

Tame, Messy and Wicked Problems in Hybrid Management – The Perspective of Management Students

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Remote management has increased in Finnish society due to the COVID-19 pandemic. It will be needed even after the pandemic, as remote work has become a stable and fairly common method in various organizations. The purpose of this study was to chart the views of social and health care professionals studying management on managers' tame, messy and wicked problems. The study also examined in which contexts the respondents placed various problematic situations and phenomena present in organizations. The data were electronically collected from students (N=32) as qualitative data, which were analyzed through inductive content analysis and data quantification. Two main classes emerged from the data (f=313): the problems of ethical management (49%) and the problems of operations development (51%). Of the problems analyzed, 36% were classified as tame, 37% as messy and 27% as wicked. Tame problems were largely related to workplace communities, resource management and employee well-being. Messy problems mostly involved productivity, employee well-being and operations development. Wicked problems chiefly entailed workplace communities and operations development. Based on the results, hybrid management appears as in-person management in 40% and as remote management in 60% of the problems examined. The results can be used in developing hybrid management and culture and in the continuing education of managers. Further research is needed on the practical applications of hybrid management and the tame, messy and wicked problems of managers working on different levels.

Keywords: hybrid management, in-person management, wicked problems, supervisor, social and health care, Finland

Introduction

The role of managers in the Finnish social and health care field has changed due to digitalization, the pandemic and a broad reformation of the field. Starting in 2023, social and health care services, along with rescue services, are provided by 21 well-being services counties, to which 173 000 employees transferred from municipalities. Due to the changes in managers' work environment and the multi-location nature of their work, more demands and stressors are placed on their roles. The reforms have intertwined county services, while the increase in information and multiformity increases managers' workload (cf. Raisio et al. 2020, p. 108). The pandemic-caused leap into remote work in 2020 saw approximately one million Finns switch to remote work, but even before the pandemic remote work had increased due to digitalization, changes in attitudes and positive experiences of remote work (Ruohomäki 2020).

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The move to remote work has made remote management similarly important as in-person management, which has caused organizations to develop practices of hybrid management. Hybrid management includes both remote and in-person management and aims to build a model that would contain the best parts of both. Remote and in-person management both require clear, commonly agreed-on goals, practices and definitions of responsibilities (Laaksonen and Bäckström 2022, Ristolainen et al. 2020). Hybrid management also involves the manager's remote work, which they can perform regularly as scheduled, irregularly and case-by-case, or as mobile work at different locations. Regular remote work can mean e.g., two to three scheduled days per week or a specified number of days per month. Combining remote and in-person work as efficiently as possible is a central goal (Eklund et al. 2021, pp. 12, 17, 24).

Remote management requires technological skills, as a significant portion of meetings, communication and information sharing occurs virtually (Laaksonen and Bäckström 2022). Unidirectional communication, such as routine information sharing, can be done via e-mail, text messages or chat channels, while complex or delicate matters are better handled in-person (Hill and Bartol 2018). The most efficient media for conflict resolution are primarily in-person meetings and secondarily video conferences (Eklund et al. 2022, p. 104).

Remote communication requires remote communication skills, proper, functioning equipment and skills in their use. The challenges of video-based remote meetings are creating genuine interaction and a good atmosphere. (Ristolainen et al. 2020). Creating new practices that increase interaction and cooperation is important, as sufficiently effective remote meetings lessen or even negate the need for in-person meetings (Ollila et al. 2018, p. 247). It is, however, challenging for managers to become acquainted with new employees remotely (Ravelin, et al. 2021), which is why in-person meetings are still important.

The position and tasks of first-level managers are seen as challenging, as they are positioned between middle management and employees, both of whom have demands. Aside from personnel management and their basic tasks, first-line managers are increasingly required to have competencies related to law and strategic and economic management. Managers work as leaders of people and promoters of change, which requires multifaceted skills (Reikko et al. 2010).

The duties of future first-line managers in the social and health care field will increasingly focus on personnel management, particularly recruitment and employee well-being. Providing sufficient and equal attention and support to employees in various situations has been discussed by e.g., Pirttilä et al. (2019), along with the previously mentioned studies. Concrete personnel management tasks that are seen as challenging include intervening in harassment situations, giving employees warnings, ending employment contracts during trial periods and intervening in low work morale (Laaksonen 2019, Laaksonen 2017). Resolving conflicts is one of the main challenges in personnel management (Laaksonen and Ollila 2022). Such situations often involve strong emotions such as fear, hate or shame. Long-term conflicts have an adverse effect on work, productivity and employee well-being and atmosphere (Järvinen and Luhtaniemi 2013).

Management involves moral principles, values and virtues, which guide managers' actions in problematic situations and decisions. An ethical manager applies ethical principles and practice guides and seeks to behave in accordance with ideals such as justice, equality and objectivity (Viinamäki 2009). In a study of Finnish managers in different fields, the most ethical problems were caused by matters related to resource usage, achieving economic aims and the expectations and demands of upper management (Huhtala et al. 2011).

This study theoretically defines problems as tame, messy or wicked and examines them as part of remote and in-person encounters in hybrid management. Many of the problems in management arise from social phenomena such as the social and health care reform, digitalization, the pandemic and the weakening of economic resources. Under these circumstances management work is increasingly challenging due to factors such as the wide-scale employee shortage and problems with employee well-being, which are also related to questions of attracting and retaining factors in personnel. These factors create their own tame, messy and wicked problems.

The theoretical foundation of tame, messy and wicked problems comes from the famous 1973 article by Rittel & Webber. The topic has since been discussed and developed further in many international publications (e.g., Alford and Head 2017, Zellner and Campbell 2015, Grint 2005, Glouberman and Zimmerman 2002). In complex problems, the cause-and-effect relationships are not clear, which makes it difficult to solve things and predict the consequences. Different things are intertwined, and it is often impossible to be sure what affects which point and which factors affect the chain of events (Maguire et al. 2011).

This article studies the views of social and health care professionals studying management on the tame, messy and wicked problems of managers and on the contexts of solving such problems in remote and in-person management.

Literature Review

Tame Problems

Tame problems are stable and clear. Their basis and contents are fairly easy to understand and analyze. There are often clear models and methods for solving them and consensus can be built for solving them, especially if the solutions are supported by evidence-based knowledge (Raisio et al. 2018, Conklin 2006). To some extent tame problems are even routine-like, as they often contain a clear beginning and end, there are only a certain number of possible solutions, and the solutions may be based on concrete operational models. (Rittel and Webber 1973). The solution mechanisms for tame problems are also repeatable and transparent, and there are no great uncertainties or differences of opinion in solving them (Stacey 1996, Glouberman and Zimmerman 2002, Head 2022).

Tame problems are often linear and can be solved step by step (Conklin 2005), and for them a clear process can be found in the organization. In a tame problem, a clear definition of the problem helps reveal the best solution and the goal can be

achieved in whole or in part (Kreuter et al. 2004). Grint (2005) has analyzed tame, messy and wicked problems through three work orientations of the manager. In tame problems, the manager uses a command orientation, in which they emphasize clear directions and quick answers. However, a tame problem can become messy or wicked if the problem is not caught in time (Vartiainen 2005).

Messy Problems

Messy problems are more demanding, both in understanding and solving them than tame problems. They are not individual problems or phenomena, but situations that involve many intertwining systems. A messy problem's cause or origin is not always fully clear. For this reason, they are difficult tangles, which when left unresolved become all the more complex and may turn into a wicked problem (see King 1993, originally Ackoff 1974, Head 2022). Messy problems generally cannot be solved alone, but require varied expertise, wide understanding and tested methods and practices.

Messy problems are a type of cluster that can be analyzed by looking at the entire cluster and the interaction of its different parts. This means that messy problems cannot be solved one tangle by one but must be confronted as a whole. King (1993, p. 106) states that "messes demand a commitment to understanding how things going on here-and-now interact with other things going on there-and-later". Managing messy problems requires system thinking and systemic approaches. This means that it is important to analyze and understand the overall picture of messy problems and their various interactions, without forgetting other related problems (Alford and Head 2017, Daviter 2017, Raisio et al. 2019).

Wicked Problems

Wicked problems have almost become a fashion phenomenon in the 21st century, and problems are characterized too easily as wicked. As with all problems, those facing them need sufficient information about the matter, experience in solving problems and knowledge of the relationships between things (Alford and Head 2017, McCall and Burge 2016).

Wicked problems and phenomena are more complex than the above and cannot in fact be solved, only survived (Daviter 2017). It is important to understand that attempts to solve such problems are living and ambiguous processes, in which matters become intertwined through various complex dependencies (Vartiainen et al. 2016). The cause-and-effect relationships between wicked problems and attempts to solve them are similarly unclear (McCall and Burge 2016). This further increases the situation's uncertainty and the difficulty of finding a satisfying solution or approach. The solutions to devilish problems are indeed unique and solutions tailored to each problem (Kreuter et al. 2024). It is therefore best to use nonlinear processes to discover the best possible solution (Parsons 2002, originally Schön 1983). Replicating previous solutions is thus neither possible nor useful. The possible solutions to wicked problems must be discovered in the contexts in which they appear (Xiang 2013, Vartiainen and Raisio 2020, Lönngren and van Poeck 2021).

Wicked problems require asking questions, which is when the manager offers different solutions and perspectives (Grint 2005, Zimmerman 2008). In order to solve wicked problems, cooperation across organizational boundaries is needed. If possible, the involvement of customers and citizens is also useful in order to bring forth new thinking and new methods of operation (Dankert et al. 2016, Clarke and Stewart 2000). It is paramount that solutions to wicked problems must be sought in the context in which they appear (Xiang 2013, Head 2022). In wicked problems, each attempted solution changes the problem itself and the final solution can be characterized as better, worse or sufficient (Kreuter et al. 2004). Later, the solution to the wicked problem may have to be changed, if e.g., circumstances change.

The study by Keiholehti (2020, p. 61) found that managing the threat of violence in the manager's work was a wicked problem, while Hartikainen (2022) confirmed that the decreasing attraction of the health care field was one. In the study by Kuikka (2020), the respondents believed that the most challenging wicked problems were related to relationships and interactions that involved conflict, inappropriate behavior and problems in cooperation.

Methods

Research Frame and Data

The purpose of this study is to chart the views of social and health care professionals studying management on the tame, messy and wicked problems in management and the contexts of solving them in remote and in-person management. The aim is to produce a theoretical analysis, which is used to depict managers' operative tasks in remote and in-person meetings. The research problems are the following:

1. What kinds of management problems do the respondents raise?
2. How are management problems divided into tame, messy and wicked problems?
3. What kinds of management problems do the respondents want to handle in-person?
4. What kinds of management problems do the respondents want to handle remotely?

This study is part of the project "Remotely more - work in social and health care is changing", for which permission was sought from Tampere university of Applied Sciences. The qualitative data were collected in Spring 2022 from master's degree students in social and health care management (n=32), of whom approximately 1/3 worked as managers and 2/3 as employees in the social and health care field. The respondents had an average of 14 years of experience in the field. More than half of the respondents had a Registered Nurse degree. Other background degrees included Social Work, Church Social Work, Radiography, Bioanalysis and Physiotherapy.

The study was conducted as a course's preliminary assignment, for which directions were given on the Moodle learning platform. The instructions comprised of two video recordings and written instructions. The first recording contained oral instructions for the assignment and the second a specialist lecture that defined tame, messy and wicked problems. The participants had the opportunity of watching the video multiple times before completing the assignment. The respondents were provided with a table containing three columns, which they were instructed to fill with tame, messy and wicked problems. They were instructed to classify the problems in the following way: 1 = in-person meeting, 2 = any meeting, 3 = video meeting and 4 = other remote meeting. No personal or background information was collected on the table.

The participants were first instructed to consider managerial tasks and categorize them as tame, messy and wicked on the chart as a solo assignment. After completing the task, the students assembled in groups on the Teams platform, where they processed their individual results of tame, messy and wicked problems and numbered them based on in which contexts they would prefer solving each problem. The groups submitted their responses to a closed submissions area on the Moodle platform, which could only be accessed by the researchers.

The respondents had marked numbers (1, 2, 3, 4) next to the expressions based on which context they considered primary for solving the problem, followed by what they considered secondary options. Only problems whose only marked context was in-person meetings were included in the category of in-person meetings (category 1). Other categories were filled based on which context had been marked first. "Any meeting" and "other remote meeting" were combined into a category called "other meeting".

Methods of Analysis

The data were analyzed through inductive content analysis and data quantification (Tuomi and Sarajärvi 2006). Tame, messy and wicked problems were each analyzed through data-driven content analysis. Two researchers participated in the analysis. The first one read the data several times searching for similarities and differences, after which they grouped the data into sub-classes and classes. The second researcher studied the tables created by the first researcher based on their analysis and commented on the results. The researchers then sorted the results of the final analysis into sub-classes, classes and two main classes. The data, 3476 words, consisted of brief expressions, most of which were already greatly compressed (e.g., Table 1).

Table 1. An Example of the Inductive Content Analysis

ORIGINAL EXPRESSION	COMPRESSION	SUB-CLASS	MAIN CLASS
-Constant tardiness -Constantly exceeding working hours -Overtime, exceeding working hours at own leisure -Failure to follow working hours -Misusing working hours, long lunch breaks, etc.	- Constant tardiness - Constantly exceeding working hours -Overtime at own leisure -Not following working hours - Misusing working hours, long lunch breaks	Intentional non-compliance with working hours	Questions of workplace responsibility
-Violence -Sexual harassment -Racism	-Violence -Sexual harassment -Racism	Harassment	Workplace community problems

Data quantification was performed by manually counting frequencies for the tame, messy and wicked problems in the data. After this, frequencies were manually counted for the contexts for solving tame, messy and wicked problems (in-person meeting, video meeting, other meeting) (Tuomi and Sarajärvi 2006).

Ethical Considerations

The study was conducted according to the Finnish National Board on Research Integrity TENK's Guidelines for the responsible conduct of research (TENK 2012, p. 6). Study permission was sought from the X organization. The participants were given a data protection notice and informed of the granted study permission. The study collected no personal or background information. The assignment was part of the respondents' course and thus mandatory, but they were given the option of not sharing their responses for research purposes. In this case their responses would have only been used for the purposes of the course. No respondent refused permission. The respondents' names and identifiers were not recorded, and the results have been presented in a way that makes identifying their individual opinions impossible.

Results

Tame, Messy and Wicked Problems in Management

In a manual count, 313 problems were discovered in the data. Of these, 25% were categorized as workplace community problems, 20% as employee well-being problems, 17% as operations development problems, 17% as productivity problems, 13% as resource management problems, 5% as work responsibility problems and 3% as quality assurance problems. Of the problems, 36% were tame, 37% messy and 27% wicked. The problem subclasses were grouped into seven classes, which are presented in table 2. Problems of work responsibility and quality assurance only appeared in tame problems. Productivity problems were never tame and mostly

appeared as messy problems. Workplace community problems were clearly the largest group within wicked problems. Operations development problems appeared mostly in messy problems and least in wicked problems (Table 2).

Table 2. *The Abstracted Classes for Tame, Messy and Wicked Problems*

Problem classes	Tame problems (f=111) %	Messy problems (f=117) %	Wicked problems (f=85)%
Quality assurance	8	0	0
Work responsibilities	14	0	0
Operations development	16	16	19
Workplace community	19	14	49
Employee well-being	20	26	11
Resource management	23	13	2
Productivity	0	31	19
Total	100	100	100

In this study, the problems of workplace community, employee well-being and work responsibility have been abstracted into problems of ethical leadership, which form 49 % of the data. Problems of ethical leadership appeared most often in tame and wicked problems (Table 3). Workplace community problems included e.g., misconduct, conflict, referrals for treatment, harassment and ending employment contracts during trial periods. Questions of responsibility contain e.g., neglecting tasks and ground rules, avoiding tasks and forcing them on others, failure to commit to ground rules and instructions, exceeding one's position and refusing tasks. Problems of employee well-being included e.g., matters related to the equal treatment of employees, problems in workplace atmosphere, questionable absences and employees' working ability. Problems of workplace atmosphere included worsened atmosphere, lack of team spirit, cliques, negative atmosphere, negative attitude towards students and individual employees' lack of motivation.

Table 3. *The Number of Problems related to Ethical Management and Operations Development in Tame, Messy and Wicked Problems*

	Tame problems (f=111) %	Messy problems (f=117) %	Wicked problems (f=85) %
Problems of ethical management - workplace community problems, employee well-being problems, questions of work responsibility	53	40	62
Problems of operations development - productivity, operations development, quality control, resource management	47	60	38

One half of the data (51%) is related to operations development, which included problems related to productivity, resource management and quality assurance (Table 3). Operations development contained various problems related to change management, transmitting information, quality assurance, client feedback, risk analysis, patient safety and lack of space and equipment. Problems of productivity included inefficient methods, lacking competences, resistance to change and factors

related to operating culture. Inefficient operations included problems in work productivity and inefficiency, wrong methods, lack of orientation and lack of cooperation. Other problems of productivity include lacking competences in different fields and employees who cannot perform their tasks.

Problems of resource management included particularly work and vacation scheduling, finding substitutes and resourcing for orientation. Resource management also consists of the allocation of economic resources, agreement management and operational planning and monitoring. Problems of quality assurance included handling adverse events and client feedback, actualizing repairing feedback and feedback conversations and managing lacking competences (Table 3).

The Contexts of solving Tame, Messy and Wicked Problems

Of all reported meetings (f=313), 40.3% were classified as in-person meetings, 26% as video meetings and 34 % as other meetings. In-person and video meetings comprised roughly 2/3 of the data. Other meetings are common in tame and messy problems, while the respondents wanted to solve more than half of wicked problems in in-person meetings. The respondents wanted to solve 57% of tame problems in video and in-person meetings, 64% of messy problems and 82 % of wicked problems (Table 4). The respondents wanted to solve almost 90% of the problems of ethical leadership in video or in-person meetings. However, they would solve more than half of problems related to operations development in other meetings and 1/3 in video meetings (Table 5).

Table 4. *Number of Tame, Messy and Wicked Problems in the Data*

	In-person meeting %	Video meeting %	Other meeting %	Total %Tame
Tame problems (f=111)	33	24	43	100
Messy problems (f=117)	38	26	36	100
Wicked problems (f=85)	54	28	18	100

Table 5. *Number of Problems of Ethical Management and Operations Development in In-Person, Video and Other Meetings*

	In-person meeting %	Video meeting %	Other meeting %
Problems of ethical management (f=156) - workplace community problems, employee well-being problems, questions of work responsibility	68	21	11
Problems in operations development (f=157) - productivity, operations development, quality assurance, resource management	13	32	55

Discussion and Conclusions

The purpose of this study was to chart the views of social and health care professionals studying management on the tame, messy and wicked problems and the contexts of solving them in remote and in-person management. Analyzing the

data yielded two main classes: problems of ethical management (49%) and the problems of operations development (51%). The data ($f=3139$) contained 36% tame problems, 37% messy problems and 27% wicked problems. Tame problems were focused on problems of workplace community, employee well-being and resource management. Messy problems were most clearly focused on issues of productivity, employee well-being and operations development. Wicked problems were mostly focused on problems of workplace community and operations development.

The in-person meetings of tame and wicked problems emphasized problems of ethical management, such as issues with workplace communities and employee well-being, which has also been noted in studies by Huhtala et al. (2019), Kuikka (2020) and Keiholehti (2020). In tame problems, problems of ethics also include questions of work responsibility, such as misconduct and avoiding responsibility. Earlier studies have also highlighted management problems such as recruitment and employee well-being (Nurmeksela 2021, Laaksonen and Bäckström 2022), problems in the workplace community, lacking work morale (Laaksonen 2019, Laaksonen 2017, Vartiainen et al. 2013) along with profitability and productivity (Lehto and Viitala 2016).

The respondents wanted to solve roughly 90% of all problems of ethical leadership in video or in-person meetings, which clearly shows their understanding of the challenges of ethical leadership (Huhtala et al. 2019). Hill and Bartol (2018), along with Eklund et al. (2021) suggest that ethically sensitive, confidential and disciplinary problems should be resolved in person. The respondents wanted to solve more than half of the problems related to operations development in other meetings and one third in video meetings.

The respondents suggested in-person meetings for 33% of tame problems, 38% of messy problems and 54% of wicked problems. As wicked problems are more complex and harder to identify and solve (Rittel and Webber 1973, Xiang 2013), these results are justified. Solving wicked problems in video or in-person meetings is more efficient, as other meetings may prolong and further complicate the problem.

Of all categorized meetings ($f=313$), in-person comprised 40%, video meetings 26% and other meetings 34%. Based on these results, hybrid management appears as 40% in-person management and 60% remote management.

The data in this study emphasized the problems of ethical management and operations development. Based on the analysis of the data, we recommend a model of hybrid management that seeks to solve problems of ethical leadership in in-person meetings and the problems of operations development remotely. These results can be used in developing hybrid leadership, work culture and workplace community training and education. Further research is needed on the practical applications of hybrid management and the tame, messy and wicked problems of managers working on different levels.

Strengths and Limitations

The generalizability and transferability of these results may be limited by the fact that 2/3 of the respondents replied from the perspective of an employee. As

tame, messy and wicked problems often involve an employee, a group of employees or another actor as one of the parties, employees' perspectives are important in solving problems in practice, which is why their participation was justified. Due to their long-term work experience, management training and in some cases management experience, the respondents had insights into managerial work and motivation to consider the assignment properly.

The reliability of the results is increased by the respondents' viewing of the instruction video and the specialist lecture before working on the group task. Before answering the tasks, the students had worked in groups for six months, making them familiar with each other and the practices of group work. Each group contained one student who worked as a manager, which ensured no group consisted only of employees. The results are certainly affected by the respondents' experience of the social and health care field and experience of managerial work. Tame, messy and wicked problems have been discussed in scientific literature from the perspectives of society, systems organizations and upper management, but rarely from that of first-line managers' workplace problems.

The data were analyzed by two researchers, which increases the study's reliability. The overall results of the study are logical in relation to earlier studies and theoretical perspectives. The results were presented to the respondents, who were asked for oral feedback on the results. The respondents felt that the results described their views, which increases the study's reliability (Tuomi and Sarajärvi 2006).

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