OKRs as a results-focused management model: a systematic literature review

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Abstract. The objective of this study is to present how and in which contexts the OKRs methodology can be used as a management tool and also as a tool for change at organizations in a scenario where market agility is a determining factor in several industries. Within this purpose, this study conducted a Systematic Literature Review (SLR) based on two databases and added to the results other studies arising from the snowball method. Three categories of studies within the OKRs theme are identified and described in this review: (i) Studies on application of the OKR methodology; (ii) Studies that are based on OKRs as a starting point for developing new performance tracking models based on it and (iii) theoretical discussions that aim to understand and explain OKRs. The results show a growing use of the methodology, and this study points out common gains from the application of the OKRs, such as increased transparency within the organizations, increased team performance, and increased engagement around the global goals of the companies. This study also presents summary tables of which results were found from which challenges and sectors of application of the methodology.

Keywords: OKRs, Indicators, Systematic Literature Review, Performance Measurement.

1 Introduction

Understanding strategy as a deliberate choice to become different from a set of activities that deliver a unique combination of value becomes relevant, especially understanding the allocation of the organization's resources as mostly limited (CHANDLER JR, 1969; PORTER, 1996). In a concise way, strategy is the definition of behaviors and actions that allow a company to go from where it is to where it wants to be throughout the shortest path given the available means (MCKEOWN, 2019). Intrinsic to establishing where one wants to be, strategy is a means and not an end, so it is necessary to focus on execution and that there are measurement and evaluation mechanisms that track its performance and results over time (ORR, 2007).

The need to measure business and strategy is seen in some widespread approaches such as Walton (1989) who states that "If you can't measure, you can't manage". Whether the action of measuring or the criteria used generate a direct impact on team performance, allowing the company to steer ahead of challenges by increasing the probability that people demonstrate the behaviors expected by the strategy adopted (GALBRAITH; DOWNEY; KATES, 2016; GOLDRATT; COX, 2002). Regardless of a broader or operational view of strategy, the management of indicators becomes almost synonymous with management itself, and a look at the relevant theme despite the scenario, given its ability to assist in the direction of the company.

In a challenging scenario and of exponential competitiveness in several sectors, requiring companies' ability to adapt and respond quickly to the market, the agile methodologies emerge from usual practices within the technology areas as an alternative to the traditional way of managing processes, projects and companies (BASKERVILLE *et al.*, 1992; WANG *et al.*, 2012). In this view, distinctive to many practitioners, agile methodology focuses on highly iterative processes, uncertainty reduction, and rapid change through significantly reduced delivery cycles (NERUR; MAHAPATRA; MANGALARAJ, 2005). Agility is considered almost a philosophy and allows facing uncertain situations and change processes, thus allowing it to be applied in numerous situations (HAZZAN, 2014).

In the case of the formulation of indicators, the agile methodologies have also influenced the way these are made and managed, given the lack of fit into the monthly, quarterly, or annual measurement model present in most existing control models, originating a new approach called Objectives and Key Results (OKRs) (DOERR, 2018). Given the view that agile methodology is the constant readiness to initiate and implement change quickly, acquire knowledge and skills from each change, and at the same time create added value for the customer, the logic of OKRs meets this quest for agility (DOBROWOLSKI; LEDZIANOWSKI; DOBROWOLSKA, 2021).

The application of OKRs diverges in several points from conventional systems of goal setting, especially management by objectives (MBO), which tends to have an annual and retrospective view of events, whereas in OKRs the focus is on daily results that contribute to the company's vision of the future (DOERR, 2018). From this approach proposed by the OKRs, we see the growing relevance of the theme identified in evidence such as, for example, a 500% increase in Google searches on the OKRs theme in the last 6 years; the maturity of the model having made it the standard in measurement in companies such as Oracle, Netflix, Twitter, LinkedIn, Oracle, Dropbox, and Gates Foundation and sometimes being considered as the "Silicon Valley Standard" of management (DOERR, 2018; WUNKER, 2022).

By itself, the software market for management solutions based on OKRs today amounts to $1.5 billion (WUNKER, 2022), which would be equivalent to the representative IoT security industry 3 years ago (GARTNER, 2018), demonstrating a representativeness of companies' investment in platforms that help organizations build and track their strategic objectives through OKRs. Associated with the already growing adoption of OKRs in organizations is the exponential growth of remote and hybrid working models generated by the Covid-19 pandemic, which according to Wunker

(2022) was a transition that generated new jobs to be done for employees and their managers that OKRs become a very suitable approach.

Being an attempt to improve models such as Management by Objectives, Key Performance Indicators, and Balanced Scorecard, OKRs provide more dynamics for managers and employees since they proposed, according to Doerr (2018), some paradigm breaks of the model that was the basis, such as, for example: (i) adding the how and not only what one wants to achieve; (ii) the achievement horizon stops being annual and becomes monthly or quarterly, allowing more adjustments in less time; (iii) all goals are public and transparent, no longer secretive and unclear; and (iv) focus on aggressive and inspirational goals, contrasting with the MBO theory where there was a clear search for risk aversion in the design of the goals.

Starting from the premise of both agile methodologies and OKRs, where companies' competitiveness depends on their vision but also their control capacity, OKRs arise as a possibility of defining goals focused on the execution of strategy and that guide the company and its employees without abstaining from enabling a high capacity for adaptation. In Doerr (2018) words we extract much of the essence of the thinking that guides OKRs, where he states "Ideas are easy, execution is everything".

It may be stated that we have in OKRs a theme of growing interest, adoption by companies has been a constant, leading organizations in their segments, especially in the technology area, have already adopted, models of organizational results and objectives that focus on ensuring strategy execution are very current and the model has been structured for at least three decades. Contrasting with this movement of increasing relevance, on the other hand, there is a lack of scientific studies that have continued to write in greater depth about OKRs both in theoretical discussions and in empirical research.

Studies are known to have sought to create parallels between outcome models and organizational goals such as Hao and Yu-Ling (2018) who directed between OKRs and KPIs, some publications associate two or more methodologies with OKRs seeking synergy such as the Balanced Scorecard (CHALUPOVA; VORACEK, 2020), GQM+Strategies (TRINKENREICH *et al.*, 2019), Conceição Moura Impact Index (CMII) (FERNANDES; BELFORT; CAMPOS, 2021). Other studies seek to delve deeper into the results of applying the OKRs methodology (CAO, 2021; KLANWAREE; CHOEMPRAYONG, 2019; KOLDYSHEV *et al.*, 2021; SOWKASEM; KIRAWANICH, 2021). Few studies, however, have dedicated themselves to better understanding which business scenarios OKRs are best suited for and the impacts generated from their use and, given the relevance scenario of the topic, this study assumes as its research question: What are the possible application contexts and what are the organizational impacts of applying the OKRs methodology?

Based on the research question, the general objective of this study was to identify the possible application contexts and the organizational impacts of implementing the OKRs methodology. As specific objectives, it was established: (i) to map existing research on the OKRs methodology; (ii) to identify suitable contexts for the implementation of the OKRs methodology and whether synergy with other models of organizational results and objectives is possible; (iii) to list which are the impacts of the implementation of the OKRs methodology in organizations.

The remainder of this paper is structured as follows. Section 2 contains the theoretical basis, where we will bring the theoretical contextualization that supports the OKRs methodology. Section 3 presents the research method, describing the criteria and steps of the systematic literature review that was performed, in Section 4 results and discussion, the analyses resulting from the research will be presented. Finally, the last section outlines some final considerations and the main implications of this work, as well as the next steps of this research.

2 Theoretical Review

Since the origin of OKRs is directly associated with agile methods, it is important to understand a little about this last movement. Agile methods have their conception from the manifesto that emerged as a statement of core values and principles for software development (FERNANDES; BELFORT; CAMPOS, 2021). The main idea of this model is to have an incremental and iterative approach instead of in-depth planning at the beginning of a software project but it ended up transcending the areas of software development and IT. Agile methods are premised on being open to changes in requirements and encourage constant feedback from their end users and customers (SALZA; MUSMARRA; FERRUCCI, 2019).

In contrast to the Waterfall method, traditional in most projects and processes, the Agile method has a logic not of chaining, but of shorter cycles, allowing route correction and testing throughout the process and not only at the end generating cumulative outcomes instead of a big outcome at the end of a project. This interaction process is key and in the conception of agile principles as proposed by Fernandes *et al.* (2021).

2.1 Objectives and Key Results (OKRs)

Objectives and Key Results (OKRs) is a method for defining and tracking objectives and their results. Its main purpose is to define company and team "objectives" and define the measurable "key results" of each achievement of the objectives. Hao and Yu-Ling (2018) define OKRs as a method of critical thinking and continuous discipline designed to ensure that employees work together to focus on measurable contributions. OKRs can be shared across the organization so that teams have visibility into goals across the organization, helping to align and focus effort (HAO; YU-LING, 2018). OKRs have become increasingly popular as a method for organizations to drive focus, alignment, engagement, and execution (HAO; YU-LING, 2018).

The implementation of OKRs can be divided into four steps: the first step is to set goals, including the monthly/quarterly/annual goals of the company, department, and employees. The goal is a qualitative target within a period of time. The second step is to determine the key results for each target. The main outcome is to measure whether the specific target requirements have been met at the end of the period. The third step is to implement the established plan. The fourth step is regular feedback. Each evaluation cycle should evaluate the target completion and feedback in time, then make

appropriate adjustments based on the evaluation results and determine the OKR implementation plan for the next cycle (HAO; YU-LING, 2018).

3 Research Method

For this study, we designed a Systematic Literature Review (SLR), which gathers previous works on a specific theme, promoting the identification, evaluation and interpretation of studies in a given area through the analysis of concepts and practices. To conduct, we applied the Literature Grounded Theory (LGT) strategy proposed by Ermel *et al.* (2021), with the following steps: literature review, literature analysis, literature synthesis, and outcome.

We began with the step of selecting the bibliographic portfolio for the literature review, defining the search expressions. Next, the databases to search the articles were defined: Scopus and Web of Science. These databases were chosen because they provide quick access to the world's main citation databases and have intelligent tools for tracking, analyzing and visualizing research (ERMEL *et al.*, 2021).

As for the period, articles published until 2021 were consulted. The literature was gathered using the following criteria: (i) employment of the terms "objectives and key results" and "OKRs" in the Article title, Abstract, Keywords of the database and (ii) selected published and peer-reviewed articles, thus seeking to ensure the quality of the primary studies chosen. Next, the articles were checked for duplicates, followed by an inspection of the titles, keywords, and abstracts. Then the potentially relevant studies were analyzed in depth and those conforming to the research scope were selected for review, as presented in Figure 1.

The search found 32 articles, 18 in Scopus and 14 in Web of Science, but of these, 7 were duplicates. Thus, 25 articles were analyzed. The next step was to read the title, keywords, and abstract of the documents. From the total of texts, 13 met the inclusion criteria, which were: articles that approached the applications or discussions about the concept of OKRs, articles that understood OKR as a management tool for companies or sectors and not limited solely to a process. From the complete reading, in total 13 articles were included in the review and analysis, and from the snowball technique, where from the texts read, we were directed to new texts, we identified 3 more documents that were included in the final analysis.
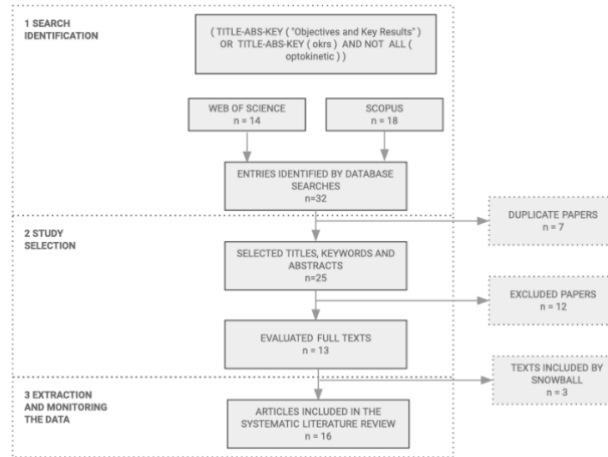
Fig. 1. Results of the systematic literature review procedure

The bibliometric and scientometric analyses looked at the data of the identified scientific productions, where it was found that the number of publications was discrete until 2018. After 2018, the number of publications showed a steady and significant growth in the volume of publications on the topic. The volume of publications coming from New Zealand stands out, with 3 publications, representing 21% of the total publications, followed equally by Brazil, Germany and Norway and Thailand with 2 publications. Another noteworthy fact is that the research did not result in publications originating in the USA. Since the agile movement had part of its birthplace at Stanford with Jeff Sutherland and Ken Schwaber and the OKRs methodology emerged at IBM and disseminated at Google, more publications coming from this country could be projected.

4   Results and Discussion

Based on the full reading of the articles, three analysis groupings were defined that will perform the function of categories from now on, namely, (i) studies on the application of the OKRs methodology; (ii) OKRs as a starting point for the development of new measurement frameworks based on it; and (iii) theoretical discussions that aim to understand and explain the OKRs.

Given the categories, the division of the selected articles can be described according to the subjects as shown in Table 1, each of them being allocated to the category of greatest adherence, even though the subjects may have intersections inherent to the fact that they deal with the same theme.

Table 1. Categorization of articles

Categories	Representativeness (%)	Study

(i) Application of OKRs	50%	Sowkasem and Kirawanich (2021); Koldyshev *et al.* (2021); Klanwaree and Choemprayong (2019); Cao (2021); Eamurai, Khantanapha and Piriyakul (2019); Vedal *et al.* (2021); Mangipudi, Prasad e Vaidya (2021); Cardoso (2020);
(ii) Frameworks from OKRS	25%	Snyder and Quincy (2020); Fernandes, Belfort and Campos (2021); Trinkenreich *et al.* (2019);
(iii) Theoretical Discussions on OKRs	25%	Zhou e He (2018); Doerr (2018); Niven and Lamonte (2019);

In the next subchapters we will deepen the analysis based on each of the three categories listed above.

4.1 OKR application

In analyzing the first of the categories in the SLR results, we identified a variability of areas and objectives with which the OKRs methodology is being applied. In Doerr (2018) view, the methodology was very much geared towards startups, technology, and IT companies, but we see the model taking varied paths such as in human resource management (KOLDYSHEV *et al.*, 2021), teaching and learning assessment (CAO, 2021) and even within the manufacturing industries setting (CARDOSO, 2020). The summary of the areas where the OKRs methodology was implemented, and the objectives sought by the companies are listed in Table 2.

Table 2. Categorization of articles

Study	Application Area	Application goals
Sowkasem e Kirawanich (2021)	Deployment of IT systems in the railway sector	1. make team goals measurable at the individual level 2. Align goals in the same global direction
Koldyshev *et al.* (2021)	Human resource management	1. Allow management to control the cost of salaries, bonuses 2. Increase the company's revenue by increasing labor productivity
Klanwaree and Choemprayong (2019)	Active knowledge sharing	1. Effective knowledge management is key for information technology (IT) consulting firms
Cao (2021)	Evaluation of teaching and learning	1. Build a teaching evaluation system that is truly suitable for higher professional schools
Eamurai, Khantanapha and Piriyakul (2019)	Factors that affect employee self-practice	1. Know the factors that affect employees' self-practice 2. Developing the innovation capacity of the Thai automotive industry
Vedal *et al.* (2021)	Project Management	1. Synchronization of activities and artifacts

		2. Establishing the scope of leadership boundaries and roles
Mangipudi, Prasad and Vaidya (2021)	Global Evaluation of Higher Education Institutions	1. Meet the students'/clients' expectations 2. Global management model of higher education institutions
Cardoso (2020)	Traditional industrial companies	1. bring the focus of the strategy to the day-to-day 2. Generate agility of response to market changes

It is evident from the analysis of the articles summarized in Table 2 that both the areas of application and the objectives that can be pursued by applying the methodology are not restrictive, but rather quite varied. It can be inferred that the results would also be different for each of these studies, but we consistently identify that the deliverables of this methodology converge in different application contexts. Certainly, the studies do not bring in the totality of the gains to the point of exhausting up to where the OKRs can contribute, but based on the main results, Table 3 consolidates which results were evidenced in each of the 8 studies of this RSL and the columns were constructed in such a way that the results that appeared the most are concentrated on the left of the table.

It is worth noting from Table 3, the consistency with which the set of results associated with "Transparency", "Engagement between teams, sectors and the strategy", as well as the third set of "Performance (efficiency and/or effectiveness)", where all were highlighted in most application scenarios. As for team engagement, this directly meets the claims of Hao and Yu-Ling (2018) and Doerr (2018) that OKRs are a method to ensure that employees work together to focus on contributions that impact overall goals. As for performance, as well as transparency, these are seminal requisites of the proposal made by Doerr (2018) in the methodology proposal as well as the agile manifesto, which gave rise to OKRs (FERNANDES; BELFORT; CAMPOS, 2021).

Table 3. Key results of applying OKR

PAPER/DIMENSION	Transparency in the process	Engagement between teams, sectors, and the strategy	Performance (efficiency and/or effectiveness)	Autonomy and creativity	Task planning and prioritization	Alignment between activities and global goals	Customer satisfaction	Quick response to market changes
Sowkasem e Kirawanich (2021)	●	●	●		●			
Koldyshev *et al.* (2021)	●		●					
Klanwaree e Choemprayong (2019)	●	●		●		●		
Cao (2021)	●		●	●			●	
Eamurai, Khantanapha e Piriyakul (2019)	-	-	-	-	-	-	-	-
Vedal *et al.* (2021)		●	●					
Mangipudi, Prasad e Vaidya (2021)	●	●	●			●	●	
Cardoso (2020)	●	●			●			●
OCCURRENCES	6	5	5	2	2	2	2	1

4.2 Frameworks originated from the OKR

When we analyze the second category, we notice that the application of OKRs is not limited to it, being able to merge, absorb and even be an inspiration for new models of organizational results and objectives. It is worth remembering that the model was based on Peter Drucker's management by objectives (MBO) (DOERR, 2018), but even so there are models that seek to bring points from other already established and traditional models.

When analyzing what the objectives of the creation of new frameworks based on OKR are, we see that a line that connects all studies that is the search for agility and connection of the goals with the objectives that are being sought. In the case of Snyder and Quincy (2020), the expected also included making the goals and objectives more effective, so for the creation of these, the unification took place with models that design and think the goals clearly. In the study proposed by Fernandes, Belfort, and Campos (2021), the vision sought more standardization, agility, and transparency in process management, and given the application scenario, it was used in union with the OKRs, models that measure social impact. In the case of Trinkenreich *et al.* (2019), the focus was on closing the gap between business objectives and the area's deliverables, so it approached models that generate organizational alignment in conjunction with OKRs.

And finally, for Chalupova and Voracek (2020), aiming to generate a dynamic with different durations of decision-making cycles, the decision to unify the already traditional Balanced Scorecard (BSC) model to OKRs proved relevant in the search for the gains inherent to each model.

To schematize the understanding of which are the application areas of each of the studies and which models were used with the proposal of forming a new conceptual or applied framework to measure the companies' results and objectives, Table 4 was designed. It is worth reinforcing that the applications of these models were not limited to having been developed just for this, they only served as a scenario for the application of the studies and with their due adaptations can also be transported to other contexts.

Table 4. Categorization of articles

Study	Application Scenario	Models that served as a basis
Snyder e Quincy (2020)	Educational Accreditation of Physician Assistants	FAST Goals + SMART Goals + OKRs
Fernandes, Belfort and Campos (2021)	Development and monitoring of social projects	Conceição Moura Impact Index (CMII) + OKRs
Trinkenreich *et al.* (2019)	Results of the IT area	GQM-Strategies + OKRs
Chalupova and Voracek (2020)	Business Management	BSC + OKR

4.3 Theoretical Discussions on OKRs

In the 4 studies categorized as "Theoretical discussions on OKRs", theoretical discussion approaches were found where we have one theoretical article and three published books presenting views on the application and implementation of the methodology. In this subcategory, given the specific objective of mapping OKRs themes, we will only focus on the focus of these studies, since the articles by Doerr (2018), Vedal *et al.* (2021) and Mello (2016) converge on all the stages, but approach the theme in different languages.

It is worth mentioning among the studies, the vision of Hao and Yu-Ling (2018), where the authors seek to compare and contrast OKR methodologies against Key Performance Indicators (KPI) methodologies. The authors' view is that KPIs pay more attention to how to quantify employee performance and present them in the most real-time way possible, sometimes causing employees to ignore the strategic guiding role of KPIs. As for OKRs, Hao and Yu-Ling (2018) state that it is essentially a target decomposition tool, which does not conflict with the direct interest of employees and is used more to evaluate goal achievement. In a chapter of Cardoso (2020) study that was categorized and presented in chapter 4.1 of this paper, the author made a similar study move, but instead of using the counterpoint of KPIs, he focused on the Balanced Scorecard (BSC), also analyzing its gain points and weaknesses of each of the models.

About the other studies, we can group them into three different languages for the same approach. While Doerr (2018) who needs to be cited initially since he is one of the disseminators of the whole methodology, along with Andy Grove, in his book, he

presents in a storytelling format along with several case studies how the application can change the course of companies. On the other hand, Vedal *et al.* (2021) present in a more academic and didactic way uniting the view of the model, potentials and also a view of the applicability and replicability in different scenarios. Finally, Mello (2016) present a practical guide with a focus on rapid applicability and for this characteristic was even taken as the basis of studies that sought to understand the OKRs methodology.

5 Final Considerations

The OKRs methodology is evidenced as a theme that, despite not being recent, has great potential for application in the most diverse contexts, making it possible to deliver consistent results. Regarding the mapping of existing research, it became clear that there are three major categories composed of studies on the application of the OKRs methodology, OKRs as a starting point for the development of new measurement frameworks based on it, and theoretical discussions that aim to understand and explain this methodology.

It was also identified that even with its origin in the IT area, the methodology today extrapolates this area, even associated with other measurement models and results such as BSC, GQM+Strategies. As for the impacts of the use of the OKRs methodology, we highlight the main findings of this study, which is how it clearly contributes to the gain of transparency, team engagement, and performance when it is applied.

As a suggestion for future studies, we observe the possibility of expanding the research on the use of the OKRs methodology, contrasting it more deeply with current methodologies for measuring results. Another possible direction would be to understand how OKRs could be integrated into Galbraith's star model as a systematic contribution within organizations.

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