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PERCEPTION OF CHANGE IN OPTIMISATION ASPECTS

Abstract

When defining optimisation, special attention should be paid to its nature. This is because it is the process of maximising the efficiency, effectiveness or usefulness of something/someone. Its business context most often concerns production processes or human resource management. Hence, change, i.e. the fact that something/someone becomes different than before, is an inherent factor supporting improvement and the processes parantelleling it.

The aim of this article – against the background of relevant literature on issues related to defining and processes of implementing change in enterprises: books and academic articles, online sources – is to present the results of empirical research into the most significant determinants supporting the implementation of change in a manufacturing enterprise and employee attitudes in assessing the implementation of change, using a selected manufacturing enterprise as an example. In order to achieve the objective, two questionnaire surveys were conducted: $GI_{N=158}^{2022}$ and $GII_{N=137}^{2023}$ using a five-point Likert scale, a scrollable list and giving the opportunity to write an individual response.

To describe the research results obtained, mathematical analysis tools were used to construct tabular summaries and then present the conclusions drawn from them. The results of the survey indicated a gap in terms of motivating employees for change processes. An increase in positive attitudes towards the implementation of change (ratings: very good, good respectively) was observed at 3% and 13%. However, there was a general increase in the number of people who do not want to participate in polemics regarding change processes in optimisation aspects by 6%, what more: the statistics for the negative evaluation of the introduction of such changes showed a negative trend

The research provided valuable and practical information, which was used by company managers to take measures to increase the motivation of employees to perceive change processes and understand their optimising aspects in the managed company.

Key words: change, change implementation models, motivation, optimisation, optimisation models optimisation models.



POSTRZEGANIE ZMIANY W ASPEKTACH OPTYMALIZACYJNYCH

Streszczenie

Definiując optymalizację należy zwrócić szczególną uwagę na jej charakter. Jest to bowiem proces polegający na maksymalizacji wydajności, skuteczności lub użyteczności czegoś/kogoś. Jej kontekst biznesowy najczęściej dotyczy procesów produkcyjnych lub zarządzania zasobami ludzkimi. Stąd też zmiana, czyli fakt, iż coś/ktoś staje się inne niż dotychczas, stanowi nieodłączny czynnik wspierający doskonalenie i parantelne z nim procesy.

Celem artykułu – na tle wybranej literatury przedmiotu z zakresu zagadnień związanych z definiowaniem i procesami wdrażania zmian w przedsiębiorstwach: książek i artykułów naukowych oraz źródeł online – jest prezentacja wyników badań empirycznych w zakresie najistotniejszych determinant sprzyjających wdrażaniu zmian w przedsiębiorstwie produkcyjnym oraz postaw pracowniczych w zakresie oceny ich wdrażania, na przykładzie wybranego przedsiębiorstwa produkcyjnego. Chcąc zrealizować cel, przeprowadzono dwa badania ankietowe: $GI_{N=158}^{2022}$ i $GII_{N=137}^{2023}$ z zastosowaniem pięciostopniowej skali Likerta, listy rozwijanej oraz dając możliwość udzielenie odpowiedzi indywidualnej.

Do opisu uzyskanych wyników badań zastosowano narzędzia analizy matematycznej pozwalające na skonstruowanie zestawień tabelarycznych, a następnie prezentację wyciągniętych z nich wniosków. Wyniki badania wskazały na lukę w zakresie motywowania pracowników do procesów zmian. Zaobserwowano zwiększenie pozytywnego nastawienia do wdrażania zmian (odpowiednio oceny: bardzo dobrze, dobrze) na poziomie 3% i 13%. Jednakże zwiększyła się zasadniczo liczba osób, które nie chcą uczestniczyć w wewnętrznej polemice dotyczącej procesów zmian w aspektach optymalizacyjnych o 6%, przy czym statystyki wyników oceny negatywnej wprowadzania takich zmian wykazała tendencję ujemną.

Przeprowadzając badania uzyskano cenne i praktyczne informacje, które zostały spożytkowane przez zarządzających przedsiębiorstwem do podjęcia działań mających na celu zwiększenie motywacji pracowników do postrzegania procesów zmian i zrozumienia ich optymalizacyjnych aspektów w zarządzanym przedsiębiorstwie.

Słowa kluczowe: zmiana, modele wdrażania zmian, motywacja, optymalizacja, modele optymalizacyjne.

Introduction

The concept of change and its multifaceted nature is widely described in the relevant literature. However, the multiplicity of definitions of this concept and the broad management aspects associated with it are still the subject of scientific discourse. This is because the creation of an effective model can mean the optimisation of economic activities, which in turn can contribute to the development of both individual economic agents and the entire regions in which they

are embedded, the countries in which they are registered and the economic-geographical regions in which and with which they cooperate.

Most often, regardless of the literature source, the change management process consists of implementing different principles, methods, proposing different solutions to those that have been in place up to now, which are intended to bring about a measurable and specifically defined objective – an outcome that should favour evolution. This development is seen through the prism of the subjective needs of each defining individual. From the individual to the family. From the elementary organisational unit to complete work teams and coherent enterprises.

Change, despite the mental objections related to the fear of the new, is also one of the inherent parts of life – both human and organisational. It does not depend on the size, budget or nature of the entity, but is forced by development. It should be emphasised that it is always taking place and differs in its nature (revolutionary or evolutionary), pace or type of transformation. Therefore, its skilful management should determine its success.

The reasons for change are also important. However, external factors are among the most common. They may be economic, political, legislative, but also the competitiveness of the economic environment. Internal factors are also not insignificant, with changes being conditioned by individual challenges in terms of processes, structures or people employed. Some of these can be anticipated and remedied. Change is then introduced before the need for implementation arises. However, a turbulent economic environment brings with it the increasing introduction of countermeasures during crises, which emphasises the importance of the effectiveness of implemented change.

The nature of effective change processes is long-term, multi-stage, often complex and should, for efficiency, take place in a continuous process. Much for the process itself means perceiving the need to implement change. This is followed by planning and timing in order to achieve a specific, measurable goal.

Selected definitions of change in addition to the dictionary interpretation were proposed in their scientific reflections by N. Nogaliski or M. Bartincki. Also noteworthy is the approach of J. Skalski or G. Nizard. Hence the importance of any publication on reflections and compilations presenting the evolution of an issue inherent in all processes and in all aspects of change. Particularly taking into consideration the sharing of empirics in this area. The article presents selected criteria of change and its types. Key definitions for the development of the concept and the evolution of the perception of the issue are presented, describing selected models for implementing change. Starting with Taylor's followers and Le Chatelier's operational cycle supporting effective change implementation to R.W. Griffin's adaptive model theories as well as J. P. Kotter's 7 steps concept, indicating a paradigm shift from rational to emotional man.

The research objective of this article is to present the results of an analysis of the change management project in terms of the most significant determinants supporting the implementation of change in a manufacturing enterprise and employee attitudes in assessing the implementation of change. Hence, against the background of the review of the relevant literature, the results of the own research on the perception of change as an element supporting optimisation processes are presented, indicating the determinants of change implementation as well as the factors of unwillingness to implement changes on the example of the selected enterprise of the study.

1. Materials and Methods

The article presents a review of the theory of issues related to (1) definitions of change found in the relevant literature, indicates (2) directions in which science has evolved in this area, and (3) presents selected models of implementing change in an enterprise. Then – against their background – the results of the own research on the most significant determinants supporting the implementation of change in a manufacturing enterprise and employee attitudes in assessing the implementation of change are presented. The survey was conducted in October 2022 and again in March 2023 in a manufacturing company. Permission was not obtained to publish more information as to the identity of the sub-mioite under study. The survey had broader optimisation aspects, however, data presented in the article closely related to the topic of the article. A five-point Likert scale was used for the closed questions in the surveys. Some of the questions included in the survey – particularly in the area of motives for perceiving change – included a list of answers from which respondents selected the most relevant to their situation, experience and perception. Respondents were also given the opportunity to give their own individual reasons, of which the three with the most significant contribution to the survey are presented in the article.

The research groups were described as:

- Group I: $GI_{N=158}^{2022}$ (survey performed in October 2022)
- Group II: $GII_{N=137}^{2023}$ (survey performed in March 2023).

It should be noted that the survey was entered respectively: $GI_N^{2022} = 32.31\%$ and $GII_N^{2023} = 28.02\%$ from $GI^{2022} = GI_N^{2023} = 489$ eligible employees, who were given the opportunity to take their own position on the change processes being implemented in the company. The questionnaire was also distributed to employees at each production level of the organisation.

The problems of the article are presented against the background of the literature on the most significant determinants supporting the implementation of changes in a manufacturing enterprise and employee attitudes in assessing the implementation of changes, academic books and articles, online sources, and the results of empirical research. To describe the research results obtained, mathematical analysis tools were used to construct summaries and create the

conclusions presented in the article. Methods of calculating shares were used to be able to indicate trends and tendencies in order to define the most relevant conclusions from the observation of employee team behaviour and attitudes.

2. Discussion

2.1 Selected Definitions And Theories Of Change

There is a noticeable multiplicity of definitions of change in the relevant literature and a wide interpretation of its meaning and associated processes. The dictionary definition – among the five different meanings – in the aspect related to processes, considers change as: 1. 'the fact that someone becomes different or something becomes different than before' or 2. 'the replacement of something by something'¹.

On the other hand, according to Professor of the Institute of Philosophy and Sociology T. Pszczołowski, change is a kinetic event, i.e. it implies an emphasis on the element of occurrence of movement under the influence of an acting force, causing a change in the position of the subject of change. It then denotes an event in which the initial state is different from the final state².

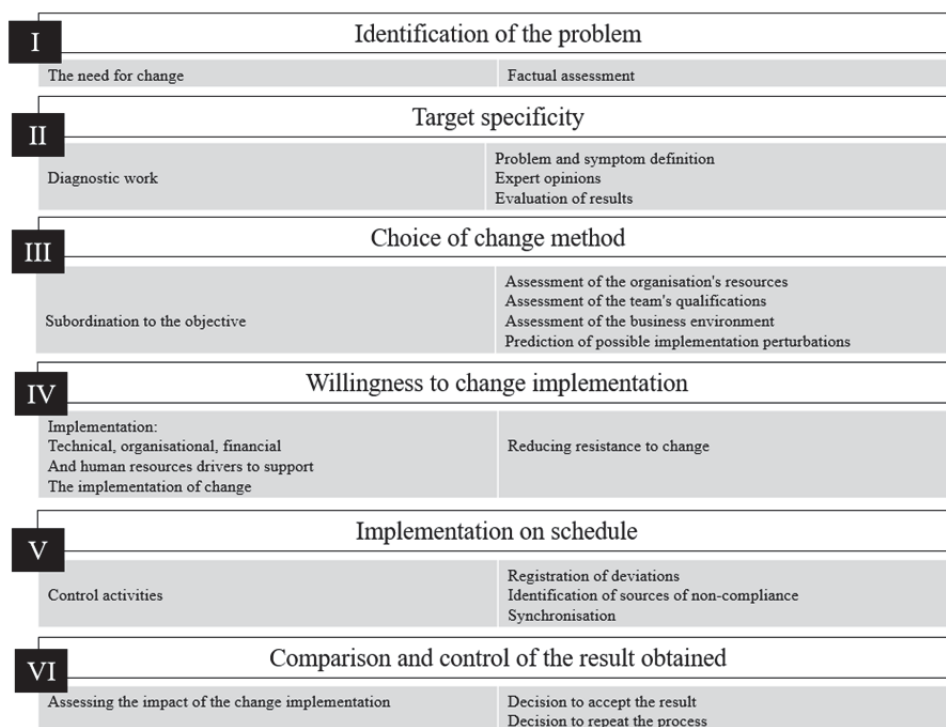
Change, is often defined as a cycle of actions, as emphasised in his works by the economist and professor in the field of management organisation B. Nogalski³. The model he developed distinguishes six stages, the sequence of which plays a crucial role in the whole process of change effectiveness (Figure 1).

¹ <https://sjp.pwn.pl/>, [dostęp: 12.12.2023].

² Pszczołowski T., *Mała encyklopedia prakseologii i teorii organizacji*, Gdańsk 1978.

³ Nogalski B., *Organizacja i zarządzanie*, Gdańsk 1994.

Figure 1. 6 stages of change according to N. Nogalski.



Source: own elaboration based on the referenced literature.

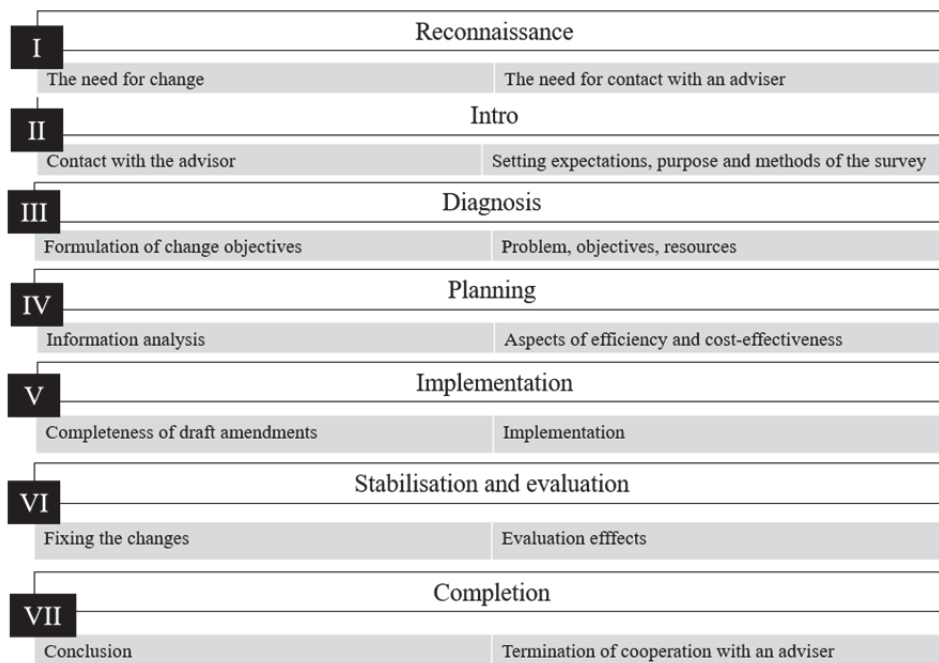
B. Nogalski also emphasises the awareness and purposefulness of actions in the change process, as described in the work co-authored with A. Czermiński and R. Rutka. In their theory, the researchers take as the essence the transition from one state to a clearly different state, while being open to modifications in the area and structure of the changes made in relation to the evolution of the environment⁴.

According to Prof. of Economic Sciences M. Bratnicki, organisational change refers to any real process in which the final state of an organisation/enterprise or part there of differs from its initial state and should be planned in nature⁵. The model developed by him based on Kurt Lewin's assumptions distinguishes 7 stages of change management. From the moment of feeling the need for change and being willing to contact an advisor about it, to the advisor leaving the enterprise after the earlier stage of consolidating the implemented change and evaluating its effectiveness (Figure 2).

⁴ Czermiński A., Nogalski B., Rutka R., *Organizacja i zarządzanie*, Gdańsk 1998.

⁵ Bratnicki M., *Zarządzanie zmianami w przedsiębiorstwie*, Wydanie II, Katowice 1998.

Figure 2. 7 stages of change according to M. Bratnicki.



Source: own elaboration based on the referenced literature.

Both models presented treat as the most important the diagnosis of the need for change itself, which is most often the consequence of a discrepancy between assumptions and actual achievements. It is worth emphasising that only a precise assessment of the actual state of affairs, of a critical nature, makes it possible to accurately formulate the objective of change.

Prof. J. Skalik of the Wrocław University of Economics also defines change as a modification of the existing state of affairs. Then, the whole system of a given object subject to change may be covered by the action. He also assumes the material nature (implementation of the new) and activity nature (carrying out the process) of the modification^{6 7}.

According to the French consultant in transactional analysis and support for development and human resource management, G. Nizard, change is a process in which, without diagnosing the cause, a difference is observed between the first and second states. The form of the observed change or the effects pro-

⁶ Skalik J., *Projektowanie organizacji instytucji*, Wrocław 1998.

⁷ See also: Puszko-Machowczyk K., *Elastyczność przedsiębiorstwa funkcjonującego w warunkach kryzysu*, [w:] *Zachowania organizacji wobec zjawisk kryzysowych*, red. nauk. Skalik J., Wrocław 2003.

duced is also irrelevant, as it represents a difference. Inclining opposites such as progress/regression, innovation/adaptation, mutation/modification, transformation or crisis are quintessential^{8 9}.

On the other hand, specialist in organisation and management methodology and change management Z. Mikolajczyk, defines change as an activity process. It is the result of changing actions of an active nature, i.e. meaning taking an action to make a change of a material nature¹⁰.

For management, in addition to the interpretation and understanding of the issue itself, the type of change is fundamental (Table 1).

Table 1. Selected criteria for change and types of change.

The Division Criterion	The Type of Change	The Description of Change
Source	Voluntary	Need for change defined internally
		The organisation itself takes anticipatory implementation measures
	Enforced	Need for change defined by the environment
		The organisation itself undertakes post implementation activities
Goal	Conservative	Need for change to adapt to a changing environment
	Development	The need to increase the level of efficiency of the company
Scope	Comprehensive	Covers the entire Organisation
	Fragmentary	Covers inoperative parts of the organisation
Effect	Positive	The balance of measuring the impact of implementing the change vs. Real performance results after the change is positive
	Negative	The balance of measuring the impact of implementing the change vs. Real performance results after the change is negative
	Neutral	The balance of measuring the impact of implementing the change vs. the real performance results after the change is at a similar level

⁸ Nizard G., *Metamorfozy przedsiębiorstwa. Zarządzanie w zmiennym otoczeniu organizacji*, Warszawa 1998.

⁹ Duháček Šebestová J., Čemerková Š., Dzieńdziora J., *Challenges of Business Management in the Phase of Crisis Period*, "Acta Academica Karviniensia" 2023, 23(1), p. 106–117.

¹⁰ Mikołajczyk Z., *Techniki organizatorskie w rozwiązywaniu problemów zarządzania*, Warszawa 2012, p. 10.

The Division Criterion	The Type of Change	The Description of Change
Innovation extend	Adaptive	Striving for improvement without fundamental change
		Adaptation to the external environment
	Innovative	Striving for improvement, usually of a qualitative nature
		Getting ahead of the external environment
Time	Reactive	Responding to changes in the business environment
	Advancing	Anticipating changes in the business environment
Character	Qualitative	Development of the company
	Quantitative	Development and growth of the company
Direction	Unidirectional	Transition from the present to a different state
	Bidirectional	Transition from the current state to a different state and back to the original state again
Interference extend	Progressive	A permanent phenomenon in the company based on improvement in every aspect
	Radical	A phenomenon that responds to changes in the external and internal environment
Form	Evolutionary	Gradual and fluid in nature
	Revolutionary	Radical in nature

Source: own elaboration based on the referenced literature.

It is the market situation and also the critical success factors of change management in the business process management of each company that determines the method of change implementation^{11 12 13 14}.

¹¹ Idogawa J., Bizarrias F. S., Câmara R., *Critical success factors for change management in business process management*, "Business Process Management Journal" 2023, Vol. 29 No. 7, pp. 2009–2033.

¹² See also: Leong L. Y., Hew J. J., Lee V. H., Tan G. W. H., Ooi K. B., Rana N. P., *An SEM-ANN analysis of the impacts of Blockchain on competitive Advantage*, "Industrial Management and Data Systems" 2023, Vol. 123, No. 3, pp. 967–1004.

¹³ See also: Liébana-Cabanillas F., Marinković V., Kalinić Z., *A SEM-neural network approach for predicting antecedents of m-commerce acceptance*, "International Journal of Information Management" 2017, Vol. 37 No. 2, pp. 14–24.

¹⁴ Vargas M. A., Comuzzi M., *A multi-dimensional model of enterprise resource planning critical success factors*, "Enterprise Information Systems" 2020, Vol. 14, No. 1, pp. 38–57.

The relevance of the meaning and definition of change and its type to the management process is undeniable. Change management is embedded in contemporary sustainability efforts. Then, especially the type: evolutionary or revolutionary or, according to another theory, gradual or radical will play a crucial role. These activities can be supported by effective knowledge management at both local and global levels. Unfortunately, the occurrence of incompleteness in statistics, delays in their publication and sometimes reluctance to share information result in data gaps, which creates the need for global investment in the creation of statistical programmes and tools, unified and coordinated between the governments of the world as well as individual commercial segments, being sensitive to both individual state economies and the scientific world¹⁵.

2.2 Evolution of the Perception of Change

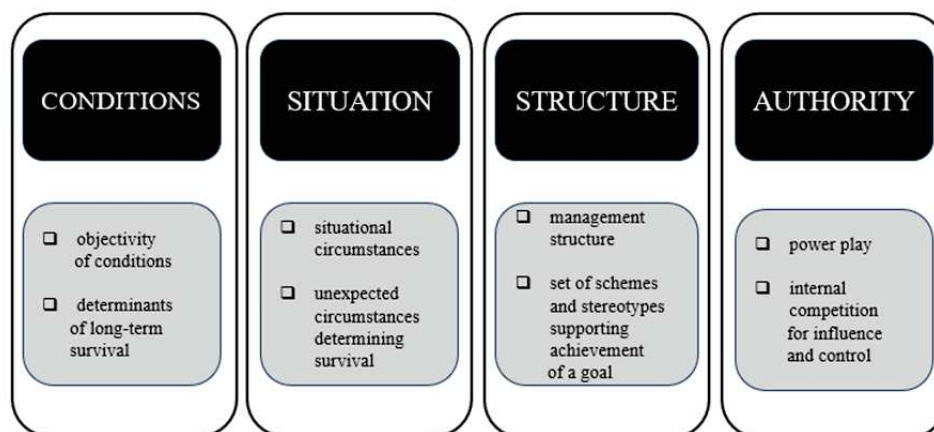
Organisational theory and management practice use terms close to change, such as restructuring, reorganisation, streamlining, innovation, transformation or modernisation. The word: restructuring is a term that appears mainly in economic and management literature, as well as those dealing with topics related to the economy and its operators. Analysing the words reconstruct and structure, restructuring can be explained as the reconstruction of a new structure.

Polish economist and Prof. of Economic Sciences A. K. Koźmiński and Management Theorist Prof. K. Obłój consider the causes of change by distinguishing four groups that are the source of change in organisations: (1) objective conditions, situational conditions, (3) management structure and (4) the course and results of the power game¹⁶ (Figure 3).

¹⁵ Duháček Šebestová J., Popescu, C. R. G., *Factors Influencing Investments into Human Resources to Support Company Performance*, "Journal of Risk and Financial Management" 2022, 15(1); Małecka J., *Knowledge Management versus Implementation of Sustainable Development during Covid-19*, "European Research Studies Journal" 2022, Volume XXV, Issue 3, pp. 314–336; Małecka J., *Knowledge Management in SMEs – In Search of a Paradigm*, "Proceedings of the 19th European Conference of Knowledge Management" 2018, pp. 485–493; Pereira V.R., Maximiano A.C.A., de Souza Bido D., *Resistance to change in BPM implementation*, "Business Process Management Journal" 2019, Vol. 25 No. 7, pp. 1564–1586.

¹⁶ Koźmiński A. K., Obłój K., *Zarys teorii równowagi organizacyjnej*, Warszawa 1989; See also: Obłój K., *Strategia sukcesu firmy*, Warszawa 1998.

Figure 3: Sources of change according to A.K. Koźmiński and K. Obłój.



Source: own elaboration based on the referenced literature.

The Polish historian of the Historical Institute of the University of Warsaw, Prof. A. Karpiński, identifies restructuring with structural changes that lead to an increase in all elements of an organisation¹⁷. The Economists Prof. A. Skowronek-Mielczarek and Prof. Z. Leszczyński identify change with gradual transformation in the size and proportion of production, production methods, ownership arrangements and management systems¹⁸. The defined change consists of modernising the structure and improving quality, and the aim of this process is to obtain a strategic position on the market. For the consequence of the process activity is the achievement of more favourable economic results^{19 20 21}.

When defining change from the level of organisations, it is noted that they are under strong and increasing pressure to change. Very often, the sources of change are described as an external force, stemming from the general environment and the purpose of the organisation. According to Professor of Management at Texas A&M University, College of Business Administration and Gra-

¹⁷ Karpiński A., *Restrukturyzacja jako proces podnoszenia efektywności przedsiębiorstwa*, Bydgoszcz 2011, pp. 11–17.

¹⁸ Leszczyński Z., Skowronek-Mielczarek A., *Analiza działalności i rozwoju przedsiębiorstwa*, Warszawa 2008, pp. 11–17.

¹⁹ Kowalczyk-Jakubowska D., Molewicz A., *Restrukturyzacja jako technika ratowania i rozwoju przedsiębiorstwa*, Warszawa 2012, p. 18.

²⁰ See also: Pavez I., Gómez H., Liu C., González V. A., *Measuring project team performance: a review and conceptualization*, "International Journal of Project Management" 2022, Vol. 40 No. 8, pp. 951–971.

²¹ Pasaribu R. D., Anggadwita G., Hendayani R., Kotjoprayudi R. B., Apiani D. I. N., *Implementation of business process reengineering (BPR): case study of official trip procedures in higher education institutions*, "Journal of Industrial Engineering and Management" 2021, Vol. 14 No. 3, pp. 622–644.

duate School of Business R. W. Griffin, we distinguish the following sources of change: (1) declining efficiency and effectiveness of the organisation, (2) increasing size or complexity of the organisation, (3) increasing age of the organisation, (4) technology used, (5) ownership relations and legal form, (6) potential of the organisation (employment, skill, creativity, innovation)²².

2.3 Selecting Models for Implementing Change

Change is a series of well-planned activities that aim to transform the current state of affairs. Henri Le Chatelier, a French scientist and organisational theorist who is also the main representative of industrial engineering in organisational and management science, proposed five stages in the change process, known as the organisational cycle, which has become established in both science and business practice. In addition to the 5 basic stages of the cycle, he detailed the specific principles to be followed at each level.

STAGE 1: selection of the objective to be achieved, should be supported by 4 principles:

- (1) unity – the objective should be one so that it is easier to focus on it
- (2) limited – the objective should be adequately narrowed
- (3) accuracy – the objective should be clearly defined
- (4) economisation – the achievement of the objective should translate into a specific benefit.

STAGE 2: examining the means and conditions needed to bring about change, should be supported by the following 4 principles:

- (1) causality – as A. Einstein used to say "*It is madness to do the same thing over and over again and expect different results*", hence the benchmark conditions that will give the best results should be established
- (2) verification – identifying and examining all factors that may influence the outcome
- (3) prioritisation – determining the degree of importance
- (4) quantitative analysis – examining the basic components separately, changing only one factor during the experiment, carrying out experiments sparingly and presenting the results of measurements and experiments in the form of mathematical formulas.

STAGE 3: accumulation of the necessary resources is the precise determination of the magnitude of the need for all material resources and in terms of human

²² Griffin R. W., *Fundamentals Of Management* (4rd Edition), Boston 2004; see also: Griffin R. W., Pustay M. W., *International Business: A Managerial Perspective* (3rd Edition), Person 2001.

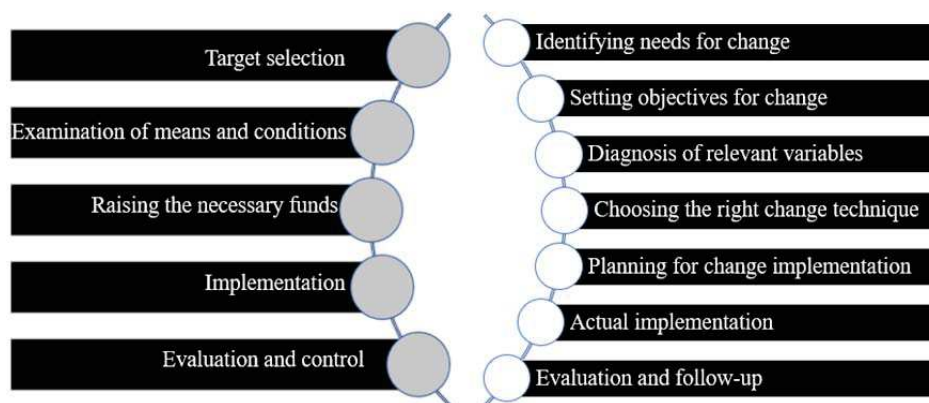
resources (including their qualifications and competences), necessary for the implementation of the new plan.

STAGE 4: execution, is the implementation of the plan according to a pre-determined schedule.

STAGE 5: control, is the confrontation of the results obtained with the objectives set, in the form of a system of records adequate to the activities carried out²³.

In contrast, the aforementioned R. W. Griffin some 80 years later proposed a model for introducing change in line with the adaptive cycle model. The elements of the cycle mentioned by him indicate the changes that took place in management and the departure from the principles of the Taylor system. This is because there was a paradigm shift in the social and economic sciences from rational to emotional man. Hence, R. W. Griffin's model points to the use of fear, hope, rewards and the isolation of those who do not accept change as important elements of influence. It is based on the belief that managers should attempt to match the strategy of the company to the elemental conditions of its economic environment, i.e. the development of different forms of strategy, including: defensive, exploratory, analytical vs. passive response strategy. However, there are noticeable common parts in both models described (Figure 4).

Figure 4: Comparison of organisational and adaptive cycle models.



Source: own elaboration based on the referenced literature.

The change implementation models presented represent a comprehensive approach to the problem. They are first and foremost the result of the assumption that implementing change is not a single activity, but a multi-stage process. The more it is internally motivated and the more the need for change arises from intra-organisational circumstances, the more effective it is. The more change

²³ Le Chatelier H., *Filozofia systemu Taylor'a*, Warszawa 1926.

results from the insights of individuals and entire work teams, the more effective the implementation. Hence, J. P. Kotter Professor at Harvard Business School, identifies in his work 8 essential stages to support engagement (Figure 5).

Figure 5 . J.P. Kotter's stages of change.

I	Generating a sense of need for change
II	Creating a coalition for change
III	Creating a vision and strategy consistent with it
IV	Sharing the vision with the team
V	Creation of a concept: transitional changes do not compromise the chosen vision
VI	Planning and implementation of short-term benefits
VII	Consolidating change and creating further benefits
VIII	Embedding the change in the organisation's culture

Source: Kotter J. P., *Co właściwie robią przywódcy?*, Harvard Business Review Press, Harvard 2005.

J. P. Kotter also emphasises basing change on a practical process that is a personal experience. The first four stages involve the 'thawing' of an existing process, from the fifth to the seventh stage there is the facilitation of change, and the final stage is the 'freezing', or consolidation of change^{24 25 26}.

Implemented change in an organisation can also be validated using two basic models of change implementation found in the literature: (1) the diagnostic approach and (2) the predictive approach. The diagnostic method focuses on a detailed analysis of the components of the organisation by collecting and recording existing solutions. The detailed diagnosis identifies the impact of the non-conformity, the analysis of the causes and the severity of the impact on the work of the organisation's employees. This process can be divided into several phases such as:

- test research – detailed questions
- detailed research – clarification of incomprehensible issues
- analysis of detailed surveys
- determining the extent of irregularities, their causes and effects

²⁴ Kotter J. P., *Zmiana w świecie VUCA 3.0 – Jak organizacje mogą osiągać sukcesy dzięki nowemu podejściu do zarządzania zmianą*, Warszawa 2022.

²⁵ Kotter J. P., *HBR's 10 Must Reads for New Managers*, Harvard 2017.

²⁶ Kotter J. P., *Co właściwie robią przywódcy?*, Harvard 2005.

- determining organisational needs²⁷.

The culmination of the diagnostic research is the creation of a diagnostic report, so that the conclusions of the diagnostic method enable further improvements to be proposed²⁸.

The predictive approach referred to as the synthetic attempt focuses on creating a new system that provides a forward-looking approach to solving organisational problems. The concept involves seeking solutions tailored to the internal and external conditions in which the organisation operates. It involves the development of a reference model and an analysis from which state-of-the-art solutions are developed. Using the exemplary model, a viable model is developed, which is tested in practice and then verified from technical, economic, social and ecological perspectives.

3. Perceptions of Change in Optimisation Aspects in the Light of Empirical Research

A survey targeting a group of 489 respondents was used to obtain published results. The survey was voluntary and its effectiveness was: $GI_N^{2022}=32.31\%$ and $GII_N^{2023}=28.02\%$, which represents the CONCLUSION I: fewer and fewer employees are interested in being able to speak individually about the change. This is because participation in the survey decreased by 4.29 p.p.

As the main determinants, the respondents mainly identified change as an opportunity to optimise their own jobs and the possibility of receiving the additional financial gratification that comes with a developed procedure in the company (Table 2).

Table 2. Determinants of change implementation.

Determinants of change implementation	Research Sample [%]	
	GI_N^{2022}	GII_N^{2023}
Position optimisation	58.5	52.5
Awards	29.2	21.8
Self-improvement	3.1	13.7
Communication with management	3.1	4.0
Performance appraisal	3.1	5.0
Distinction	3.0	3.0

Source: own research.

²⁷ Żukowski P., Łazowska H., *Metody i techniki organizacji pracy*, Gorzów Wielkopolski 1999, pp. 62–64.

²⁸ Małecka J., *Financial motivational factors supporting the optimisation process*, "Journal of Intercultural Management" 2023, Vol.15. no 3, pp. 78–106.

Also noteworthy is the desire to become a better employee, i.e. the perception of change in aspects of possible self-development. The increase of 10.6 p.p. is encouraging and indicates to managers the possibilities in terms of constructing motivational systems for implementing further changes. It is also noticeable that the value of financial motivational factors decreased by 7.4 p.p., which provides new opportunities to build, for example, cafeteria systems to support the implementation of change.

The perception of the implemented changes in the company itself, measured on a five-point Likert scale, increased while the negative perception of the changes decreased by 4 p.p. (Table 3).

Table 3. Perceptions of Change Implementation.

Result	GI_N^{2022}	GII_N^{2023}	Tendency	Increment $\frac{GI_N^{2022}}{GII_N^{2023}}$
	[%]			
very good	8	11	3	
good	23	36	13	 
average	50	32	-18	 
bad	9	5	-4	
very bad	2	2	0	
no evaluation	8	14	6	

Source: own research.

There is also a noticeable decrease of 18 p.p. in the score of perceiving the changes as neither good nor bad. However, an increase of 6 p.p. in the lack of evaluation should be a cause for concern among managers. The result described creates further conclusions:

CONCLUSION 2: the number of people perceiving the implementation of change positively increases.

CONCLUSION 3: the number of people perceiving the implementation of change negatively decreases.

CONCLUSION 4: the number of people not involved in the change process increases.

CONCLUSION 5: from the direction of the increments, it is evident that people with average views of change processes have started to engage and view the change process positively.

After receiving information in terms of opinions on factors influencing the implementation of change, the main reasons for not wanting to participate in the company's change implementations were analysed (Table 4).

Table 4. Determinants of unwillingness to implement change.

Determinants of unwillingness to implement change	Research Sample [%]	
	<i>GI_N</i> ²⁰²²	<i>GII_N</i> ²⁰²³
Time	26.1	27.10
Awards	20.7	10.00
Enhancement	17.4	17.10
Fear of opinion	14.1	10.00
Attitude	7.6	12.90
Increased commitment to work	4.3	5.70
Conclusion	3.3	8.60
Support	1.1	0.00
Ideas	1.1	0.00

Source: own research.

Lack of time proved to be the most important determinant, with a 1 p.p. increase in its share. Thus, current activities are so absorbing that change necessitates an additional time commitment at work. However, the amount of rewards for positive change implementation is appreciated by 10.7 p.p. more respondents. Thus, a reward-based motivation system, which was indicated as the second most important aspect of willingness to implement change, is an important reinforcing factor. There was also an increase in the number of respondents stating that they simply did not like change (from 7.6% to 12.9%, an increase of 5.3 p.p.).

The next step of the research carried out was to analyse additional individual indications from employees regarding perceptions of not wanting to implement the change process (Table 5).

Table 5. Individual indications of unwillingness to implement change.

Individual indications of unwillingness to implement change	
<i>GI_N</i> ²⁰²²	<i>GII_N</i> ²⁰²³
(1) failure to see the need for change	(1) changes are for professionals
(2) commitment to helping others implement change	(2) seniority
(3) incompetent change implementation team	(3) lack of desire

Source: own research.

The results of the individual responses lead to

CONCLUSION 6: The team is not sufficiently educated and motivated to perceive change in aspects of positive events and to be ready to implement it.

This means that the information communicated and provided by management as to the direction of the company is either inconsistent or simply not there. In individual interviews, employees have repeatedly demonstrated a lack of knowledge of the company's mission, vision and values, and thus, not knowing the reasons for implementing change, they often feel unqualified and incompetent to evaluate it.

A gap has therefore become significant due to the communication and information flow process that currently exists within the company. Creating a system that involves individuals more in the area of change implementation guarantees a radical improvement. However, more attention needs to be paid to the individual effort of single entities, communication, training, teamwork commitment and the importance of improving working conditions and enhancement in the process of self-development, which was identified by respondents as one of the most important motivating determinants for implementing change.

Conclusions

Aspects of change management can sometimes be more complex than change itself, which is an integral part of both: real life and business. Change is most often associated with something unfamiliar, so the natural atavistic behaviour of the human individual will be to defend against it. The literature on the subject variously defines the meaning of the concept of change and also points to many possibilities related to the evolutionary issues of change processes, which are presented in this article, as well as selected models for implementing change. Hence, a discussion has been carried out into the most significant determinants supporting the implementation of change in a manufacturing enterprise and employee attitudes in assessing the implementation of change.

The own research made it possible to define 6 conclusions, identical to the gaps that exist in the business entity under research. Both the determinants of change implementation but also the factors of unwillingness to implement change were diagnosed and described, of which time-consumption and lack of compensation at a level adequate to the commitment and effort in implementing change was the most significant for the respondents. It was also noted that there are still some gaps in the organisation due to the communication and information flow process, which should be considered as an element that needs to be diagnosed, reviewed and improved. J. P. Kotter's model of the different stages of change described in the theoretical part could be helpful, in which the successive steps related to the need to arouse a sense of change in the team and building a coalition for change should be reinforced by a coherent vision and

strategy of the enterprise, which should be both known and shared by the whole team, in which the management sets an example of how to act coherently with them and rewards employees for effective change implementation. Indeed, support systems for change implementation processes based on opportunities for self-realisation through improvement may be important for the effectiveness of this team.

The published results of the research were presented to the company's management and the findings were used to develop a system to support the implementation of change, tailored to the needs of the functioning team. Based on these, new principles have been created to support change implementation processes, which serves both: to increase the positive trend in the perception of change in aspects of the implementation of optimisation processes in the surveyed company and to serve better integration of employee teams. Three factors identified by respondents in the survey were used as tools: (1) job optimisation, (2) rewards, (3) self-improvement. The results presented here provide a broader understanding of the determinants affecting the effectiveness of the implementation of change management processes in other companies, for which the pursuit of excellence and performance improvement is of particular importance. In turn, the effectiveness of the new system supporting the perception of change and its optimising aspects directs further research directions.

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