LEX LOCALIS - JOURNAL OF LOCAL SELF-GOVERNMENT
Vol. 21, No. 4, pp. 1067-1088, October 2023

The Impact of Trust, Understanding and Power on Self-managed Teams

SIMON KRAUSE & HANA STOJANOVÁ

Abstract Local administrations and companies rely on committed and self-reliant employees to achieve their goals. However, there is limited research on how influencing factors such as trust, understanding, and power affect self-managed teams. This study investigates the modes of interaction of these factors on the team structure within self-managed teams in IT departments and service providers of different German public administrations. The research methodology was a quantitative online survey comprising validated items from standardised test procedures to measure the influence factors. A total of 246 data sets were analysed by regression and mediator analysis. The study found significant positive effects of trust and power on understanding and a mediator effect of power on the relationship between trust and understanding. In conclusion, investments in team member empowerment in low-trust environments can be recommended to improve understanding more significantly than in high-trust situations.

Keywords: • self-management teams • self-managed organisation • trust • understanding • power

CORRESPONDENCE ADDRESS: Simon Krause, M.Sc., Master of Science, Mendel University in Brno, Faculty of Business and Economics, Zemedelska 1, 61300 Brno, Czech Republic, e-mail: xkrause@mendelu.cz. Hana Stojanová, Ph.D., Doc. Ing., Mendel University in Brno, Faculty of Business and Economics, Zemedelska 1, 61300 Brno, Czech Republic, e-mail: hana.stojanova@mendelu.cz.

https://doi.org/10.4335/21.4.1067-1088(2023)
ISSN 1581-5374 Print/1855-363X Online
Available online at http://journal.lex-localis.press.

1 Introduction

When examining the various challenges faced by municipal administrations and their IT departments or IT service providers, it becomes clear that each administration must overcome specific obstacles with highly dedicated and committed employees. Such employees are essential for optimising creativity and performance and delivering top-notch results for their municipality. In the face of increasing collaboration between municipal IT departments and external IT service providers and the rapid changes by digitalisation, the local authority is a competitor with other IT companies in the battle for talent (Presbitero & Teng-Calleja, 2023). Employees who work in self-managed teams have a lower turnover. Giving employees responsibility and involving them in decision-making can be a crucial success factor for a digitalised communal administration. Self-managed teams can help foster this involvement and self-responsibility, leading to a positive and fulfilling work environment. Therefore, all management efforts must strive to create and enhance a performance and responsible team environment to achieve organisational goals. Self-managed teams are one of the possible organisational forms that make this possible (Doblinger, 2022; Munyede, 2021).

Cohen explains that people who work self-managed have a high degree of autonomy and direct control over the working conditions around them (Cohen, Chang, Ledford, 1997, Cohen, Ledford, 1994). Lee and Edmondson define self-management as working autonomously without external controls. People who work self-managed need a high degree of internal motivation, a vision of a goal and the necessary skills to achieve the goals (Lee, Edmondson, 2017). Anwar and Abdullah define self-managed teams as a team in which members coordinate their activities, focus and efforts. Each team member must understand the common goal and objective (Anwar, Abdullah, 2021).

According to Ehlers, an organisation is defined by the self-determination and autonomy of each person and less firmly determined subjective behaviour and life patterns of the individual persons (Ehlers, 2020).

In the sense of the above definitions, self-managed teams and self-managed organisations can therefore be defined as an externally initiated force that individual team members use to achieve the tasks and goals set jointly within the team. Self-management refers to the idea of self-responsibility and self-leadership without external control. However, it is acknowledged that self-management serves as the structure where organisations establish the necessary framework for employees to organise themselves through mechanisms of influence factors (Tenbergen, 2021).
It can also be seen that this form of organisational concept, which is based on self-organisation and does without hierarchy and authority, gives companies a certain flexibility and adaptability to react quickly to new circumstances. Several studies show that the organisational approach of self-managed teams has a positive effect

on team performance, and, at the same time, the increased responsibility increases loyalty to the company, which reduces fluctuation (Harjanne, 2021).

Often associated with start-ups and IT companies, self-managed teams as an organisational form are also gradually gaining importance in cumulative administrations. The external IT service providers, especially the IT departments of municipalities, are increasingly tending towards a self-managed team approach (Castellano, Chandavimol, Khelladi, Orhan, 2021). Within the framework of these self-managed teams, influence mechanisms often come into play in the team structure. Within these self-managed teams, there are always members who more or less take over the team's leadership and influence others. Previously no studies have analysed these influencing factors and their effects within self-managed teams that interact and function together (Kaltenecker, 2021).

2 Review of Literature

In order to explore the differences between traditional hierarchical and self-managed organisations, it is necessary to examine how these organisations solve fundamental organisational problems (Jiang, Lepak, Hu, Baer, 2012, Martela, Kostamo, 2017). A study by Puranam identified four core problems that every organisation must solve: the division of labour, the allocation of tasks, the provision of rewards, and the provision of information. These problems are addressed in both traditional hierarchical organisations and self-managed organisations. Martela has developed Puranam's framework by introducing four new subcategories, including an incentive structure for rewarding and addressing free-riding, providing direction and coordination, and understanding how self-managed organisations address these issues in more detail (Puranam, Alexy, Reitzig, 2014, Moe, Dingsyr, Kvangardsnes, 2009).

In self-managed organisations, the focus is on the employees, with all leadership contributing to their self-organisation and willingness to manage themselves (Sonta-Draczkowska, 2020). Self-organised employees have the power to decide how to work, the authority to manage and direct their work by setting goals and priorities, and the authority to participate in the organisation's development. This self-management leads to more significant commitment, positive attitudes towards work, and higher company affiliation (Morgeson, 2005, Martela, Gómez, Unanue, Araya, Bravo, Espejo, 2021).

The mechanisms of influence that make organisations operate successfully include power, trust, and understanding. Trust is a critical element for effective teams and self-management, and it is the underlying mechanism of successful self-management and empowerment (Doblinger, 2022). Wihler identified four micro-political competencies, including interpersonal influence, networking, perceived

sincerity, and social acumen, essential for self-management (Martela, 2019, Wihler, Solga, Blickle, 2014).

Individual self-management works without external guidelines and control based on clear visions, goals, intrinsic motivation, and competence (Jabbouri, Hamoud, 2020). The trust in the organisation that employees can work independently, the power to make decisions without bureaucratic processes, and a clear understanding of a common goal and vision increase commitment, motivation, and innovation (Martela, 2020).

2.1 Definition of Trust

Warren Bennis describes trust as the lubricant that keeps an organisation running, an essential ingredient for a functioning organisation (Bennis, Nanus, 1992). Through trust, almost everything can be regulated in a group or organisation. Greater Trust within an organisation can lead to increased flexibility, greater freedom, and more manageable risks. If there is no trust in an organisation, there is no reliability among each other (Osterloh, Weibel, 2006).

The central component of building trust is a so-called leap of faith over a reliable action of another person. Rousseau described this as follows: Trust is a mental state that includes the intention to accept susceptibility based on positive expectations of someone else's intentions or behaviour. A leap of faith is the willingness to accept the vulnerability of one's personality and interests due to the speculation that another person will support one in the future (Rousseau, Sitkin, Burt, Camerer, 1998).

Due to the accepted vulnerability, people are sensitised to register the slightest enrichment of trust abuse and immunise themselves against breach of Trust (Heidbrink, Schürmann, 2009; Jakob Tanner, 2014). Trustworthiness cannot be measured objectively, so every person unconsciously makes derivations from a person's behaviour and personality in order to assess a person's lack of conformity (Osterloh, Weibel, 2006). Trust is an influencing factor that comes into play between individuals and groups. Trust can only be built up if one of the two parties is willing to make a pre-investment in the form of a leap of faith, which the congruent action of the other party must confirm. Once trust has been built, the economic scope for action of the familiar actors is expanded by reducing control mechanisms (Ngich, 2021).

2.2 Definition of Understanding

The following definition summarises the meaning that understanding can exploit:
There is a mutual understanding between at least two persons through perceiving and processing information and finding understanding through communication or a

common consensus (Galliker, Weimer, 2006). Understanding goes hand in hand with understanding another person and their position. Understanding can be defined as a deep understanding of other people's motives, from which new scope for action arises. Only with a deep understanding of the other person's motives can a tacit or open trade be agreed upon (Ehlers, 2020). In order to achieve this understanding, several parameters are required, which must fit on an essential basis. Both parties first need a common language, as well as corresponding knowledge. Another equally important factor is the desire to comprehend each other, which can be achieved through a mutual agreement to attain mutual understanding (Galliker, Weimer, 2006).

Every conversation can be seen as a kind of negotiation, but according to Geschwill and Nieswandt, a fundamental principle must be to treat people and things differently. Problems and interests are negotiated instead of opinions and positions (Al-Dhuhouri et al., 2021). Ideally, objective decision-making criteria should be established before negotiations occur, and several possible outcomes should be developed and weighed before an agreement is reached (Geschwill, Nieswandt, 2020). In order to be successful in negotiating an understanding, an attempt should be made to find common ground, the alleged common denominator, to continue negotiating based on this partial consensus (Will, 2016). All necessary parties must work towards a standard solution. In the process of reaching an understanding, the different aspects of the actors involved are worked out according to their weighting and aligned towards a collective solution using partial compromises. If the negotiations on an agreement could fail, they are initially excluded and negotiated separately after reaching a partial consensus (Geschwill, Nieswandt, 2020).

The understanding process offers the advantages that the parties involved present their interests, views and experiences, establish a shared understanding and proactively prevent a possible loss of control or emerging motivation problems with this coordinated approach (Ehlers, 2020). Transparent and clear understanding processes within an organisation, for example, in the case of a corporate vision or a growth direction, increase the acceptance of tasks to be completed and promote compatible actions of the affected actors. Furthermore, comprehension results in an improved and more empathetic atmosphere within the organisation by fostering participation, shared decision-making, and compassion (Nerdinger, Blickle, Schaper, 2019). The influencing factor of understanding opens up the possibility of a transparent and independent negotiation, which can be negotiated by all actors involved in a self-determined manner. The benefit of this influencing factor lies in its voluntary agreement-based nature, which enhances the bond between the parties involved (Klein et al., 2020). The following definition is therefore adopted for this work: understanding means a tacit or open and voluntary interaction between at least two people based on mutual consent and commitment of both parties.

2.3 Definition of Power

Power can be described as an elementary component of an interpersonal relationship. Whenever people meet, a power relationship arises between them. Society and every organisation are based on power as a constitutive force that establishes the order in every social construct (Krackhardt, Mintzberg, 1985). Max Weber defines power within a social context as enforcing one's own will, even against resistance, depending on the reasonable chance of success (Weber, 2012). Power is a potential skill that does not need to be used. Power can exist in a consensus and necessarily come into play in a conflict (Giddens, 1979). Power is only legitimised if formally obtained correctly, for instance, generally accepted. For power to be exercised, it always requires a social construct that is no longer comprehensible through understanding (Ameln, 2012). Suchanek summarises power as the possibility of an individual or several cooperating parties influencing the decisions of other parties to promote their interests (Suchanek, 2021).

Furthermore, Argyle and Henderson define power as the active influence of others (Argyle, Henderson, 1990). After French, Raven and Cartwright, there are six cornerstones of power. These include the power of legitimation, reward, punishment, and the power of information, example and expert (French, Raven, Cartwright, 1959). In every social construct, there is a particular dynamic concerning power relations. Through this dynamic, power is not to be understood as an attribute of a person but as a feature of the position in the social construct (Krause, 2010). Power in organisations often consists of several factors, such as expert knowledge, important contacts inside and outside the organisation, and the use and depletion of informal communication. A person's referential power depends on their relevance to others and their replaceability (Kühl, 2016; Spreitzer, 1995). A function of power is to enforce the interests and goals against other interests and goals of other organisation members. Power can influence a common goal and the organisation's actions (Krackhardt, Mintzberg, 1985; Zelger, 1975). Power could reduce an organisation's complexity and uncertainty (Ameln, 2012). Powerful actors who seek control of a situation often try to circumvent a process of understanding to achieve their goals (Slabu, Guinote, 2010). Ameln summarises that in various experiments, gaining power leads to a change in behaviour. Influential people often consider others less important and their opinions and interests less valuable. One's values shape the empathy and judgment of others, and one's appearance and behaviour become more self-confident and ruthless (Ameln, 2012).

It can be said that the influencing factor of power can be obtained from different sources and becomes effective where understanding reaches its limits. However, decisions made through the exercise of power usually receive only limited approval from other actors.

3 Research

This study explores the impact of influence factors on team performance in self-managed teams. The aim is to prove the connection between these factors and statistically represent their influence on the teams. A quantitative research methodology was deemed the most suitable approach. Therefore an online survey was conducted. Statistical analyses help highlight and present correlations in the collected data (Judd et al., 2017). The present study deals with the effects of trust, the distributed power each team member receives as a mechanism of influence, and the variable understanding within the team. Biographical questions ensured that the survey participants worked in self-managed teams, IT- departments, and service providers.

A shared understanding of goals and objectives is essential for successful teamwork. The study is based on an online survey of 246 participants between January and March 2023.

The study investigates the essential influencing factors in self-managed teams and their effects.

The study employed descriptive and inferential statistics methods to achieve this. The study explicitly demonstrates Pearson correlations, regression and interactions analyses.

The current work goes beyond considering a specific organisational form, representing only an organisation's underlying desired or preferred behaviour. The study's primary purpose is to show what effects the use of influencing factors of self-managed teams has on the team structure and the employees. The aim is to illustrate the effects of self-managed teams based on influencing factors.

3.1 Hypotheses and Research Question

A survey was conducted to quantitatively evaluate self-managed teams and provide an answer to the research question: "**How do the influencing factors of trust, understanding and power interact to affect self-managed teams**?".

This present research question was addressed by developing and testing the following hypotheses.

H1: The variables trust and power significantly impact ($R^2 > 0.5$) to express the understanding variable.

Accordingly, the null hypothesis is that trust, power, and understanding have no significant influence.

H2: The variable power has a significant mediation influence ($R^2 > 0.5$) between trust and understanding.

The null hypothesis is that there is no significant mediation effect between trust and understanding of the variable power.

3.2 Data Collection

The questionnaire distribution is deemed the most suitable method for collecting primary data in this study. The random sampling method was chosen due to its cost-effectiveness, simplicity, availability of subjects, and time and financial limitations of the study. Before conducting the survey, obtaining consent from participants and ensuring the confidentiality of personal data and responses is crucial. The online survey portal used in this study had the functionality to ensure consent and confidentiality. Only the responses were recorded, and no personal information was stored during data collection.

Additionally, all responses were deleted from the server after the data collection, making it impossible to determine the respondents' identities based on their answers. The survey was conducted via the online portal SoSciSurvey, utilising an online questionnaire from January 17, 2023, to March 19, 2023. The target group consisted of individuals from self-managed teams in the IT sector.

Demographic questions were included to ensure the inclusion of the target group. The survey comprised a landing page, contextual and demographic questions, and eight trusts, understanding and power items. The items for the online questionnaire were selected from existing validated tests to examine the following influence factors: trust, understanding, and power. For the trust, four items were taken from an existing test procedure by Cook and Wall with an internal Cronbach's alpha of .80 (Cook, Wall, 1980). Another four items were taken from Langfred's study based on the intrateam trust scale with Cronbach's alpha of .83 (Langfred, 2004, Simons, Peterson, 2000). For the influencing factor understanding, the optimised test by Högl and Parboteeah with eight items was used with a Cronbach alpha of .87 (Hoegl, Parboteeah, 2006, Marsicano, Da Silva, Seaman, Adaid-Castro, 2020). The influencing factor power is to be measured with the eight items of the optimised test of Yang and Guy with Cronbach alpha of .79 was used (Kirkman, Shapiro, 2001, Campion, Medsker, Higgs, 1993) and (Yang, Guy, 2011).

A pretest was conducted with a sample size of 23 people to ensure appropriateness for the research question.

Cronbach's alpha was utilised to assess the reliability: unacceptable ($\alpha<0.5$), poorly ($\alpha > 0.5$), questionable ($\alpha > 0.6$), acceptable ($\alpha > 0.7$), good ($\alpha > 0.8$) and at least

excellent ($\alpha>0.9$). Values far more remarkable than 0.9 are again considered critical, as this indicates that some characteristics are too similar, and thus the same thing emerges (Toth, 2020).

The data for each variable was gathered using eight items, with respondents answering on a five-point Likert scale. The scale was designed to aid participants in expressing their agreement with the statements. The scale consisted of the following: strongly disagree = 1, disagree = 2 neutral = 3, agree = 4, strongly agree = 5.

The overall internal consistency of the data is reliable, as shown by the overall alpha of 0.90.

Among the variables, the highest value had the trust factor with $\alpha = 0.87$, indicating good internal consistency for the eight items. Understanding had reliability with an alpha of 0.82, which is also a good consistency. Power had reliability with an alpha of 0.78, which is still acceptable.

This Cronbach alpha shows that the internal reliability of the variable power and understanding still has acceptable and good internal reliability.

Target group surveyed: Employees of self-managed teams from the IT departments and service providers of a public administration.

The survey was disseminated through Survey-Circle and -Swap, the personal network, and LinkedIn. The questionary falls under the category of convenience sampling, as previously mentioned, as it lacks representativeness and has an unknown population.

Survey period: January 17, 2023, to March 19, 2023.

Question Sources:
Trust is modified from (Cook, Wall, 1980, Langfred, 2004) with Cronbach alpha of .80 and (Langfred, 2004) with Cronbach alpha of .83.

Understanding: Modified from (Hoegl, Parboteeah, 2006) and (Marsicano, Da Silva, Seaman, Adaid-Castro, 2020) with Cronbach alpha of .87

Power: Modified from (Kirkman, Shapiro, 2001, Campion, Medsker, Higgs, 1993) and (Yang, Guy, 2011) with Cronbach alpha of .79.

Due to incomplete responses or a lack of consent for data usage, 25 of 246 datasets were excluded from further analysis.

Of the residual data sets (221), 75 belonged to women, and 146 belonged to men. The median age in the group of respondents is 41 years. The minimum is 21, and the maximum is 65 years. The age group "30-34 years" accounts for the largest share in each case, with a share of 38.91%. It should be mentioned that the assumed normal distribution deviates from the distribution of the group of respondents. Since the analysis showed that the sampling error did not affect the responses' quality, it is accepted. In terms of job experience, the median age in the group of respondents is 18 years. The two experience groups between 8 and 12 years and 22 to 27 years of job experience make up the largest share, with a share of 38.00% each.

Data Sets in Total: N = 246

Excluded Data Sets:
- The survey not completed: N = 19
- No Consent: N = 6

An intensive review of the records for anomalies (e.g. for malus points for filling in too quickly or low retention time) revealed no further need to exclude records.

Data that remains available: **N = 221**.

3.3 Analysis of Data

The research employed a quantitative methodology that utilised statistical tools to analyse the collected data. DataTab software was used for various techniques such as reliability testing, t-test, Wilcoxon-test, descriptive analysis, correlation-, regression-, and interaction analysis to derive significant findings. These techniques evaluate the effects of trust and power on understanding.

3.4 Results of Research

The validated datasets were subjected to several steps during the analysis: ANOVA, t-test, correlation analysis, computation of the regression equation, and analysis of the variable interactions under a moderation model framework.

3.4.1 Analysis of Correlation

Pearson's correlation coefficient was used to ascertain the correlation between variables, ranging from -1 to 1. A value of -1 indicates an entirely negative correlation, 0 represents no correlation, and +1 denotes an entirely positive correlation. The results of the correlation analysis of Trust, Understanding, and Power unveil a conspicuous interdependence among the variables, wherein each variable demonstrates a robust correlation with the others, as evidenced by correlation coefficients exceeding .30, considered a medium and .50 for a strong

correlation. The remarkably high correlation coefficients suggest the existence of an intricate network structure among the variables, wherein the impact of each variable is closely tied to the other variables (Cohen, 2013).

Table 1: Correlation Analysis of Self-managed Teams Influencing Factors

	Understanding	Power
Trust	.71	.48
Understanding		.54

Source: authors elaboration, N=221.

To analyse these network structures with their interdependencies, a subsequent regression analysis was conducted to comprehensively investigate the network structure and identify any potential mediating effects among the variables (Brückler, 2018).

3.4.2 Regression Analysis

A multiple linear regression analysis was conducted to investigate the variables' trust and power influence the variable understanding. Multiple linear regression analysis is a statistical technique used to examine the relationship between one or more variables. It is frequently used in data analysis to explore how changes in one variable impact another. The analysis generally involves an independent variable or factors, trust and power, and a dependent variable, or understanding of the variable predicted or explained in this analysis. The objective is to establish the strength and direction of the connection between the independent and dependent variables (Montgomery, Peck, Vining, 2021).

Dependent Variable: Understanding
Independent Variables: Trust and Power

For multiple linear regression analysis, a mathematical formula is used to model the relationship between a dependent variable (y) and two or more independent variables (x_1 to x_n). The equation predicts the dependent variable understanding (y) value based on the independent variables' trust (x_1) and power (x_2) values (Uyanık, Güler, 2013).

Regression equation: $y = b_0 + b_1x_1 + b_2x_2 + b_nx_n$

Table 2: Model Summary of Regression Analysis

R	R^2	Adjusted R^2	SE
0,74	0,55	0,55	0,37

Source: authors elaboration, N=221.

With an R square of 0.55, the regression model showed that the variables' trust and power explained 55.33% of the variance of the variable understanding. For the prediction of the variable understanding, the model has a standard error estimate of 0.37. An ANOVA was used to test whether this value significantly differed from zero. It was found that the effect is significantly different from zero. F=135.02, p = <0.001, R^2 = 0.55 (Chatterjee, Hadi, 2012).

Table 3: Regression Analysis of Self-managed Teams Influencing Factors

	Unstandardised Coefficients	Standardised Coefficients			
Modell	B	Beta	SE	t	p
(Constant)	0,63		0,2	3,1	0,002
Trust	0,58	0,58	0,05	11,23	<0,001
Power	0,24	0,27	0,05	5,19	<0,001

Source: authors elaboration, N=221.

When all independent variables are set to zero, the value of the "understanding" variable is 0.63. When the "trust" variable changes by one unit, the "understanding" variable changes by 0.58. When the "power" variable changes by one unit, the "understanding" variable changes by 0.24. If the value of the variable Power changes by one unit, the value of Understanding changes by 0.24 (Núñez, Steyerberg, Núñez, 2011).

The standardised coefficients Beta are independent of the measured variable and always lie between -1 and 1. The greater the amount of Beta, the more significant the contribution of the respective independent variable to explaining the dependent variable understanding. In this model, the variable trust has the most significant influence on the variable understanding.

The calculated regression coefficients refer to the sample used to calculate the regression analysis. Therefore, it is interesting whether the individual coefficients

only deviate from zero by chance or from zero in the population. The null hypothesis is made for each coefficient equal to zero in the population (Yao, Li, 2014).

The standard error now indicates how much the respective coefficient will scatter on average when the regression analysis is calculated for a different sample.

The test statistic t then results from the standard error and the coefficient.

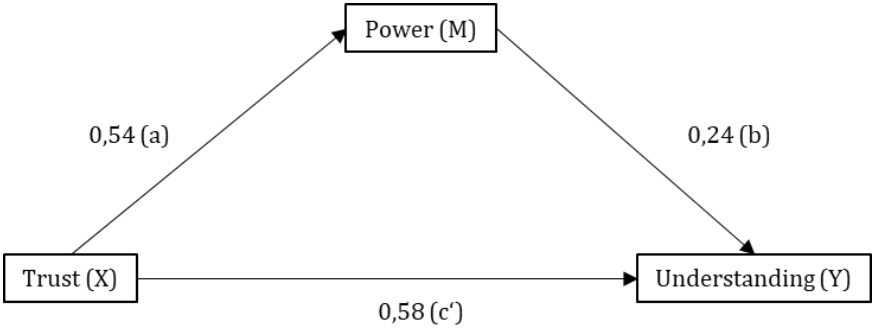
The p-value for the coefficient Trust is <0.001. The p-value is smaller than the significance level of 0.05, and the null hypothesis that the coefficient of trust in the population equals zero is rejected. It is therefore assumed that the coefficient of the variable trust in the population is different from zero. The p-value for the coefficient of power is <0.001. Thus, the null hypothesis that the coefficient of performance in the population is equal to zero is also rejected. It can therefore be assumed that the coefficient for the variable performance in the population is different from zero (Núñez, Steyerberg, Núñez, 2011).

The effect size f^2, according to Cohen, is as follows (Cohen, 2013): $f^2 = 1.24$

3.4.3 Interaction Analysis – Mediator

Mediator analysis is a statistical technique for studying the relationship between two variables by examining a third variable that acts as a mediator. The mediator helps to explain how the independent variable affects the dependent variable. The four prerequisites for assessing a mediator analysis following Baron and Kenny are met, and the mediation model is constructed and evaluated (Baron, Kenny, 1986). The mediation analysis can provide valuable insights into the complex dynamics of social interactions within self-managed teams, highlighting the importance of considering mediation variables like power when examining the relationship between the variables of trust and understanding (VanderWeele, 2016). For conducting a mediation analysis in the first step, the direct relationship between Trust and Understanding was examined without considering the possible role of power. The indirect relationship between Trust and Understanding was examined in the next step, as a significant relationship exists between Trust and Understanding through Power (Hayes, 2018).

Figure 1: Effect of Interaction of Mediator Variable Power on Understanding



Source: authors elaboration, N=221.

A multiple linear regression analysis was conducted to investigate the influence of trust on the variable understanding, with the indirect effect of power. The mediation model shows that the independent variable influences the mediator variable, which influences the dependent variable. The model can be reproduced with the indirect effect of trust (X) on understanding (Y) through power (M) is represented by the following model: M=aX+iM.

The final mediation model gives the total effect size of trust on understanding. This results from the direct effect of trust (X) on understanding (Y) and the indirect effect, also called mediated effect, of trust (X) on understanding (Y) transmitted through the mediator variable power (M). The total effect that trust has on understanding, both directly and indirectly, is represented by the following model summary:

Y=c'X+bM+iY

The interaction equation represents the strength and outline of this influence:
Understanding = 0.63 + 0.58 Trust + 0.24 Power

Table 4: Coefficients between Trust (X), Power (M) and Understanding (Y)

	Unstandardised Coefficients	Standardised Coefficients			
Modell	B	Beta	SE	t	p
Constante	0,63		0,2	3,1	0,002
Trust (X)	0,58	0,58	0,05	11,23	<0,001
Power (M)	0,24	0,27	0,05	5,19	<0,001

Source: authors elaboration, N=221.

From the given results, it can be deduced that c' (0,58) is smaller than c (0,71) see Table 1. Thus, Baron and Kenny's fourth and final condition for mediation is also fulfilled (Baron, Kenny, 1986).

The Interaction Equation is: Understanding = 0,63 + 0,58 Trust + 0,24 Power

The dependent variable of understanding and the independent variable of trust, which is mediated by power, indicates with R^2 value of 0.55, a high model quality for this interaction analysis.

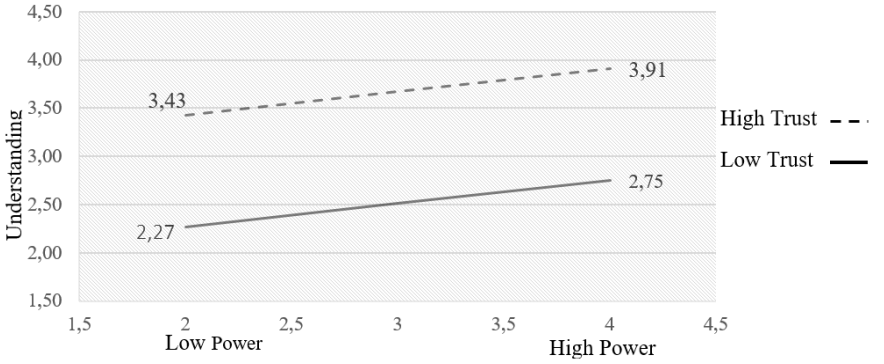
Table 5: Effects of Mediation Analysis

	Effect	SE	t	p
The direct effect of Trust (X) on Understanding (Y)	0,58	0,05	11,23	<0,001
The indirect effect of Trust (X) on Understanding (Y)	0,13	0,03	4,33	<0,001
The total effect of Trust (X) on Understanding (Y)	0,71	0,05	14,74	<0,001

Source: authors elaboration, N=221.

According to the interaction equation, the level of trust significantly influences the variable understanding. Figure 2 illustrates that any investment in power increases comprehension scores irrespective of trust. By investing in power, comprehension scores never reach the same heights when trust is low as when it is high. As a result, investing in both power and trust is essential. Investing only in power is more beneficial when trust is already high and less beneficial when trust is low.

Figure 2: Effect of Trust on Understanding at Mediation Effect of Power



Source: authors elaboration, N=221.

4 Discussion

The study's results and the analysis of the data sets have shown that the concept of self-managed teams, which is based on trust, understanding and power, has strong interactions between them. Self-managed teams are an established and organisational approach (Martela, Kostamo, 2017).

The results suggest that the self-managed team approach is based on trust, understanding and power (Grab et al., 2019). This concept has existed since Roger White's work on self-organisation theory in 1959, and Cohen undertook further research into these factors in 1993 (White, 1959; Cohen, 1993). The importance of these factors has increased due to the decline of informal structures, as shown in recent research by Martela et al. (2021). Self-managed teams are a universally applicable approach to management situations, as decisions are made by consensus of experts. These are essential influencing factors in every organisational situation, as noted by MacGregor (1978). The results show the specificity of the power factor as a mediator between trust and understanding. However, the study needed more extensive data collection, so a more comprehensive study should be conducted.

Refer to the formulated hypotheses:

H1: The variables Trust and Power significantly impact ($R^2 > 0.5$) to express the Understanding variable.

H2: The variable Power has a significant mediation influence ($R^2 > 0.5$) between Trust and Understanding.

The following can be stated:

The empirical analysis supports Hypothesis H1, as it rejects the null hypothesis and indicates that the variables of Trust and Power significantly impact the dependent variable of understanding. The strength and direction of this influence were determined through regression analysis.

Likewise, Hypothesis H2 is also confirmed as the null hypothesis is rejected due to the presence of a significant interaction equation. This equation represents the extent and strength of the influence as understanding = 0.63 + 0.58 Trust + 0.24 Power.

Therefore, the study's research questions are answered by confirming both hypotheses. It can be concluded that trust and power are interdependent and form the basis for the dependent variable of understanding in self-managed teams. The presented research results lead to the following conclusions, which are visually represented in Figure 2:

- Investing in power has a more significant positive impact on understanding in situations with low trust.
- Investing in power has a lesser impact on understanding situations with high trust.
- Investing in power does not compensate for the effects of low trust.

Regarding self-managed teams, the study demonstrates that investing in the power of team members in low-trust environments results in a more significant increase in understanding compared to high-trust situations. Moreover, a high level of trust already leads to an increased understanding, resulting in a slightly lesser improvement. Thus, investing in the power of team members in a high-trust environment is less likely to increase understanding substantially since understanding is already at a high level.

5 Conclusions

The study's findings are relevant as they offer a viable way for companies with self-managed teams to enhance their team's understanding. This approach to investing in power saves time and proves more effective than the time-consuming alternative of building trust. The study offers insight into the intricate relationships between influential factors and their direct impact on the team's understanding, surpassing intuitive and apparent connections.

While team members may understand that trust and understanding are critical for performance, this study scientifically proves the strength and direction of these influencing factors. It also highlights the significance of power as a mediator

between trust and understanding in self-managed teams, closing a research gap between theory and practical application.

Furthermore, the study addresses how team performance and quality can be improved. It demonstrates that individual team members can cultivate vital characteristics and skills, such as integrity, initiative, responsibility, sensitivity, passion, vision, and influence The study's trust, understanding, and power correlations illustrate the potential for team members to influence team structures actively. The study's results offer opportunities for companies to directly influence their team's development and optimise its quality further.

The study was conducted with limited research resources, using online portals for data collection through a convenience survey. The researcher did not influence the selection of test subjects, and the data cannot be considered representative of the general population. While the observed effects and correlations are meaningful and generally applicable, the results' unrestricted generalizability cannot be assumed due to the arbitrary nature of data collection. The uniqueness of the findings suggests limited generalizability of the results.

The study had satisfactory analysable data sets (N= 221), deemed sufficient to answer the research questions. However, confirming these results in a more extensive follow-up study using a representative population and a broader database would be desirable. It is also recommended to conduct a study that examines the direct impact of the influencing factors on team performance.

In summary, while the study's findings are meaningful and generally applicable, the data collection's limited nature and the results' uniqueness suggest that the findings should be confirmed with a more extensive study.

References:

Al-Dhuhouri, F. S., Alshurideh, M., Al Kurdi, B. & Salloum, S. A. (2021) Enhancing Our Understanding of the Relationship Between Leadership, Team Characteristics, Emotional Intelligence and Their Effect on Team Performance: A Critical Review, In: Hassanien, A. E., Shaalan, K., Gaber, T., Azar, A. T. & Tolba, M. F. (eds.) *Proceedings of the International Conference on Advanced Intelligent Systems and Informatics 2020* (Cham: Springer), pp. 644-655, https://doi.org/10.1007/978-3-030-58669-0_58.

Amelin, F. von (2012) Macht in Organisationen, *Gruppendynamik und Organisationsberatung*, 43(2), pp. 117-119, https://doi.org/10.1007/s11612-012-0180-0.

Anwar, G. & Abullah, N. N. (2021) *The Impact of Human Resource Management Practice on Organizational Performance* (Erbil: International Journal of Engineering, Business and Management (IJEBM)).

Argyle, M. & Henderson, M. (1990) *Die Anatomie menschlicher Beziehungen. Spielregeln des Zusammenlebens* (München: mvg-Verl. mvg-Paperbacks).

Baron, R. M. & Kenny, D. A. (1986) The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations, *Journal of Personality and Social Psychology*, 51(6), pp. 1173-1182, https://doi.org/10.1037/0022-3514.51.6.1173.

Bennis, W. G. & Nanus, B. (1992) *Führungskräfte. Die vier Schlüsselstrategien erfolgreichen Führens,* 5. Aufl. (Frankfurt, Main: Campus-Verl.).

Brückler, F. M. (2018) Geschichte der angewandten Mathematik, In: Brückler, F. M. (ed.) *Geschichte der Mathematik kompakt* (Berlin, Heidelberg: Springer Spektrum), pp. 89-121.

Campion, M. A., Medsker, G. J. & Higgs, A. C. (1993) Relations between work group characteristics and effectiveness: Implications for designing effective work groups, *Personnel Psychology*, 46(4), pp. 823-847, https://doi.org/10.1111/j.1744-6570.1993.tb01571.x.

Castellano, S., Chandavimol, K., Khelladi, I. & Orhan, M. A. (2021) Impact of self-leadership and shared leadership on the performance of virtual R&D teams, *Journal of Business Research*, 128, pp. 578-586, https://doi.org/10.1016/j.jbusres.2020.12.030.

Chatterjee, S. & Hadi, A. S. (2012) *Regression analysis by example,* Fifth edition (Hoboken, NJ: Wiley).

Cohen, J. (2013) *Statistical Power Analysis for the Behavioral Sciences* (Burlington: Elsevier Science).

Cohen, S. G. (1993) *Designing effective self-managing work teams* (Greenwich: Center for Effective Organisations, University of Southern California).

Cohen, S. G. & Ledford, G. E. (1994) The Effectiveness of Self-Managing Teams: A Quasi-Experiment, *Human Relations*, 47(1), pp. 13-43, https://doi.org/10.1177/001872679404700102.

Cohen, S. G., Chang, L. & Ledford, G. E. (1997) A hierarchical construct of self-management leadership and its relationship to quality of work life and perceived work group effectiveness, *Personnel Psychology*, 50(2), pp. 275-308, https://doi.org/10.1111/j.1744-6570.1997.tb00909.x.

Cook, J. & Wall, T. (1980) New work attitude measures of trust, organisational commitment and personal need non-fulfilment, *Journal of Occupational Psychology*, 53(1), pp. 39-52, https://doi.org/10.1111/j.2044-8325.1980.tb00005.x.

Doblinger, M. (2022) Individual Competencies for Self-Managing Team Performance: A Systematic Literature Review, *Small Group Research*, 53(1), pp. 128-180, https://doi.org/10.1177/10464964211041114.

Ehlers, U.-D. (2020) *Future Skills. Lernen der Zukunft - Hochschule der Zukunft* (Wiesbaden: Springer).

French, J. R., Raven, B. & Cartwright, D. (1959) The bases of social power, *Classics of organisation theory*, 7, pp. 311-320.

Galliker, M. B. & Weimer, D. (2006) *Psychologie der Verständigung: Eine Einführung in die kommunikative Praxis,* 1. Aufl. (Stuttgart: Kohlhammer).

Geschwill, R. & Nieswandt, M. (2020) *Laterales Management* (Wiesbaden: Springer Fachmedien Wiesbaden).

Giddens, A. (1979) *Central Problems in Social Theory. Action, Structure, and Contradiction in Social Analysis* (Los Angeles: University of California Press).

Grab, B., Marieta, O. & Roxana, G. (2019) Self-managed teams as a key to unlocking digital transformation in business management, *Quality-Access to Success*, (20), pp. 280–286, available at: https://www.researchgate.net/profile/benjamin-grab/publication/333817824_self-managed_teams_as_a_key_to_unlocking_digital_transformation_in_business_manageme

nt/links/5d077c5d299bf12e7be72219/self-managed-teams-as-a-key-to-unlocking-digital-transformation-in-business-management (October 2, 2023).

Harjanne, T. (2021) *The challenges of self-managing organisations as seen from the ex-employee perspective* (Helsinki: Haaga-Helia University of Applied Sciences).

Hayes, A. F. (2018) *Introduction to mediation, moderation, and conditional process analysis. A regression-based approach*, Second edition (New York: The Guilford Press).

Heidbrink, M. & Schümann, M. (2009) *Vertrauen und Führung-So hängen sie zusammen, so lassen sie sich beeinflussen* (Münster: Monsenstein und Vannerdat).

Hoegl, M. & Parboteeah, P. (2006) Autonomy and teamwork in innovative projects, *Human Resource Management*, 45(1), pp. 67-79, https://doi.org/10.1002/hrm.20092.

Jabbouri, N. I. & Hamoud, E. M. (2020) The role of the effectiveness of self-managed teams in improving the quality of services / an applied study in Ramadi municipality, *Journal of Economics And Administrative Sciences*, 26(118), pp. 12-31, available at: https://www.iasj.net/iasj/article/183024 (October 2, 2023).

Tanner, J. (2014) *Was ist Vertrauen? Ein interdisziplinäres Gespräch* (Frankfurt: Campus), https://doi.org/10.5167/uzh-88211.

Jiang, K., Lepak, D. P., Hu, J. & Baer, J. C. (2012) How Does Human Resource Management Influence Organizational Outcomes? A Meta-analytic Investigation of Mediating Mechanisms, *Academy of Management Journal*, 55(6), pp. 1264-1294, https://doi.org/10.5465/amj.2011.0088.

Judd, C. M., McClelland, G. H. & Ryan, C. S. (2017) *Data Analysis: A Model Comparison Approach To Regression, ANOVA, and Beyond*, Third Edition (London: Routledge).

Kaltenecker, S. (2021) *Selbstorganisierte Teams führen. Arbeitsbuch für Lean & Agile Professionals* (Heidelberg: dpunkt.verlag GmbH).

Klein, S., Brohm, K.-A. & Schadler, M. (2020) The Impact of Understanding and Organisational Commitment on Job Involvement, *International Journal for Quality Research*, 14(4), pp. 1081–1096, https://doi.org/10.24874/IJQR14.04-06.

Krikman, B. L. & Shapiro, D. L. (2001) The Impact of Cultural Values on Job Satisfaction and Organizational Commitment in Self-Managing Work Teams: The Mediating Role of Employee Resistance, *Academy of Management Journal*, 44(3), pp. 557-569, https://doi.org/10.2307/3069370.

Krackhardt, D. & Mintzberg, H. (1985) Power In and Around Organizations, *Administrative Science Quarterly*, 30(4), p. 597, https://doi.org/10.2307/2392702.

Krause, D. E. (2010) *Macht und Vertrauen in Innovationsprozessen. Ein empirischer Beitrag zu einer Theorie der Führung* (Wiesbaden: Springer-Verlag).

Kühl, S. (2016) *Laterales Führen. Eine kurze organisationstheoretisch informierte Handreichung* (Wiesbaden: Springer-Verlag).

Langfred, C. W. (2004) Too Much of a Good Thing? Negative Effects of High Trust and Individual Autonomy in Self-Managing Teams, *Academy of Management Journal*, 47(3), pp. 385-399, https://doi.org/10.5465/20159588.

Lee, M. Y. & Edmondson, A. C. (2017) Self-managing organisations: Exploring the limits of less-hierarchical organising, *Research in Organisational Behavior*, 37, pp. 35-58, https://doi.org/10.1016/j.riob.2017.10.002

Macgregor, B. J. (1978) *Leadership* (New York, NY: Torchbooks).

Marsicano, G., da Silva, F. Q. B., Seaman, C. B. & Adaid-Castro, B. G. (2020) The Teamwork Process Antecedents (TPA) questionnaire: developing and validating a comprehensive measure for assessing antecedents of teamwork process quality, *Empirical Software Engineering*, 25(5), pp. 3928-3976, https://doi.org/10.1007/s10664-020-09860-5.

Martela, F. & Kostamo, T. (2017) Adaptive Self-Organisation: The Necessity of Intrinsic Motivation and Self-Determination (London: Routledge), pp. 53-70.

Martela, F. (2019) What makes self-managing organisations novel? Comparing how Weberian bureaucracy, Mintzberg's adhocracy, and self-organising solve six fundamental problems of organising, *Journal of Organization Design*, 8(1), pp. 1-23, https://doi.org/10.1186/s41469-019-0062-9.

Martela, F. (2020) Self-Determination Theory, In: Carducci, B. J., Nave, C. S., Di Fabio, A., Mio, J. S., Riggio, R. E., Saklofske, D. H. & Stough, C. (eds.) *The Wiley Encyclopedia of Personality and Individual Differences* (Hoboken: John Wiley & Sons, Ltd), pp. 369-373.

Martela, F., Gómez, M., Unanue, W., Araya, S., Barvo, D. & Espejo, A. (2021) What makes work meaningful? Longitudinal evidence for the importance of autonomy and beneficence for meaningful work, *Journal of Vocational Behavior*, 131, https://doi.org/10.1016/j.jvb.2021.103631.

Moe, N. B., Dingsyr, T. & Kvangardsnes, O. (2009) Understanding Shared Leadership in Agile Development: A Case Study, *2009 42nd Hawaii International Conference on System Sciences*, https://doi.org/10.1109/HICSS.2009.480.

Montgomery, D. C., Peck, E. A. & Vining, G. G. (2021) *Introduction to linear regression analysis*, Sixth edition (Hoboken, NJ: Wiley).

Morgeson, F. P. (2005) The External Leadership of Self-Managing Teams: Intervening in the Context of Novel and Disruptive Events, *Journal of Applied Psychology*, 90(3), pp. 497-508, https://doi.org/10.1037/0021-9010.90.3.497.

Munyede, P. (2021) Capping the tenure of CEOs as a Good Corporate Governance Strategy: Prospects and Challenges, *Journal of Contemporary Governance and Public Policy*, 2(1), pp. 67-78, https://doi.org/10.46507/jcgpp.v2i1.29.

Nerdinger, F. W., Blickle, G. & Schaper, N. (2019) *Arbeits- und Organisationspsychologie*, 4. Aufl. (Berlin, Heidelberg: Springer Berlin Heidelberg).

Núñez, E., Steyerberg, E. W. & Núñez, J. (2011) Regression Modeling Strategies, *Revista Española de Cardiología (English Edition)*, 64(6), pp. 501-507, https://doi.org/10.1016/j.rec.2011.01.017.

Osterloh, M. & Weibel, A. (2006) *Investition Vertrauen. Prozesse der Vertrauensentwicklung in Organisationen*, 1. Aufl. (Wiesbaden: Betriebswirtschaftlicher Verlag Dr. Th. Gabler, GWV Fachverlage GmbH Wiesbaden).

Presbitero, A. & Teng-Calleja, M. (2023) Job attitudes and career behaviors relating to employees' perceived incorporation of artificial intelligence in the workplace: A career self-management perspective, *Personnel Review*, 52(4), pp. 1169–1187, https://doi.org/10.1108/PR-02-2021-0103.

Puranam, P., Alexy, O. & Reitzig, M. (2014) What's "New" About New Forms of Organizing?, *Academy of Management Review*, 39(2), pp. 162-180, https://doi.org/10.5465/amr.2011.0436.

Rousseau, D. M., Sitkin, S. B., Brut, R. S. & Camerer, C. (1998) Not So Different After All: A Cross-Discipline View Of Trust, *Academy of Management Review*, 23(3), pp. 393-404, https://doi.org/10.5465/amr.1998.926617.

Simons, T. L. & Peterson, R. S. (2000) Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust, *Journal of Applied Psychology*, 85(1), pp. 102-111, https://doi.org/10.1037/0021-9010.85.1.102.

Slabu, L. & Guniote, A. (2010) Getting what you want: Power increases the accessibility of active goals, *Journal of Experimental Social Psychology*, 46(2), pp. 344-349, https://doi.org/10.1016/j.jesp.2009.10.013.

Sonta-Draczkowska, E. (2020) *Motivating self-organising agile teams in New Technology-Based Firms: an exploratory study* (Berlin: IPMA).

Spreitzer, G. M. (1995) Psychological empowerment in the workplace: dimensions, measurement, and validation, *Academy of Management Journal*, 38(5), pp. 1442-1465, https://doi.org/10.2307/256865.

Suchanek, A. (2021) Definition: Macht, *Springer Fachmedien Wiesbaden GmbH*, available at: https://wirtschaftslexikon.gabler.de/definition/macht-40211/version-263601 (May 18, 2021).

Tenbergen, N. (2021) *Self-managed teams and organisational characteristics that affect each other reciprocally* (Nijmegen: Radboud University Nijmegen).

Toth, C. T. (2020) Methodisches Vorgehen und Forschungsdesign, In: Toth, C. T. (ed.) *Massive Open Online Courses im Kontext von Persönlichkeit und Prokrastination* (Wiesbaden: Springer VS), pp. 149-162.

Uyanik, G. K. & Güler, N. (2013) A Study on Multiple Linear Regression Analysis, *Procedia - Social and Behavioral Sciences*, 106, pp. 234-240, https://doi.org/10.1016/j.sbspro.2013.12.027.

Vanderweele, T. J. (2016) Mediation Analysis: A Practitioner's Guide, *Annual review of public health*, 37, pp. 17-32, https://doi.org/10.1146/annurev-publhealth-032315-021402.

Weber, M. (2012) *Wirtschaft und Gesellschaft* (Danvers: Annual Review of Public Health).

White, R. W. (1959) Motivation reconsidered: the concept of competence, *Psychological Review*, 66(5), pp. 297-333, https://doi.org/10.1037/h0040934.

Wihler, A., Solga, M. & Blickle, G. (2014) *Lehrbuch Organisationspsychologie. Personalentwicklung II: Karrieremanagement, Training und Beratung*, 5th ed. (Bern: Hogrefe AG).

Will, T. E. (2016) Flock Leadership: Understanding and influencing emergent collective behavior, *The Leadership Quarterly*, 27(2), pp. 261-279, https://doi.org/10.1016/j.leaqua.2016.01.002.

Yang, S.-B. & Guy, M. E. (2011) The Effectiveness of Self-Managed Work Teams in Government Organizations, *Journal of Business and Psychology*, 26(4), pp. 531-541, https://doi.org/10.1007/s10869-010-9205-2.

Yao, W. & Li, L. (2014) A New Regression Model: Modal Linear Regression, *Scandinavian Journal of Statistics*, 41(3), pp. 656-671, https://doi.org/10.1111/sjos.12054.

Zelger, J. (1975) *Konzepte zur Messung der Macht* (Berlin: Duncker und Humblot).