Integrating qualitative and quantitative methods: a balanced approach to management research

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Introduction

Management is an interdisciplinary field of research that focuses on studying, developing and improving the methods and techniques for managing organisations (Koontz & Weihrich, 2010). It improves the efficiency and effectiveness of organisational operations in both public and private sectors (Drucker, 1954). The engineering research in this field was popularised in the first half of the twentieth century with the time and motion study (Holmes, 1945). It was concerned with narrow organisational problems in production and transport involving manual or hand-machine work. They aimed to increase work productivity despite the given

Abstract

The current social science problem is the use of quantitative or statistical research methods rather than qualitative and descriptive methods in social studies. That, in consequence, creates a contradiction in the process of genuine selection of a research method according to the specificity of the research subject. Therefore, the article aims to emphasise the necessity of the natural selection of a research method considering the subject of research and, moreover, to draw attention to the problem of overusing the survey method and statistical analysis as the primary type of research method used in scientific papers in social sciences prepared and published in Eastern Europe. The example from management sciences was used as a reference point for constructing the argument. The asymmetric assessment of research methods used in management sciences is applied in this article. The disadvantages of quantitative methods and the advantages of qualitative methods are highlighted. The findings indicate a necessity to integrate qualitative and quantitative research methodologies through a mixed approach, particularly within the domain of management sciences. Additionally, there is a compelling rationale to reassess the prevailing standards and methodologies in research, as well as the expectations of publishers in the field of social sciences.

Keywords: social science, management science, research methodology, quantitative research, qualitative research
work’s physiological, social and often economic context. The failure to analyse the effects of the changes introduced in the organization to enhance its functioning more broadly was identified as a problem related to work organization. This area typically falls within the domain of technical sciences, where quantitative research methods are predominantly used to formulate laws and principles. (Wasieleski et al., 2021, p. 8). Nevertheless, the emerged inconsistency of the systemic, holistic approach to the problems of organisation and management was only noticed by the representatives of the human and social sciences influenced by the development of the humanistic trend in management in the middle of the twentieth century (Melé, 2016).

Quantitative research methods are held in high regard by the scientific community of social sciences, including management sciences in Eastern Europe. Quantitative research collects and analyses data in numerical form, which can be analysed by using statistics (Anderson et al., 2011). They are assumed to yield objective and generalisable results (Balnaves & Caputi, 2001). This is why publishers of journals and books even require authors to follow the scheme: aim, hypotheses, research results, and conclusions. The qualitative research focused on understanding human experience, behaviour, and motivation (Denzin & Lincoln, 2011) is often met with scepticism and a lack of trust. This is even though such research often provides deep insights into the phenomena under investigation (Creswell & Poth, 2018). Indeed, studies containing theoretical speculation, once considered a valuable source of inspiration, are now treated as scientifically worthless. Qualitative research methods are treated with distrust; likewise, the studies containing some theoretical speculations that were once considered a valuable source of inspiration are now scientifically stigmatised. If the latter is taken seriously, most studies that include the deductive analysis and rational reflection of the humanistic and social sciences representatives should be invalidated. Therefore, it is not advisable to go that far and succumb to the tendency of turning management science into a hard science. Considering that quantitative research must be based on operationalised numerical data, the trend of favouring quantitative research methods in social issues, including organisation and management, is surprising. The various types of relations between people, such as cooperation relations, power relations or marketing relations, which are immeasurable and for which numerical data are seldom used form the focus of research in social sciences (Ganegoda & Evans, 2014; Gjølberg, 2009; Wall et al., 2003). The same problem applies to many economic, psychological and cultural anthropology problems (Venkatesh et al., 2023).

The natural way of choosing the proper research method relates to its adaptation to the essence of the subject of research (Bryman, 2012, p. 4). Quantitative research methods are appropriate for research subjects that consist of measurable data and phenomena (Mohajan, 2020), for which numbers are the most significant information. At the time, management was focused on the manufacturing processes, their timing, and the number of produced goods - the quantitative research methods were thus relevant for this field. The situation has changed significantly...
with the appearance of the humanistic trend and, in consequence, with the expansion of the research subject of management to the issues related to the role of people in the organisation, the classification of human personality, motivation, social relations or cultural determinants of behaviour. Therefore, the narratives, not numbers, determined the essence of the problems of the emerging type of research subjects. Consequently, the qualitative research methods should be considered relevant (Lanka et al., 2021).

Robert Gephart (2004) commented on this matter in 2004 in the Academy of Management Journal. He emphasised that qualitative research is critical to understanding the complex social aspects of management that, most often, cannot be captured by quantitative methods. Seven years later, also in AMJ, in an interview, Pratima (Tima) Bansal and Kevin Corley (2011) added their voice to the discussion, emphasising the growing acceptance and importance of qualitative research in management as well as the evolving editorial policy. The fact that over 11 per cent of articles were published in AMJ in 2001-2010 based solely on qualitative data was considered a satisfactory result. In 2017, it reached 20% of applications to AMJ (Bansal et al., 2018). Since whether such a result is satisfactory is questionable, new studies whose authors argue for conducting qualitative management research continue to appear, such as Lanka et al. (2021), in their article, “Why We Need Qualitative Research in Management Studies”.

1. Research design

The main purpose of the research is to emphasise the need for the natural selection of the research method that meets the needs of the research subject.

The specific purpose is to highlight the problem of overuse of survey methods and statistical analysis in social research. Therefore, a research question is posed: What are the consequences of using quantitative and qualitative research methods to develop management as a science? The study uses the narrative literature review method, a comprehensive literature synthesis on a particular topic (Snyder, 2019). The reviewer critically analyses the findings and offers insights and interpretations (Turnbull et al., 2023). The findings are presented in a narrative format, often structured around critical themes or chronological development. The narrative approach allows for a more discursive literature presentation (Liao & Han, 2012). Narrative reviews can effectively identify and discuss controversies, debates, and different points of view within the literature (Green et al., 2006).

Unlike systematic reviews, which typically focus on quantitative research and use strict inclusion criteria and statistical analysis, narrative reviews are more flexible. They allow for a broader range of sources and methodologies, which can provide a richer and more nuanced understanding of complex social phenomena (Turnbull et al., 2023).
The main criteria for selecting the literature for this review was its appropriateness to the undertaken research problem (Cronin et al., 2008): the use of qualitative and quantitative research methods in management science.

The review also includes the most prominent management works to provide context for the narrative. The authors have endeavoured to ensure that the review is as up-to-date as possible. The studies included in the review are mainly from the last two decades. Of the 84 studies, 63 were published after 2000, including 12 published after 2020. It is also important to note that the methodological scientific studies included in this review do not become outdated. Furthermore, the inclusion of older papers in the review was required by the need to provide context.

All literature included in the review was assessed for reliability, credibility, and methodological quality (Chigbu et al., 2023).

2. Standardisation of the research process: the bane of statistical research

Quantitative research is reproductive research based on a strictly defined procedure and is primarily used to search for typical and repeatable phenomena (Kostera, 1996, pp. 11-12). Due to this, it is possible to determine the intensity of a phenomenon as well as its upward or downward tendency. In addition, the structure of the elements of a phenomenon or process could also be defined. However, there are specific difficulties in detecting the causal link between the researched phenomena (Mohajan, 2020). Since the time of D. Hume, it has been known that the correlations, i.e. the frequency of the accompanying phenomena occurrence, can only signify the sequence of events, not necessarily a cause-effect relationship (De Pierris & Friedman, 2018). The existence of such interdependence could only be ascertained while experimenting or observing.

Meanwhile, scholars in the field of management primarily use the results from their quantitative research as a basis for formulating arguments and conclusions. In this particular field, the cognitive value of homogeneous research must be low. The main obstacle is the inability to perform a representative sample because of two factors: the indeterminacy of the number of the researched objects and the limited financial capabilities of the researcher, that usually has a small budget allocated to conduct research (Zaborek, 2009, p. 7). There are rarely such monumental studies as those carried out by G. Hofstede (1991; 2004). Notwithstanding that he is also accused of limiting the respondents to the employees of IBM subsidiaries in different countries of the world, it is not necessarily a sufficient premise for concluding the acceptance of specific cultural patterns of the entire populations of these countries based on the limited number of respondents (Jones, 2007). Due to the obstacles mentioned above, the researchers predominantly use deliberate sample selection. Despite the efforts to ensure its typical character, it is determined with a limitation in formulating generic conclusions all the time (Blankertz, 1998).
Most often, the research results allow for the formulation of conclusions concerning only the studied collectivity, which has a meagre cognitive value (Easterby-Smith et al., 2002, p. 144). The authors of the studies, whose aim was to verify the hypothesis, are aware of the low reliability of the obtained research results. Hence, they often use the same formulation: although the hypothesis cannot be fully verified, the results confirm it. This is a peculiar formulation. It turns out that scientific achievement is not only the verification of the hypothesis, which is the aim of the research, but only its better justification (Ricoeur, 1991, p. 159). It becomes complicated to discern any progress of science in these circumstances. It was assumed that empirical research is based on a restrictive methodology used in quantitative research. Thus, we stopped trusting common sense and began to trust numbers (Christofi et al., 2024). The value of surveys and observations has been depreciated. The responsibility for the researcher’s reliability has been transferred to the algorithm examining the reliability of the obtained results, even if they contradict the common experience (Messick, 1989, p. 13).

In survey research, respondents try to provide rational answers, usually consistent with the dominant opinion on a given topic (Biemer, 2010, p. 823). Despite the anonymity of the research, it is difficult to withstand the pressure of social influence. That is why the managers who undergo some surveys usually turn out to be supporters of participatory management. Only during field studies, when some specific situations happen, there is a good chance to observe managers’ actual behaviour in unfamiliar circumstances, their natural inclinations, personality traits and cultural habits (Miles & Huberman, 1994, p. 10). If the research results are going to be used in practice. In that case, it is not the respondents’ opinion about how it is supposed to be preferably vital, but the information on the circumstances and what determines them (Van de Ven & Poole, 2017, p. 867). People tend to treat the proclaimed opinion as ubiquitous or ascendant as socially correct and willingly support it, ignoring that they act otherwise in real life. For instance, the most perceived example is between proclaimed and achieved values. The results of quantitative research can consequently be the basis for wrong decisions. Opinions on civic attitudes are formed based on the representative results of sociological research. However, the power representatives are sometimes surprised by the social reactions to their decisions, which differ from the declarations they know. The generalised results of the research in the field of work psychology do not provide sufficient suggestions for effective organisational solutions because such recommendations must always be tailored to the company’s specificity.

The tendency for quick generalisation based on research results frequently leads to the formation and consolidation of stereotypes. There are many of them in social life, and they cause attitudes, prejudices, wrong decisions and discrimination. Since the answer to the questionnaire depends on how the question was formulated, the research results may be manipulated. The opinion on the same topic can be (and often is) substantially divergent in the same environment depending on who is doing
the research and what result they would like to obtain. Opinion polls, accordingly, are not necessarily about finding out the truth.

A common mistake when using quantitative research methods is the mismatch between statistical methods and the data type while processing the research results. In the case of surveys, pilot studies and statistical questionnaire tests are rarely used. In management sciences, there is no attempt to develop a standard research tool, as is the case, for example, of psychology. As a result, each researcher develops his own tool, which does not favour the comparability of the obtained results (Bamberger, 2019).

The choice of research problems where the hypotheses are verified by quantitative research is regularly explained by the desire to fill some knowledge gaps. Having looked at the number of research topics undertaken with such a goal; these gaps should have been filled long ago. However, in social research, which includes the field of management sciences, nothing can be certain and complete.

3. The need to break patterns: qualitative research

Qualitative research is about continuing the cognitive process, constantly creating new research questions and discovering new phenomena and dependencies (Denzin & Lincoln, 2011, p. 11). This is more important than stating the versatility of a given phenomenon. This approach is beneficial in the research on organisations and their management (von Krogh, 2020). Just as there are no two similar people, two identical organisations do not exist either. They differ not only in terms of quantitative data, such as sales volume, profit rate, the amount of own costs, the number of employees, modernity of the used techniques and technologies, etc., but also in terms of qualitative data: social norms, values, behaviour patterns, way of understanding the organisation’s mission, attitude to the customers and other elements of the environment, product brand, reputation of the organisation, etc. Soft and qualitative factors are essential for contemporary organisations with shifting boundaries. Nowadays, it is the organisation that decides about the possibility of entering an attractive cooperation network, which enables the creation of an environment of small, quickly reacting companies and, at the same time, ensures the continuation of growth and benefits typical for a large-scale operation (Gherardi, 2023).

Ch. Handy (1989) writes that the language of management has undergone a significant evolution from that of engineers, which talks about models, systems, control and steering, to the language of politicians, which revolves around cultures, networks, coalitions, power and leadership (p. 11). M. Crozier (1993) states that organisational thought can no longer be a purely logical and a priori consideration of the best forms of rationality, scientificity, work organisation, resource allocation or a hierarchy of power and control. It reflects the ability of groups of people to interact in much more complex systems and work on the best way to use their abilities (p. 40). So, qualitative research methods should be of fundamental
importance in management sciences (Gephart, 2004; Imms & Ereaut, 2002, pp. VIII-XII). This is mainly due to the inability to measure the features of most research subjects, but many more arguments support the statement mentioned above. For instance, there is a need to pay attention to the complexity of the research problems, the multiplicity and variability of the factors shaping various phenomena, and the decreasing repetition of actions and patterns of behaviour of the up-to-date information civilisation. All this means that the research aimed at broadening our knowledge about organisational behaviour is rather focused on discovering exceptions than on looking for typicalities. It is about identifying and determining the role of various weak signals, accidental reactions, risky decisions and creative solutions. Unlike typicality and stability, exceptional and unrepeatable is the constant source of management success. Qualitative research allows the discovery of new issues and dependencies (Flick, 2013). Thus, it advances broadening knowledge instead of reducing it to established principles and models. In contrast to quantitative research, a hypothesis in qualitative research is often the conclusion of the research process, not its beginning. While quantitative research results usually confirm what is visible anyway, qualitative research allows us to discover what is often neglected or even invisible in a particular topic and what may be significant about it so that we can study it more carefully (Mohajan, 2020).

The results of case studies, focus studies, content analysis, etc., provide information about the diversity of phenomena, opinions, thinking patterns and behaviour in organisational systems (Hameed, 2020, p. 9). The invention of the database with various patterns of worker behaviour in various organisational situations is much more valuable than an attempt to generalise the typicality (often questionable) of the research subjects by justifying it. This is especially useful for managers to find needed patterns and match them with real-life issues to solve them (Ahmadi et al., 2023). They are undoubtedly much easier to use than the generalised, simplified models of quantitative research results. Analysing a broad spectrum of employees’ behaviour in various situations, customer reactions, the context of managerial decisions, etc., may only be the basis for formulating hypotheses and research questions and, thus – a justification for undertaking quantitative research.

Managing a contemporary organisation, and operating especially on the global market, is an activity in which permanent rules and standards of conduct prove to be extremely futile. The events in the market environment occur quickly, are numerous and unpredictable. As stated by Fryderyk A. Hayek (1988), the global market is the most complicated thing on earth and, hence, completely unpredictable (p. 142). Combining the variables that should be considered in the management process is similar to a dynamic change in a kaleidoscope’s images. Therefore, we are dealing with a situation where an organisation is subject to operating in a state of frequent changes, both in space and time. In order to react smoothly to these continuous changes and to avoid stereotypical thinking, the organisation must be involved in matters that are not directly related to the managerial process. These include the
socio-cultural, political, ecological and demographic phenomena in the organisation’s environment. It is important to keep in mind that the most significant sources of organisational flexibility are its human resources, their employees’ motivation, culture and personality traits. To use them properly, the model approach to the organisation, based on the use of generalisations, has to be rejected. Instead, there is a need to particularise the behavioural instances by considering their emotional context. Field studies complement particularly the study of attitudes and behaviours that can be better understood in their natural environment (Miles & Huberman, 1994, p. 6). Thanks to observation, a more profound and fuller comprehension of social phenomena can be reached. By conducting participant observation, it is possible to identify various nuances in attitudes and behaviours that quantitative research cannot capture.

Only during field research can the secrets of an informal organisation be reached (Locke, 2011). The causes of an organisation’s success and failure are the informal relationships between employees, compatibility and antipathy, cooperation and rivalry, and the sources of emerging conflicts. Qualitative research is a way to examine the organisational culture, which, in the age of information, has become the most important management tool. The current technical possibilities and features of the e-commerce market emphasise that the organisational culture has the most significant influence on the features of the structure and strategy of organisational systems.

Throughout the research, the functioning of modern organisations, in particular the processes of performing collaborative projects, the qualitative research methods (case studies, analysis of the content in free-form interviews and participant observation) enables us to notice the essential events or critical situations that determine the results of the research (Kor & Mahoney, 2000). By using the tools mentioned above, researchers are able to adequately describe organisational cultures, by paying attention to their cultural stereotypes; they can interpret some cultures in order to understand the views and behaviours that affect them as well as assess which cultural patterns have a significant impact on the implementation of organisational goals.

4. Discussion

Currently, the subject of scientific research in management is provided by the soft problems related to interpersonal and inter-organisational communication. These two types of communication are of great importance in creating a cooperation network to implement collaborative projects that replace the old competition model in the global market. Communication problems are closely related to the organisational culture, and qualitative research methods help study them (Bjerke, 1999, p. 29). Management is a discipline that actively uses the scientific achievements of social sciences and humanities and therefore is considered an interdisciplinary science. This explicit alteration towards the humanistic trend in
management should nurture the contemporary researchers’ interest in qualitative research methods. Nonetheless, the opposite situation can be observed: the researchers are striving to base their conclusions almost exclusively on the quantitative research results.

The explanation for this occurrence is found in the publishers’ tendency to prioritise academic works based on quantitative research. Such an approach may be justified in exact and natural sciences but not in management, where the researched problems belong to the mainstream social sciences and humanities (Burrell & Morgan, 2019). The persistent statistical confirmation of the interpretations made based on the observations is much less favourable to the development of knowledge (Astley & Zammuto, 1992, pp. 448-449) than the search for interesting examples, unusual exceptions, investigation of complicated causes and dependencies, exchange of perspectives and mutual inspiration between the authors (Czarniawska, 2014, p. 37). Bureaucratic, formalistic criteria for evaluating scientific studies and the requirement for a uniform structure of these studies that clearly indicates the need to refer to the results of empirical research are unnecessary limitations of scientific progression. Adopting these criteria is supposed to discipline authors and make the reviewers’ work easier. Nevertheless, this is not a sufficient justification for restricting scientific freedom. We should also consider the standard criteria for assessing scientific achievements used in many centres. It should not be astonishing that, nowadays, there is a rapidly growing number of publications surprisingly similar to each other in terms of structure of arguments and the way of justifying the conclusions because they do not contribute to the knowledge development process as they do not share their scientific originality and value.

There is no doubt that the knowledge source is quantitative and qualitative research (Creswell & Creswell, 2017; Rose et al., 2023). Results from quantitative research can be generalised to a broader population, thus increasing the study’s external validity (Choy, 2014). Quantitative methodologies are objectively more credible than qualitative approaches (Tashakkori & Teddlie, 2010). Standardised protocols and instruments facilitate the comparison of results across different research endeavours, ensuring a more consistent and systematic approach to generating knowledge in the field (Creswell, 2014). Quantitative data processing is based on statistical software tools, leading to faster analysis and data interpretation time, even for large samples (Cassell & Symon, 2011). Advanced statistical techniques enable researchers to rigorously test theoretical propositions, identify underlying trends, and reveal new insights into the topic under investigation (Creswell & Creswell, 2017).

However, despite many advantages, the results of qualitative research also have disadvantages that are the negative of quantitative research because qualitative research typically relies on small, purposive samples, which limits the generalisation of findings to larger populations. The results may be specific to the studied group and do not translate into broader reality (Creswell, 2014). Moreover, the
interpretation of results is susceptible to the researcher’s subjective assessment. The researcher’s personal experiences, beliefs, and biases may influence data collection, analysis, and interpretation (Tashakkori & Teddlie, 2010). Finally, the lack of standard procedures can lead to differences in how studies are conducted and the results are interpreted, making it difficult to compare the results of different studies (Patton, 2015).

Therefore, depending on the purpose of the research, you need to be aware of what kind of result to expect from it. Quantitative research is a valuable source of information on the dominant phenomena in the current time and space of the given area. Therefore, it allows to capture specific trends and predict its direction of expansion and the pace of its development. Nonetheless, it is much more difficult to determine the causes of phenomena, as well as their nature and relationship based on quantitative research. Qualitative research, on the other hand, allows for a deeper investigation into the essence of the research problem and draws attention to the exceptional sides of the examined phenomena, which may consequently be the source of new significant phenomena (Edmonson & McManus, 2007, p. 1160).

A compromise can also be achieved by combining both methods in one research project, which allows the use of mixed methods (Tashakkori & Teddlie, 2010) or triangulation of methods (Denzin, 2012), e.g. conducting surveys (quantitative method) and in-depth interviews (qualitative method) in order to obtain complementary data. This approach allows for in-depth data analysis and mutual verification of results. Embedded Case Studies enable the use of quantitative methods in case studies (Yin, 2017). The advantage of this type of study is that it enables the capture of specific contexts while facilitating the generalisation of results through quantitative data analysis (Stake, 1995). Social Network Analysis (SNA) focuses on examining the structure and dynamics of relationships in social networks by using quantitative (e.g. network metrics) and qualitative (e.g. interviews with key network actors) methods (Borgatti et al., 2013). Another effective and efficient solution is the use of Big Data and digital analyses, i.e. analysing large data sets by using advanced analytical techniques and artificial intelligence (AI) algorithms to analyse quantitative data and discover patterns and trends to get more to profound conclusions (Mayer-Schönberger & Cukier, 2013). However, assessing the impact of using mixed methods on achieving study objectives can be difficult due to the frequent lack of a clear definition of the objectives of mixed methods (Moura e Sá, 2023).

A new impulse is required in the progression of management sciences, one that would also bring new approaches (Shaw et al., 2017) and allow for a return to the forms of scientific expression that were quite commonly used in the heyday of this science in the mid-twentieth century due to the emergence of the humanistic trend. Peter Drucker, a renowned researcher and the so-called “management guru”, is the author of noteworthy studies that utilize the findings of his empirical research (Micklethwait & Wooldridge, 1996, pp. 87-88). Another great author in management studies, Philip Kotler, uses the case study approach to analyse the specific cases in
his books. Implementing new perspectives, regardless of their actual value, without sticking to the rules of methodologically correct scientific research could be more inspiring and conducive to scientific advancement (Cassell et al., 2006) than research results on some trivial problems. The world’s most highly cited business and management researchers: David Teece, Jay B. Barney and Shaker A. Zahra (Ioannidis, 2023) did not base their famous and highly valued works on the results of quantitative research (Barney, 1991; Teece et al., 1997; Zahra & George, 2002).

Conclusions

The article presents the arguments indicating the need to revise the established assumptions and standards currently used in the social sciences methodology, particularly in management sciences. Methodological formalism is a barrier to the development of this discipline, making it difficult to deal with topics related to the soft problems which are not amenable to quantification or which require a significant simplification for this purpose. At present, the subject of management sciences primarily deals with the problems of social communication, which in the era of information are of fundamental importance in creating organisational networks for the implementation of collaborative projects. Qualitative methods allow us to capture substandard phenomena and comprehend the complex dependencies concerning organisational behaviour (Kostera, 1996, p. 12). Management sciences are in social sciences and humanities; they do not have to aspire to the strict methodological standards typical of science.

Meanwhile, the publishers’ requirements regarding the structure of scientific papers in management sciences endeavour to standardise them and push authors towards implementing quantitative research results. Let us consider that the assessment of scientific achievements is also often dominated by methodological formalism. It is anticipated that, nowadays, we are dealing with mass production of publications that are methodologically entirely correct and which are hardly unique scientifically (Czarniawska, 2014, p. 182). It would be advantageous to create a global platform for a discussion on this topic (Beged-Dov & Klein, 1970).

More important than focusing on following the methodological procedures, the scrupulous determination of quantification, representativeness and statistical significance of the results (Maslow, 1954, pp. 13-14) is to formulate questions and unusual hypotheses instead of verifying some ‘safe’ hypotheses as well as to identify the reasons for the dependence between phenomena instead of its state. Most problems in the field of social sciences rely significantly on the essence of human behaviour; there is no sense in following the example of methodological purists trying to solve them by eliminating subjectivism and the role of values. In scientific activity, too much attention is being paid to caution. Hence, few authors are courageous enough to decide on a research topic.
References


