovative technologies received relatively little attention. Indeed, during the formative years of TRIZ and ARIZ, commercialization issues were deliberately subordinated to the

development of purely technological solutions, largely isolated from the realities of market economics and, in many cases, from the practical demands of society.

As a consequence of this historically limited approach to innovation management, many inventors educated within the classical TRIZ and ARIZ framework became exceptionally skilled at generating technical solutions while remaining insufficiently prepared for the competitive realities of modern market economies. They possess outstanding engineering creativity and enthusiasm for invention, yet frequently lack the entrepreneurial knowledge and commercialization strategies necessary to obtain appropriate financial returns for their intellectual achievements.

Consequently, one of the most important stages of any innovation process is the preliminary evaluation of whether commercialization should be initiated at all, together with a systematic assessment of the alternative development scenarios that may arise during subsequent market implementation.

To facilitate such decision-making, we propose the application of a structured evaluation methodology based on an Innovation Assessment Scorecard comprising 44 evaluation criteria. This assessment framework enables a comprehensive examination of the commercial, technological, organizational, and strategic characteristics of an emerging innovative concept.

The complete assessment form is presented in Appendix IV. Individual scores may be calculated manually or implemented in spreadsheet software such as Microsoft Excel, where automatic formulas can be used to determine the overall innovation potential. Each evaluation criterion is assigned a numerical score reflecting its contribution to the overall commercialization prospects of the project.

Innovation Assessment Criteria

1. Urgent unmet market need
2. Clearly explainable uniqueness
3. Sustainable differentiation
4. Readiness for immediate demonstration
5. Favorable competitive environment
6. Unfavorable competitive environment
7. Attractive pricing strategy
8. Customers willing to purchase a product before its market launch

9. Strength of evidence supporting market demand
 10. Ability to stay ahead of the market
 11. Ambush strategy
 12. Presence within a “hot” market
 13. Confidence and willingness to accept risk
 14. Commitment to fulfilling obligations
 15. Business resilience
 16. Passion and motivation
 17. Management competence
 18. Integrity and reliability
 19. Ethical foundation for long-term success
 20. Attractiveness to strategic advocates and lobbyists
 21. Availability of immediate cash flow
 22. Revenue exceeding operating costs
 23. Competitive advantages of the delivery system
 24. Availability of required resources
 25. Market leadership and competitive dominance
 26. Market penetration strategy
 27. Crossing-the-chasm strategy
 28. Intellectual property protection
 29. Partnership potential
 30. Appropriate selection of business location
 31. Quality of the contingency plan
 32. Unearned strategic advantages
 33. Capital requirement management
 34. Availability of initial operating capital
 35. Visible investment capital
 36. High potential enterprise value
 37. Predictability of expected results
 38. Critical taboos and unacceptable risks
 39. Project “show-stoppers”
 40. Ostrich syndrome (avoidance of critical problems)
 41. Access to highly influential professional networks
 42. A compelling and persuasive innovation narrative
 43. Relationships with governmental and regulatory institutions
 44. Path of least resistance (“low-hanging fruit”)
- We believe that the continued development of the educational and methodological framework proposed by Malyeryk Khrystyna, together with its systematic integration into contemporary versions of TRIZ and ARIZ, has the potential to produce a substantial increase in the effectiveness of innovation management and technology commercialization.*
- Such integration would extend the traditional engineering capabilities of classical TRIZ beyond technical problem solving by incorporating strategic business planning, commercialization methodology, innovation economics, intellectual property management, and entrepreneurial decision-making. As a result, future innovation specialists would be equipped not only to create technologically advanced inventions but also to transform those inventions into commercially successful products capable of generating sustainable economic value.

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