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Managerial aspects of implementing innovations in the business processes of beauty salons (using the example of the author's methodology "Rays" as a systemic innovative approach in modern coloristics)

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Abstract: The modern beauty industry is in a phase of profound transformation caused by the need to integrate technological innovations into the business processes of service-sector enterprises. In the context of beauty industry management, the issue of developing, implementing, and scaling innovative methodologies that provide competitive advantages through improving service quality, optimizing production processes, and creating unique value for clients becomes particularly important. The article presents the author's methodology "Rays" as an example of a successful managerial innovation that combines technical, organizational, and educational components into a single service quality management system.

The "Rays" methodology standardizes business processes in salons, reducing operational risks, increases the predictability of results, and ensures a high quality of services. The innovativeness of the approach lies in rethinking traditional production operations through the prism of managerial efficiency: the radial principle of head sectioning optimizes the use of materials and working time, the concept of low oxidants

(Low-Oxide Strategy) reduces risks to clients' health and the enterprise's liability, and systematic molecular care forms additional service value and increases consumer loyalty.

The methodology demonstrates special managerial value in the field of professional education and staff development. A structured training approach based on analytical thinking instead of mechanical copying ensures faster adaptation of new employees, reduces dependence on the individual skills of specific masters, and creates a scalable model of knowledge transfer. Such actions are critically important for enterprises that seek network expansion or franchising. The article considers the "Rays" methodology as a case of successful transformation of empirical experience into a structured knowledge management system, analyzes its impact on key performance indicators of salon business efficiency, and outlines prospects for implementing similar innovations in the broader sphere of managing enterprises in the beauty industry.

Keywords: innovation management, beauty industry business processes, service standardization, quality management, staff development, competitive advantages, "Rays" methodology, salon business management, organizational innovations, knowledge management.

Управлінські аспекти впровадження інновацій у бізнес-процеси салонів краси (на прикладі авторської методики «Промені» як системного інноваційного підходу в сучасній колористиці)

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Анотація: Сучасна індустрія краси перебуває у фазі глибокої трансформації, зумовленої необхідністю інтеграції технологічних інновацій у бізнес-процеси підприємств сфери послуг. У контексті менеджменту beauty-індустрії особливого значення набуває питання розробки, впровадження та масштабування інноваційних методик, які забезпечують конкурентні переваги через підвищення якості послуг, оптимізацію виробничих процесів та формування унікальної цінності для клієнтів. Стаття презентує авторську методику «Промені» як приклад успішної управлінської інновації, що поєднує технічні, організаційні та освітні компоненти у єдиній системі управління якістю послуг.

Методика «Промені» стандартизує бізнес-процеси у салонах, зменшуючи операційні ризики, підвищує передбачуваності результатів та забезпечує високу якості послуг. Інноваційність підходу полягає у переосмисленні традиційних виробничих операцій через призму управлінської ефективності: радіальний принцип поділу голови оптимізує використання матеріалів та робочого часу, концепція низьких окисників (Low-Oxide Strategy) знижує ризики для здоров'я клієнтів та відповідальність підприємства, а системний молекулярний догляд формує додаткову цінність послуги та підвищує лояльність споживачів.

Особливу управлінську цінність методика демонструє у сфері професійної освіти та розвитку персоналу. Структурований підхід до навчання, заснований на аналітичному мисленні замість механічного копіювання, забезпечує швидшу адаптацію нових співробітників, зменшує залежність від індивідуальних навичок окремих майстрів та створює масштабовану модель передачі знань. Такі дії критично важливі для підприємств, що прагнуть до розширення мережі або франчайзингу. Стаття розглядає методику «Промені» як кейс успішної трансформації емпіричного досвіду у структуровану систему управління знаннями, аналізує її вплив на ключові показники ефективності салонного бізнесу та окреслює перспективи впровадження подібних інновацій у broader сфері управління підприємствами індустрії краси.

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Ключові слова: управління інноваціями, бізнес-процеси beauty-індустрії, стандартизація послуг, управління якістю, розвиток персоналу, конкурентні переваги, методика «Промені», менеджмент салонного бізнесу, організаційні інновації, управління знаннями.

Problem statement. The modern industry of hairdressing artistry and coloristics is entering a phase of accelerated transformation, which is defined by technological innovations and the growing demands of clients for quality, safety, and stability of results. Beauty salon management increasingly faces the need to integrate new approaches into production and service processes in such a way that improving the level of service is combined with cost optimization, controllability of operations, and risk reduction.

In professional practice of colorists, one of the most widespread problems remains an uneven lightening background, which arises as a result of incorrect head-sectioning geometry, aggressive chemical load, and lack of systematic analysis during the procedure. The presence of such technical complications causes managerial consequences, in particular an increase in the level of client dissatisfaction, growth in the number of corrective visits, reputational losses of the enterprise, and a decrease in operational profitability due to additional expenditures of time and material resources.

The author's methodology "Rays" was developed as a response to systemic challenges of modern coloristics. Its creation is based on many years of practical experience, analysis of errors of classical coloring techniques, and the search for ways to optimize production processes. From a managerial perspective, the methodology represents an innovative business model that integrates technical improvements with organizational changes and educational programs, creating a comprehensive service quality management system.

Analysis of recent research and publications. Analysis of scientific publications indicates a growing attention to the innovative development of service-sector enterprises under conditions of market transformation and changes in consumer

expectations. Research focuses on managerial innovations, standardization of business processes, digitalization, and staff development as factors of improving service quality in the beauty industry.

In the study by Honchar O. I. and Berdychevskyi A. V., the features of innovative development of service-sector enterprises under conditions of economic transformation are disclosed [1]. The authors analyze the role of managerial innovations, organizational changes, and implementation of new technologies in improving service quality and efficiency of business processes. Significant attention is paid to issues of standardization and optimization of service activities in beauty salons.

The issues of the current state and prospects of functioning of beauty salons in Ukraine are highlighted in the works of Levchuk Ya. M. et al. [2]. The paper examines the influence of innovative approaches, digital technologies, and professional staff training on the development of the salon business. Organizational factors of improving service quality in the beauty industry are highlighted separately.

Issues of adaptation of service-sector enterprises of Ukraine to new conditions of functioning of the world economy are studied by Hunko B. et al. [3]. The researchers focus attention on the implementation of innovations, transformation of business models, and managerial decisions as key mechanisms for increasing enterprise resilience. The article considers the role of organizational changes in ensuring the efficiency of service companies.

The features of sales management in the service sector, taking into account the intangible nature of services, are analyzed by Ivanechko N. R. and Okonskyi M. V. [4]. The authors study instruments for increasing sales efficiency through standardization of processes, management of interaction with clients, and enhancement of professional competence of staff. Particular attention is paid to the relationship between organization of service processes and financial results of enterprises.

Scientific research in the field of professional coloristics covers a wide range of issues related to training of specialists, development of creative and technological coloring techniques, as well as safety and medico-biological aspects of the impact of

coloring procedures on hair and human health. The scientific discourse combines pedagogical, artistic, technological, and entrepreneurial approaches, reflecting the complex interdisciplinary nature of modern coloristics. At the same time, interest is growing in systematization of author's methodologies and scientifically substantiated solutions aimed at improving the quality and safety of professional services.

The issue of coloristics training of future hairdressing specialists in the context of professional education is considered in the study by Hetman O. P. [5]. The article analyzes the content, methods, and didactic conditions of forming coloristic competencies necessary for high-quality performance of complex technological operations. The work emphasizes the importance of a systemic approach and analytical thinking in training of masters.

Creative coloristic techniques as a component of modern hairdressing design are analyzed by Savitska O. V. [6]. The artistic, technological, and compositional aspects of applying complex coloring techniques and their influence on the aesthetic result are considered and analyzed. The study emphasizes the combination of technical mastery and creative approach in professional coloristics.

An innovative personalized business model in the field of hair restoration is considered by Romaniuk M. [7]. The study analyzes the role of author's methodologies and systematization of professional experience in forming competitive advantages. Particular attention is paid to entrepreneurial aspects of the functioning of service businesses in the beauty industry.

The features of color types in hairstyle design as a factor of forming a harmonious image are disclosed in the work of Savitska O. V. [8]. The relationship between natural characteristics of appearance, choice of color solutions, and visual perception of hairstyle is studied. The work highlights the importance of a systemic approach to color selection in hairdressing practice.

Problems of hair coloring safety and potential risks to human health are studied in the works of He L. et al. [9]. The authors analyze toxicological properties of the main chemical ingredients of coloring products and mechanisms of their impact on the

organism. The work emphasizes the importance of controlling concentrations and safe technological approaches.

Modern scientific developments regarding the use of natural plant dyes in coloristics are summarized by Cui H. et al. [10]. The authors study properties of natural pigments, technological features of their application, and potential advantages compared to synthetic dyes. The research emphasizes ecological and safety aspects of hair coloring.

Studies devoted to the structure, physicochemical, and mechanical properties of human hair form the scientific foundation of modern professional coloristics. In the works of Robbins C. R. [11], Feughelman M. [12], Swift J. A., Smith J. R. [13], the structure of hair, properties of keratin fibers, and mechanisms of the influence of chemical and mechanical loads on the cuticle and cortex are disclosed. The authors prove that the nature of lightening and strand tension directly influence the level of damage to hair structure, which is fundamentally important for building controlled coloring technologies.

A separate body of scientific works is focused on hair damage resulting from lightening and coloring. Studies by Velasco M. V. R. [14], Wortmann F. J. [15], Kamath Y K. [16], Wickett R. R. [17], Barel A. O. [18] demonstrate the dependence of the degree of structural changes on oxidant concentration, duration of exposure, and geometry of product application. Considerable attention in scientific literature is devoted to cosmetic products, restorative technologies, and molecular hair care. In the works of Dias M. F. [19], Ruetsch S. B. [20], Rele A. S. [21], the mechanisms of penetration of active ingredients into the hair fiber and their role in stabilization of the structure after chemical exposure are analyzed.

Issues of safety of cosmetic procedures and dermatological consequences of coloring are covered in the works of Draelos Z. D. [22], Trueb R. M. [23]. The authors analyze risks associated with chemical interventions and emphasize the necessity of taking into account physiological characteristics of hair and scalp when choosing coloring technologies. These studies emphasize the importance of a systemic approach

that combines technical efficiency with client safety.

Identification of previously unresolved parts of the general problem. Existing scientific studies sufficiently cover general issues of innovative development of service-sector enterprises, staff training, and the physicochemical foundations of the structure and damage of hair during coloring. At the same time, scientific literature presents a limited number of works in which technical solutions of professional coloristics are considered as an element of an integrated system of quality management, safety, and standardization of salon business processes.

Insufficiently studied remain the issues of the influence of head-sectioning geometry and spatial organization of coloring on predictability of results, level of operational risks, and economic efficiency of salons. The integration of strategies for reducing oxidant concentrations and molecular care as mandatory components of the service standard, rather than separate technological techniques, is also insufficiently researched. The combination of these aspects determines the need for a comprehensive scientific analysis of methodologies capable of combining technical precision, procedural safety, and managerial efficiency of salon business.

Formulation of the objectives of the article (task statement). The purpose of the article is scientific and analytical substantiation of the author's methodology "Rays" as a systemic innovative approach to organizing business processes in modern coloristics and determining its managerial potential in the context of improving service quality and competitiveness of beauty salons.

Within the framework of the study, the following tasks are set: to analyze the structural elements of the methodology, to reveal the mechanisms of its influence on standardization and predictability of coloring results, and to assess the possibilities of integrating radial head-sectioning geometry, the Low-Oxide Strategy concept, and systematic molecular care into salon management practice. Particular attention is focused on defining the role of the methodology in staff development, risk management, and formation of scalable models of knowledge transfer in the beauty industry.

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Presentation of the main research material. The key distinction of the “Rays” methodology is the rejection of linear head sectioning, which dominates traditional techniques. Linear horizontal and vertical partings, widely used in classical coloring, create unnatural angles of hair tension and lead to uneven distribution of the product. From an organizational point of view, this means unpredictability of results, dependence on individual skills of the master, and difficulty in standardizing the procedure, which complicates business scaling and staff training.

The “Rays” methodology is based on the radial principle of head sectioning, which corresponds to the natural anatomy of hair growth from central points, in particular from the apex or crown. Radial partings form triangular sectors within which strands are tensioned in the direction of their natural fall. Such organization of sectioning contributes to uniform distribution of the coloring mixture along the entire length of the hair, prevents formation of overlapping zones, and ensures stability of results when working with large volumes of hair. The managerial value of this approach lies in standardization of the procedure: the method can be clearly described, documented, and transferred through training programs, which is critically important for the development of network structures and franchising.

From a physical point of view, radial sectioning significantly affects the distribution of the coloring mixture. When a strand is tensioned in the direction of its natural fall, the thickness of the product layer remains stable along the entire length. In classical schemes, linear sectioning creates conflict points where hair from different areas intersects at acute angles. Such actions lead to local thickening or, conversely, thinning of the product layer. As a result, uneven lightening occurs. Managerial consequences include reduction of material costs, shortening of procedure time, and increased predictability of financial results of each service.

An equally important aspect of the methodology is rethinking the approach to chemical lightening. In traditional practice, oxidants of high concentration (9% or 12%) are often used to achieve high levels of lightening. The use of such agents allows faster achievement of the desired effect but has two significant disadvantages: first,

high oxidants aggressively affect hair structure, reducing its strength, elasticity, and aesthetic characteristics; second, they increase the probability of scalp damage, which raises legal and reputational risks for the enterprise.

Within the framework of the “Rays” methodology, the concept of the Low-Oxide Strategy was introduced, which involves the use of low oxidant concentrations in combination with precise sectioning geometry and step-by-step control of the lightening background. Due to optimization of product distribution, there is no need to compensate unevenness by increasing oxidant concentration, which ensures softer and safer lightening with lower risks to client health. The Low-Oxide Strategy integrates risk management directly into the production process, reducing potential losses from client claims and increasing trust in the enterprise brand.

A special role in the “Rays” methodology is played by work with the lightening background as an independent object of analysis. Unlike common practice, where undesirable shades are neutralized by adding color corrections or toning pigments, the “Rays” methodology directs the master to analyze the causes of a specific background appearance and eliminate these causes at the lightening stage. This logic fundamentally changes the way of professional thinking: instead of a reactive approach (“an undesirable shade appeared – add a corrective pigment”), a proactive strategy is formed (“which geometry and which oxidant concentration will ensure the required background from the first attempt”).

As a result, the “Rays” methodology forms a new paradigm of professional coloring in which the master ceases to be an executor of template actions and becomes an analyst of the process. Such an approach increases the technical level and has important managerial consequences. First, employees become more autonomous, reducing the need for constant control. Second, a culture of continuous improvement is formed, in which each master is able to analyze their own actions and independently improve the quality of work. Third, opportunities arise for knowledge exchange within the team, which increases the overall qualification level of staff without additional investments in external training.

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For correct understanding of any professional coloring methodology, it is necessary to consider hair not as a decorative material but as a complex biological structure that reacts to external chemical and mechanical influences in a predictable manner. Hair structure consists of three main layers: the cuticle (the outer protective оболонка), the cortex (the main layer containing pigment and determining hair strength), and the medulla (a central canal present not in all hair types).

The hair cuticle is the first barrier between the coloring mixture and the internal layers of the hair fiber; it consists of keratin scales that overlap one another like roof tiles. In a healthy state, these scales fit tightly, forming a smooth, shiny surface. During coloring, the cuticle partially opens, allowing chemical agents to penetrate the cortex. Excessive exposure or mechanical load leads to cuticle damage – the scales lift and break off, creating a rough surface through which hair loses moisture and becomes brittle.

The “Rays” methodology takes this aspect into account through a combination of precise sectioning geometry, controlled strand tension, and the use of gentler chemical formulas. When a strand is tensioned in the direction of its natural fall, mechanical stress on the hair structure is reduced. Reduction of such load minimizes the risk of cuticle damage even under conditions of active chemical exposure.

The cortex, which constitutes the main mass of the hair fiber, is the key zone from the perspective of coloristics. It is here that natural pigment – melanin – is concentrated, as well as structural proteins responsible for hair strength, elasticity, and overall condition. The chemical lightening process is based on oxidation of melanin and its partial removal from the cortex. During this process, disulfide bonds in keratin may also be partially destroyed, leading to loss of strength.

In classical coloring schemes, the main emphasis is placed on the speed of achieving the desired level of lightness, which is often accompanied by the use of high oxidant concentrations that aggressively destroy not only pigment but also structural proteins of the cortex. The result is rapid achievement of the desired color at the cost of a significant reduction in hair quality.

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The “Rays” methodology proposes an alternative approach based on gradual and predictable lightening. Due to radial sectioning and uniform distribution of the coloring mixture, the need for high oxidant concentrations is reduced. The Low-Oxide Strategy allows achievement of the required level of lightness over several sessions while preserving the structural integrity of the cortex, which is especially important for clients with thin or previously damaged hair, where aggressive lightening can lead to irreversible consequences.

In modern coloristics, most technical errors arise not from incorrect selection of dye or oxidant but from the absence of a systemic approach to spatial distribution of hair during coloring. Traditional schemes based on linear horizontal and vertical partings do not take into account anatomical features of the head and the natural direction of hair growth. As a result, conflict zones are formed where strands from different sectors intersect, creating uneven product distribution and, consequently, uneven lightening background.

The “Rays” methodology proposes a fundamentally different logic – radial organization of the head space, which reproduces the natural geometry of hair growth. The central point (apex) becomes the reference coordinate from which triangular sectors are formed in all directions. Each sector corresponds to one “ray” diverging from the center. Within one ray, all strands are tensioned parallel to each other, without cross-interference with other zones. Such geometry minimizes mechanical stress on hair, ensures uniform product application, and forms a predictable, controlled result.

From a scientific point of view, this methodology is an example of applying principles of biomechanics and spatial optimization in cosmetic procedures. When a strand is tensioned according to its “ray,” the nature of interaction between hair and coloring mixture changes. The thickness of the product layer remains constant, allowing chemical processes to proceed uniformly along the entire length. This condition is critically important for complex techniques such as balayage, AirTouch, or baby-lights, where local unevenness can destroy the aesthetic effect.

The “Rays” methodology is especially relevant when working with complex

lightening techniques such as AirTouch, balayage, baby-lights, and combined touch-up coloring. In classical schemes, these techniques often require a high level of intuition and many years of experience for correct execution. The “Rays” methodology structures the process so that even complex multi-level coloring becomes logical and predictable. The master clearly understands which area is being processed at a given moment, how it interacts with other zones, and what the final result will be.

An important aspect is that the “Rays” methodology significantly reduces the risk of local oversaturation with lightening product. In linear schemes, certain areas of the head – particularly transition zones between the parietal and occipital regions – often receive a double dose of chemical exposure due to sector overlap, leading to excessive lightening, structural damage, and the appearance of unwanted warm shades. Radial geometry eliminates such conflicts because each area has a clearly defined ray and does not intersect with other zones.

The role of molecular care as an integral part of modern coloring techniques. In the context of modern professional coloristics, the coloring process cannot be considered in isolation from subsequent restoration of hair structure. Any chemical intervention, including lightening and toning, inevitably leads to disruption of molecular bonds in the keratin matrix of hair. Even the most delicate techniques cause microdamage that, without proper correction, accumulates and later manifests as reduced strength, loss of elasticity, dullness, and brittleness. From a managerial perspective, this means that without integration of restorative procedures into the standard service package, an enterprise risks receiving negative client feedback and losing competitive positions.

The author’s “Rays” methodology is oriented toward optimization of the coloring process and provides for integration of systematic molecular care as a mandatory stage of hair treatment. This approach forms a significant difference from classical models in which restorative procedures are treated as an optional add-on left to the client’s discretion. Within the “Rays” methodology, molecular care is integrated into the technological cycle and aimed at ensuring the aesthetic result and preserving

long-term hair quality after chemical exposure. From a business perspective, this creates an additional revenue stream, increases the average check, and builds client loyalty through demonstration of care for their health.

Molecular restorative procedures act by restoring or replacing damaged internal bonds in the cortex, stabilizing the keratin matrix, and increasing hair elasticity. Scientific studies confirm that systematic use of molecular systems is capable of restoring the structure of even severely damaged hair, ensuring strength, elasticity, and a healthy appearance. Satisfied clients become brand ambassadors, influencing reputation and serving as a source of organic marketing through recommendations.

One of the key advantages of the “Rays” methodology is its high didactic value, which combines demonstration of effective methods for performing complex coloring with formation of systemic professional thinking in masters. Training according to this methodology is based on understanding the principles underlying each action rather than mechanical copying of individual schemes. Masters learn to analyze head anatomy, determine optimal sectioning points, and predict the behavior of the coloring product depending on hair type and application conditions. Acquisition of such competencies contributes to the formation of professional autonomy and the ability to make decisions in non-standard situations, which is critically important for increasing the operational efficiency of a salon.

Practical implementation of the methodology in salon activity demonstrates its universal character. Adaptability to different hair types, levels of master preparation, and brands of professional cosmetics ensures the possibility of using the methodology as a tool for standardizing processes in salons with a large number of employees or in network structures where there is a need to maintain unified service quality standards across different locations. From a managerial perspective, the ability to document and reproduce the methodology is a key factor of business scalability.

From the point of view of salon business efficiency, use of the “Rays” methodology positively affects service quality, reduces the number of complaints, and increases the level of client trust. Stability of results allows formation of a predictable

reputation, which is the basis for long-term relationships with the client base. In addition, the methodology contributes to an increase in the average check through integration of additional services (molecular care) and reduction of time spent on corrections, which increases salon throughput and overall profitability.

The “Rays” methodology opens wide opportunities for further scientific research and managerial innovations. Promising directions include quantitative assessment of the impact of radial sectioning geometry on the degree of hair damage, analysis of the economic efficiency of the Low-Oxide Strategy compared to traditional approaches, and study of long-term effects of systematic molecular care. Particularly relevant is research on the impact of the methodology on key performance indicators of salons: average check, client retention rate, number of complaints, and productivity of masters.

In addition, the methodology has potential for integration into interdisciplinary research combining cosmetology, materials science, and biochemistry. Considering hair as a biological material with clearly defined properties allows involvement of methods traditionally used in materials science, including microscopy, spectral analysis, and mechanical testing. Application of such approaches opens the way to formation of new quality standards in the beauty industry based on measurable and reproducible indicators, increases consumer trust, and creates prerequisites for regulatory changes at the level of industry standards.

Conclusions. The “Rays” methodology is a comprehensive managerial innovation that changes approaches to organizing salon business through integration of technical improvements, organizational changes, and educational programs. From the standpoint of management, it demonstrates how empirical knowledge can be transformed into a structured system suitable for scaling and standardization. The main advantages of the methodology include increased predictability of results, reduction of operational risks, optimization of resource use, formation of competitive advantages through service quality, and the possibility of effective staff training.

Integration of radial sectioning geometry, the Low-Oxide Strategy concept, and mandatory molecular care forms a new standard of professional work that meets

modern requirements of the beauty industry. Implementation of such an approach increases the technical quality of procedures and simultaneously creates additional value for clients through systematic care for hair health, which acts as an important factor in forming loyalty and long-term relationships. From the point of view of strategic management, this methodology is an example of successful market differentiation.

The “Rays” methodology has significant potential for further development, scaling, and scientific comprehension, as it can serve as a basis for creating new educational programs, industry standards, and professional certifications, contributing to raising the overall level of service quality in the beauty industry. Prospects for implementation of similar innovations go beyond individual salons and concern formation of a new managerial culture oriented toward systematization, analytical thinking, and continuous process improvement. In the long term, this can transform the beauty industry from a craft-based field into a high-technology sector with clear standards, measurable performance indicators, and scientifically grounded practices.

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