

ORGANISATIONAL IDENTIFICATION-BASED MODEL OF JOB PERFORMANCE IN THE IT SECTOR: MEDIATING ROLE OF WORK ENGAGEMENT AND ORGANISATIONAL CITIZENSHIP BEHAVIOUR

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ABSTRACT

High employee job performance is considered one of the key factors contributing to a company's commercial success, especially in such service-oriented sectors as IT. Researchers recognise a significant role of employee organisational identification, work engagement, and organisational citizenship behaviour in improving job performance; however, a complex model showing the relationship between those variables has not been provided so far. Moreover, a discrepancy exists between the theoretical conceptualisation and definition of organisational identification and its empirically proven measurements. In this context, the article aims to develop a holistic measurement for organisational identification and analyse the roles of organisational identification, work engagement, and organisational citizenship behaviour in improving job performance of the IT sector employees.

An empirical study was conducted with 246 employees from IT sector organisations in Poland and Germany. The study was performed using the CAWI technique. The research tool was a questionnaire. The gathered data were analysed using IBM SPSS Statistics (descriptive statistics, scale reliability testing, and EFA) and IBM SPSS AMOS (CFA and path analysis) to verify the model.

The analysis results show a positive influence of organisational identification on job performance through work engagement and organisational citizenship behaviour, i.e., organisational identification has a strong, positive and statistically significant effect on work engagement; work engagement has a positive and statistically significant impact on job performance and organisational citizenship behaviour; and organisational citizenship behaviour has a positive and statistically significant impact on job performance of the IT sector employees.

KEY WORDS

organisational identification, work engagement, job performance, organisational citizenship behaviour, IT sector

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INTRODUCTION

In the modern economy, the IT industry contributes to all sectors by providing innovative solutions such as digitalisation, automation, IoT, AI, data storage and computing, software development, and many

others (Atkinson, 2022; Budrowski, 2023). The technology industry in Europe constitutes more than 8 % of the economic output. It continued to grow even during the COVID-19 pandemic and is expected to grow more than 5 % every year until the end of the decade (Esser et al., 2022). Although the projected growth of the IT industry seems to be stable, the sec-

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tor faces difficulties caused by the Russian invasion of Ukraine, high inflation rates and energy prices, supply chain constraints, and the uncertain job market (Business Reporter, 2024; Sladden, 2022). The issues in other economic sectors result in a squeeze of tech funding, which, in turn, causes layoffs in the IT industry (Sladden, 2022). Those challenges were forecasted to be overcome in 2024, with a projected sector growth of 5.1 %, driven mainly by software growth (Business Reporter, 2024; O'Grady, 2024). Despite sector stabilisation predictions, employment in IT continues to face challenges due to the squeeze on tech funding and the shift towards AI. Geopolitical factors and challenges influence the whole European IT sector, including both emerging and developed economies. Hence, a selection of Poland and Germany as study objects is based on a contrast between the two economies: the former is a rapidly developing post-transformation economy in Central and Eastern Europe, and the latter is a mature Western European economy. Although both countries represent a specific economic context (Poland is a fast-growing IT sector, integrating with Western countries as a nearshore centre and adapting to Western standards; and Germany is a mature and stable Western economy with well-developed HR practices), studies have shown relative cultural similarities within the IT sector, in particular in key factors in organisational behaviour, job performance, work engagement and employee identification: a similar approach to project teamwork, a moderately low power distance, and a high communication competence in English as the primary business language. Those similarities are strengthened by wide professional norms and practices in the European IT sector, which reduce differences in everyday work life, as well as by competition and companies' expectations that employees contribute to their overall success by performing to the best of their abilities (Brittenet, 2024; Hofstede et al., 2010; House et al., 2004; Irascu, 2024; ITDS, 2024; Kmiecik et al., 2018; Kowal et al., 2019; Piątkiewicz, 2024)

Job performance is a notion that brings benefits to individuals and organisations. On the one hand, highly performing individuals have a wider career, recognition, promotion opportunities, higher job satisfaction, and a sense of success (Barling & Cooper, 2008). On the other hand, for the organisation, high job performance of employees gives a competitive advantage thanks to increased productivity, efficiency and quality (Rich, 2010). Strong advantages of high individual performance have directed the research-

ers' attention to the job performance concept since the 90's (Barling & Cooper, 2008). Currently, job performance, next to job satisfaction, is said to be the key outcome of sustainable HRM (Davidescu et al., 2020; Law et al., 2017).

According to many researchers and business consultants, competitive advantages can also be an effect of employee engagement (Rich, 2010). Work engagement is often argued to lead to high job performance (Jagannathan, 2014; Rich, 2010). This means that the employees who are engaged can go above and beyond their duty, thus delivering more than expected (Tims et al., 2015). The behaviours and attitudes that adhere to the company's values and goals, such as intrapreneurial behaviour and organisational citizenship behaviour, can be predicted by the notion of organisational identification (Bergami & Bagozzi, 2001; Cheema et al., 2020; De Roeck et al., 2016; Moriano et al., 2014). Organisational identification, as "a key psychological state reflecting the underlying link or bond that exists between the employee and the organisation" (Edwards, 2005), is of vital importance in ensuring employee satisfaction, commitment, and engagement in the success of the company (Johnson et al., 2012).

Although researchers and practitioners recognise the importance of the concepts of organisational identification (OI), work engagement (WE), organisational citizenship behaviour (OCB), and job performance (JP), and those factors have been widely researched, some questions remain unanswered in the subject literature. First, despite the overall agreement on the positive outcomes, there is still a disagreement regarding the conceptualisation and measurement of OI (Edwards, 2005). Most researchers focus on the cognitive dimension of OI, neglecting the affective one (Johnson et al., 2012). Second, the link between OI and its non-attitudinal outcomes, such as OCB and JP, has not often been researched (Johnson et al., 2012). Third, despite a plethora of research on OI, WE, OCB, and JP, a literature review shows a lack of a cohesive model sufficiently explaining the relationship between them. In this context, a research gap has been identified.

This paper aims to fill the identified research gap by finding a synthetic construct for OI and examining the role of OI as a predictor of JP by proposing a structural model with the indirect influence of OI on JP with WE and OCB as mediators of this relationship. To achieve the goal, the OI construct and OI-based model have been verified empirically, based on factor analysis and path analysis.

1. LITERATURE REVIEW

1.1. ORGANISATIONAL IDENTIFICATION

Organisational identification (OI) is often confused with organisational commitment, loyalty, and internalisation (Ashforth & Mael, 1989; Edwards, 2005). Some researchers perceive OI as a part of organisational commitment, while others even consider them to be synonyms (Ashforth & Mael, 1989). For example, O'Reilly et al. stated that "identification or involvement based on a desire for affiliation" is one of the dimensions of commitment (O'Reilly & Chatman, 1986). Based on a literature review, Hall et al. (1970) proposed a definition which treats identification as a process where the values of employees and their organisation become more compatible.

In an attempt to "restore some coherence to organisational identification", Ashforth and Mael (1989) introduced social identity theory as a theoretical background for OI, suggesting that OI is a specific form of social identification. They defined social identification as a "perception of oneness with a group of persons", which acts as a facilitator of the internalisation of the organisational values and beliefs and enabler of the feeling of loyalty and commitment (Ashforth & Mael, 1989). Meanwhile, the social identity theory gives a basis for the affective aspect of identification, and the self-categorisation theory gives a basis for the cognitive aspect of identification (Johnson et al., 2012). Moreover, the literature proposes two additional components: evaluative (positive assessment of the organisation) and behavioural (current behaviour) (van Dick, 2003).

In line with the social identity theory, Rousseau (1998) connects OI with the employee perception of being a part of an organisation and denotes two aspects of OI: situated and deep structure identification. Situated identification is a feeling of being a part of the larger whole that occurs when individuals contribute their efforts to the goals of a group. In this context, the situational cues create a sense that "I" is a part of "we". This kind of identification "is most likely to occur where cues signal common interests and where outcomes are shared, integrative, and not distributive" (as a response to a catalyst) (Rousseau, 1998). When the situational factor is removed, the situational identification also ceases to exist. Deep structure identification is a higher level of identification that can be developed over time, provided that situated identification is already established. Deep structure identification

occurs when an employee incorporates the organisation's value into their self-image and exists even when the role or circumstances change (Rousseau, 1998).

Edwards (2005) concluded his extensive OI literature review by stating that despite similarities and overlaps in the last 50+ years of OI research, some significant differences also exist in the OI definitions and approach. He summarised that over the years, the notion of OI has been connected with a sense of belongingness, loyalty, involvement, attraction to the organisation, consistency of organisational and individual goals, reference of self to organisational membership, shared characteristics, perceived similarity of characteristics, individuals' acceptance of the organisation's goals and values, integration of the organisational goals and values as the individual's own, emotional commitment, emotional attachment, self-categorisation or social identification, self-referential or self-defining beliefs, cognition of self in relationship to the organisation and a feeling of solidarity. In conclusion, a recent research approach underlines the importance of considering affective and cognitive elements as basic OI components.

The cognitive OI aspect reflects a sense of pride and a sense of belongingness to the organisation, while also reflecting the perceived value of the identity (Whetten & Godfrey, 1998). Edwards (2005) proposed that the cognitive OI aspect has two dimensions: self-categorisation and value and goal sharing. Through cognitive processes of categorisation, an employee forms a view (or a self-image) of being a member of the organisation. The processes are based not only on looking for similarities with colleagues in the organisation, but also on dissimilarities with members of other organisations. With the increasing sense of identification with the organisation, the employees perceive themselves as representatives of the social unit, i.e., an organisation (Turner, 1985). According to Ashforth and Mael (1989), OI leads to experiencing the organisation's successes and failures on a personal level; however, it is not necessarily connected with behaviour or emotional state. This means that identification is a concept that differs from internalisation, i.e., a person who identifies with an organisation may not incorporate its values, principles, attitudes or goals (Ashforth & Mael, 1989).

The affective aspect emphasises an emotional OI component. The dimensions of affective identification are emotional attachment, belonging, and membership (Edwards, 2005). Johnson et al. (2012) suggested that the affective dimension is "generally positive", including feelings of joy, pride, excitement or even

love. This is connected with a wish to have positive feelings related to the membership and being able to feel pride even in a stigmatised group. Based on that, they define affective identification as “an individual’s positive feelings about being one with a group” (Johnson et al., 2012). According to Meyer and Allen (1991), the affective dimension of OI is connected not only with emotional attachment, but also with identification and involvement.

The researchers recognise that cognitive and affective aspects may be difficult to separate in practice (Edwards, 2005). As a consequence, some of the researchers recognise both dimensions while conducting a study; however, they include scale items belonging only to the cognitive dimension (Johnson et al., 2012). Moreover, it has been stated that organisational identification depends on the contextual factors like Eastern/Western setting, national cultural differences, sector specifics, etc. (Mazumder et al., 2017, 2022). For example, models of OI based on an assumption of a relational self-concept rather than an individualist one may be more representative in relationship-oriented Eastern countries (Mazumder et al., 2022). Regarding the sector specifics, the majority of employees of the organisations in the fast-paced IT industry are knowledge workers. Knowledge workers prefer to control their work, thrive under empowering leadership, constantly pursue growth of knowledge, and tend to be more loyal to the occupation instead of the employer (Zhan et al., 2013). Based on those characteristics of the IT sector employees in Poland and Germany, one of the research objectives of this study is to develop an OI scale that is suitable for this particular context.

1.2. WORK ENGAGEMENT

The term work engagement (employee engagement, WE) was coined by Kahn (1990) as the “harnessing of organisation members’ selves to their work roles: in engagement, people employ and express themselves physically, cognitively, emotionally and mentally during role performances”. In contrast, disengagement is a state of uncoupling from work, i.e., withdrawal and defending oneself (Kahn, 1990). Later, a WE definition as “a positive, fulfilling, affective motivational state of work-related well-being that is characterised by vigour, dedication, and absorption” has been introduced (Bakker et al., 2008, p. 188). Understanding job burnout as the opposite of WE, Schaufeli et al. (2002) explained the three WE factors as follows:

- vigour - high level of energy and mental resilience, the willingness to invest effort, and persistence even in the face of impediments;
- dedication - sense of significance, enthusiasm, inspiration, pride, and challenge;
- absorption - full concentration, deep immersion in work, difficulties with detaching from work.

The employees who are engaged can stay focused and truly present as well as work hard towards the assumed goals (Barbars, 2015). They put a lot of effort into their work because they identify with it. Hence, many researchers see WE as a two-dimensional, psychological construct (energy and identification) (Bakker et al., 2008). However, the term has also been conceptualised in a broader scope, e.g., as an umbrella term for trait engagement (i.e., proactiveness), state engagement (involvement), and behavioural engagement (organisational citizenship behaviour) (Macey & Schneider, 2008).

1.3 JOB PERFORMANCE

As per the early definition proposed by Campbell (1993), “performance is what the organisation hires one to do, and do well”. Job performance (JP) is a core concept of organisational psychology, which consists of two aspects: behaviour and outcome (Campbell, 1990; Campbell et al., 1993; Sonnentag & Frese, 2005). While the behavioural aspect refers to employee actions at work, which can be measured and are relevant to the organisation’s goal, the outcome aspect refers to the results of employee behaviour. It is noteworthy that those two aspects are related in practice, but not completely overlapping, e.g., because of the outcomes being not fully dependent on the individual (Campbell et al., 1993; Motowidlo et al., 1997; Sonnentag & Frese, 2005). However, Campbell et al. also suggested that job performance can be solely referred to the behavioural aspect, defining JP as behaviours and actions which support the organisation’s goals (Campbell et al., 1993). Campbell (1990) proposed a JP framework where JP is modelled as an eight-dimensional construct (job-specific task proficiency, non-job-specific task proficiency, written and oral communications, demonstrating effort, maintaining personal discipline, facilitating peer and team performance, supervision, management, and administration).

Motowidlo et al. (1997) underlined that JP is a behavioural, episodic, evaluative, and multidimensional construct. According to them, one can distin-

guish between task performance and contextual performance. Task performance is directly related to the organisation's technical core by executing technical processes (activities such as selling, operating a machine, teaching, performing surgery, etc.) or maintaining technical requirements (activities such as restocking, distribution of products, providing control, supervision and staff-related functions, etc.). Task performance corresponds to Campbell's dimensions of job-specific task proficiency and non-job-specific task proficiency. Contextual performance maintains the organisation's organisational, social and psychological environment by activities, such as maintaining psychological context, following rules and procedures, volunteering to carry out extra tasks, etc. Contextual performance corresponds to Campbell's dimensions of written and oral communications, demonstrating effort, maintaining personal discipline, facilitating peer and team performance, supervision, and management and administration.

The literature review also shows approaches that add to the two main dimensions. One of the additional dimensions considers counterproductive work behaviours, including absenteeism and presenteeism (Bakker et al., 2004; Burton et al., 2004), downtime and destructive/hazardous behaviours (Murphy, 1989), off-task behaviour, unruliness, theft and drug misuse (Hunt, 1996). Adaptive performance includes the ability to adapt to changes, creative problem solving, dealing with unpredictable work situations and the ability to learn and is sometimes mentioned as the fourth JP dimension (Allworth & Hesketh, 1999; Pulakos et al., 2000; Sinclair & Tucker, 2006). Koopmans et al. (2001) presented a comprehensive conceptual framework with four dimensions of performance and their indicators:

- task performance - completing job tasks, work quantity, work quality, job skills, job knowledge, keeping knowledge up-to-date, working accurately and neatly, planning and organising, administration, decision-making, solving problems, oral and written communication, and monitoring and controlling resources;
- contextual performance - extra tasks, effort, initiative, enthusiasm, attention to duty, resourcefulness, industriousness, persistence, motivation, dedication, proactivity, creativity, cooperating with and helping others, politeness, effective communication, interpersonal relations, and organisational commitment;
- adaptive performance - generating new, innovative ideas, adjusting goals and plans to the situa-

tion, learning new tasks and technologies, being flexible and open-minded to others, understanding other groups or cultures, showing resilience, remaining calm, analysing quickly, and acting appropriately;

- counterproductive work behaviour - off-task behaviour, too many or longer breaks, presenteeism, absenteeism, complaining, tardiness, doing tasks incorrectly, accidents, insulting or gossiping about coworkers, fighting or arguing with coworkers, disregard of safety, misusing privileges, aggression, theft, and substance use (Koopmans et al., 2011).

1.4. ORGANISATIONAL CITIZENSHIP BEHAVIOUR

Organisational citizenship behaviour (OCB), firstly introduced by Cheney et al. (1983), refers to the behaviour of employees which is voluntary, goes beyond the job requirements and contract, and is not recognised by the organisation's formal reward system (Podsakoff et al., 2000). Engaging in OCB means that an employee is willing to go an extra mile on their own volition without expecting an official reward; on the other hand, an employee who is not engaging in OCB faces neither negative consequences nor disciplinary punishment. The literature captures seven OCB dimensions:

- Helping behaviour - helping others at work, including solving and preventing problems before they occur;
- Sportsmanship - tolerating the inevitable inconveniences and impositions of work without complaining;
- Organisational loyalty - spreading positive word of mouth, promoting, protecting and defending the organisation, and remaining committed to the organisation;
- Organisational compliance - internalisation and acceptance of the organisation's rules, regulations, and procedures and complying with the organisation's rules even when no one is watching;
- Individual initiative - voluntarily engaging in tasks which go beyond the role description (creative approach, innovation, enthusiasm, extra effort and responsibilities, encouraging other employees to act similarly);
- Civic virtue - showing a macro-level interest in or commitment to the organisation as a whole (willingness to participate in the organisation's governance, e.g., attending meetings, monitoring

risks, discussing strategy, and reporting fire hazards and suspicious activities);

- Self-development - developing one's skills, knowledge, and abilities (Podsakoff et al., 2000).

1.5. HYPOTHESIS DEVELOPMENT

As proven by empirical research, job performance is a notion that depends on job-related attitudes, i.e., job satisfaction, motivation, engagement, commitment, and involvement (Bieńkowska & Ignacek-Kuźnicka, 2019; Habeeb et al., 2017; Shahab & Nisa, 2014). In the context of the IT sector knowledge workers, high work engagement is a crucial attitude because it leads to a competitive advantage based on employee innovativeness, critical thinking, and initiative - behaviours that are necessary for job performance supporting the organisational goals (Toth et al., 2020). Thus, when analysing the phenomenon of the influence that organisational identification has on job performance in the IT sector, it is also necessary to consider the mediating role of work engagement. An appropriate level of work engagement is generally considered to be an important factor determining high-quality job performance (Yao et al., 2022). Empirical studies show the positive relationship between work engagement and job performance (Yongxing et al., 2017). Kim et al. examined 20 empirical studies and found that nine reported a relationship between work engagement and performance, one was direct and indirect, and only one was indirect. In seven other studies, the engagement was found to be a mediating factor between other constructs and performance (Kim et al., 2013).

Organisational identification is believed to lead to positive organisational outcomes relating to employees, such as commitment, motivation, goal achievement, qualitative performance, and job satisfaction (Ashforth & Mael, 1989; De Roeck et al., 2016; Likert, 1967; Stryker & Burke, 2000). Although the research showing the direct link between organisational identification and work engagement is limited, the organisa-

tional behaviour literature supports the statement that organisational identification determines the attitude of employees towards work (Karanika-Murray et al., 2015). Employees who identify with the organisation are more likely to internalise its values, be concerned about its future and well-being, as well as better perform their tasks (Dutton et al., 1994; Ötken & Erben, 2010). The desire of an employee to better perform the tasks reinforces the willingness of an individual to engage in work (Karanika-Murray et al., 2015; Ötken & Erben, 2010).

Strongly engaged employees who are enthusiastic and involved in their job perform their assigned tasks with higher quality and are more likely to get involved in additional, voluntary activities (Wahyu, 2013). Based on the social exchange theory and the principle of reciprocity, organisational citizenship behaviour (OCB) is a result of a positive emotion towards the organisation, which is driven by favourable treatment of employees by the organisation (Miles et al., 2002; Sun, 2019). Positively engaged individuals devote themselves completely, are more excited about working beyond expectations and generally go an extra mile by manifesting creativity and willingness to take extra tasks (Rahman & Karim, 2022; Smruti Rekha & Sasmita, 2019). Although extra efforts of performing OCB are neither formally included in the job description nor in the rewarding system, the research shows that it is taken into consideration in the process of managerial evaluation of employees (Podsakoff et al., 2000). This shows that OCB is believed to be an important performance factor, both individual and organisational (Organ et al., 2006), and can play a mediating role in the relationship between work engagement and job performance.

Based on the above, a hypothesis for this study has been formulated as follows:

H1. There is a positive influence of organisational identification (OI) on job performance (JP) through work engagement (WE) and organisational citizenship behaviour (OCB).

A hypothesis overview is presented in Fig. 1.

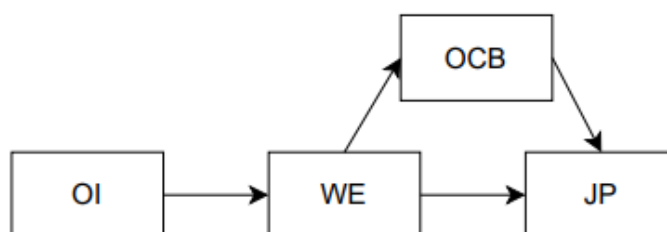


Fig. 1. Hypothesis H1

2. RESEARCH METHODS

2.1. DATA COLLECTION AND SAMPLE DESCRIPTION

An empirical study has been conducted to achieve the aim of this article and verify the hypotheses. Before conducting the main study, the questionnaire was presented to 15 specialists from the IT sector in Poland to check if the questions were fully

comprehensible and perceived as adequate (February 2023).

The quantitative research was carried out among the IT sector employees in Poland and Germany in March-June 2023 using the CAWI method. The criteria for the research sample were the country of employment (Poland or Germany) and the sector of employment (IT). The anonymity of the responses was guaranteed. It took ca. 12-15 minutes to complete the survey. The total size of the sample was 246 knowledge workers in the IT sector.

Tab. 1. Socio-demographic characteristics of the sample

CHARACTERISTIC	VALUE	FREQUENCY	PER CENT
Country	Germany	35	14.2
	Poland	211	85.8
Age	< 27	50	20.3
	27-35	90	36.7
	36-42	68	27.6
	43-50	32	13.0
	51-58	6	2.4
Gender	Female	90	36.6
	Male	155	63.0
	Other	1	0.4
Work experience (overall)	0-3	47	19.1
	10-15	51	20.7
	3-6	45	18.3
	6-10	43	17.5
	> 15	60	24.4
Work experience (current company)	0-1	71	28.8
	1-3	66	26.8
	3-6	57	23.3
	6-10	23	9.3
	> 10	29	11.8
Current position	Developer / Software Engineer	87	35.5
	Manager / Leader	40	16.3
	Consultant / IT Support	30	12.2
	Business Analyst / System Analyst	26	10.6
	Software Tester	21	8.5
	DevOps Engineer	14	5.7
	PMO	7	2.8
	Business / Technical Architect	6	2.4
	HR	3	1.2
	UX Designer	3	1.2
	Administrative / Assistance Role	2	0.8
	Research Assistant	2	0.8
	Scrum Master	2	0.8
	Other	3	1.2
Company size	Big (> 250 employees)	231	93.9
	Medium (< 250 employees)	9	3.7
	Small (< 50 employees)	5	2.0
	Micro (< 10 employees)	1	0.4
Company type	Global	187	76.0
	Multinational	53	21.5
	National	6	2.5

The research tool, a questionnaire prepared based on the literature review, was divided into two parts. Part I consisted of general questions and aimed to obtain information about the characteristics of the sample. All questions from this part were answered by the respondents. Part II contained questions regarding the studied constructs, i.e., organisational identification (OI), work engagement (WE), job performance (JP), and organisational citizenship behaviour (OCB). However, not all respondents answered all questions in the second part, which led to excluding invalid answers (as further described in the respective step of the analysis). The selection of the sample was made in a non-probability manner; however, the sample description (Tab. 1) shows a sample diversity, allowing for drawing conclusions and performing statistical testing.

Most of the respondents currently work for a big company (nearly 94 %). However, the company type is less homogeneous in the sample, i.e., 76 % are global companies and 21.5 % are multinational. The sample was dominated by men (63.3 %), which is not surprising considering the fact that, according to Eurostat data, in 2021, women only accounted for ca. 19.1 % in the IT sector in Europe (De Luca, 2023). A significant number of the surveyed employees belong to the Millennial generation (around 64 %), which, together with the younger Gen Z generation, constitutes the significant majority of the sample: 84 %. As for the current position, the technical roles were reported by ca. 75 % of the respondents (developers, engineers, consultants, analysts, testers, and DevOps engineers), whereas managerial/leadership positions are held by ca. 16 % of the respondents. The sample shows a discrepancy between German (14.2 %) and Polish (85.8 %) respondents, which is caused by difficulties in reaching the target group of IT specialists in Germany. The issue of low response rate in organisational research, especially among IT professionals who have tight schedules and may perceive surveys as low priority, has been previously reported by other researchers (Baruch & Holtom, 2008; Smith et al., 2013). However, a literature review shows significant similarities between Polish and German IT labour market, especially in the areas of skills and education (high technical skills, higher education, and English proficiency), cultural proximity (geographical closeness, frequent cooperation on projects, similar approach to teamwork, and the emphasis on knowledge sharing), market challenges and specifics (shortage of qualified IT specialists, remote work,

multinational projects, quality pressure to compete with cheaper offshore suppliers, HR practices, technological turbulence, and innovations), and the last but not least - employees' attitudes and expectations towards the employers, which vary in the macroeconomic and not the motivational dimension (Brittenet, 2024; Irascu, 2024; ITDS, 2024; Piątkiewicz, 2024). The above factors and the diversity within the combined sample enable a meaningful statistical analysis despite the quota imbalance between German and Polish subsamples.

2.2. OVERVIEW OF MEASURES AND VARIABLES

Considering the characteristics of the IT sector knowledge workers in Poland and Germany, this study questioned whether all the OI scales' items existing in the literature are relatable to the IT sector employees. Above all, the tendency to be more loyal to the occupation than to the organisation challenges the legitimacy of self-categorisation items (e.g., "Being an employee at this organisation is the most significant dimension of me"), and the strong need individualist self-concept challenges the legitimacy of some value and goal sharing items (e.g. "I have attributes, traits, and features that are typical for an employee at this organisation").

To find a synthetic construct for organisational identification (OI) of the IT sector organisation employees, a literature review for cognitive and affective dimensions of organisational identification has been conducted. While the first dimension was divided into two sub-dimensions - self-categorisation and value and goal sharing, the latter was not divided into sub-dimensions. It was assumed that the affective identification is one dimension containing emotional attachment as well as belonging and membership. The results of the literature overview and items constructing the OI variable are presented in Tab. 2.

Organisational identification (OI) items were measured on a five-point Likert scale, from 1 - "Strongly disagree" to 5 - "Strongly agree" with a neutral point 3 - "Neither agree nor disagree".

To build a structural model and test hypotheses, three variables: work engagement, job performance, and organisational citizenship behaviour, were measured using existing and previously validated scales (Tab. 3).

Work engagement (WE) as well as job performance (JP) were measured on a five-point Likert

Tab. 2. Organisational identification: dimensions, subdimensions, and items

DIM	SUB	NAME	ITEM	SOURCE
Cognitive identification	Self-categorisation	ISO1	I identify myself as a member of this organisation	Adapted from: (Stoner et al., 2011) (van Dick et al., 2004)
		OIS02	When I talk about the organisation, I usually say “we” rather than “they”	(Mael & Tetrick, 1992) (Tyler & Blader, 2001)
		OIS03	I feel as though I belong at work	Adapted from: (Tyler & Blader, 2001) (Stoner et al., 2011)
		OIS04	Being an employee at this organisation is the most significant dimension of me	(Stoner et al., 2011)
		OIS05	Overall, being a member of this organisation has very little to do with how I feel about myself (R)	Adapted from: (Cameron, 2004) (Harris & Cameron, 2005)
	Value and goal sharing	OIV01	What the organisation stands for is important to me	Adapted from: (Edwards & Peccei, 2007)
		OIV02	I share the goals of the organisation	Adapted from: (Edwards & Peccei, 2007)
		OIV03	I find that my values and the values of this organisation are similar	(Vandenberg et al., 1994)
		OIV04	I have attributes, traits, and features that are typical for an employee at this organisation	Adapted from: (Mael & Tetrick, 1992) (Stoner et al., 2011)
		OIV05	I have attitudes and behaviours that are typical for an employee at this organisation	Adapted from: (Stoner et al., 2011)
Affective identification	Emotional attachment + belonging and membership	OIE01	This organisation means a lot to me	Adapted from: (Boen et al., 2006)
		OIE02	I like being a member of this organisation	(Stoner et al., 2011)
		OIE03	When someone criticises the organisation, it feels like a personal insult	(Mael & Tetrick, 1992) (Tyler & Blader, 2001)
		OIE04	I have warm feelings towards this organisation as a place of work	Adapted from: (Cheney, 1983)
		OIE05	The organisation’s successes are my successes	(Mael & Tetrick, 1992)
		OIE06	When someone praises the organisation, it feels like a personal compliment	(Mael & Tetrick, 1992) (Tyler & Blader, 2001)
		OIE07	I am proud that I can work for this organisation	Adapted from: (Boen et al., 2006) (Cheney, 1983)
		OIE08	I like to work for this organisation	(van Dick et al., 2004)
		OIE09	I am glad I chose to work for this organisation rather than another company	(Cheney, 1983)

scale, from 1 - “Strongly disagree” to 5 - “Strongly agree” with a neutral point 3 - “Neither agree nor disagree”. For the organisational citizenship behaviour (OCB) construct, a modified five-point Likert scale was used, with the possible choices of 1 - “Never”, 2 - “Once or twice”, 3 - “Once or twice per month”, 4 - “Once or twice per week” and 5 - “(Almost) every day”. This questionnaire was validated for internal consistency using IBM SPSS Statistics v. 28.0.1.0.142.

The analysis showed the reliability (Cronbach’s alpha coefficient) for each scale as follows: WE - 0.708; JP - 0.817; OCB - 0.879.

The collected data were analysed using descriptive statistics, factor analysis, and structural equation modelling using IBM SPSS Statistics v. 28.0.1.0.142 and IBM SPSS AMOS v. 28.0.0. In the analysis, all p-values less than 0.05 were accepted as statistically significant.

Tab. 3. Summary of the constructs and the corresponding items: WE, JP, and OCB

VARIABLE	NAME	ITEM	SOURCE
Work engagement (WE)	WE01	At my work, I feel bursting with energy	(Schaufeli et al., 2019)
	WE02	I am enthusiastic about my job	
	WE03	I am immersed in my work 211	
Job performance (JP)	JP01	I always complete the duties specified in my job description and all the formal performance requirements of my job	(Bieńkowska & Tworek, 2020; Panayiotou et al., 2009; Phan et al., 2022; Yu et al., 2018)
	JP02	I always fulfil all responsibilities required by my job	
	JP03	I appropriately complete the work duties allocated to me	
	JP04	I perform my work duties precisely	
	JP05	I follow through on tasks to completion	
	JP06	I am rarely absent from my work	
	JP07	I make few mistakes at work	
	JP08	I always do all the tasks entrusted to me on time	
	JP09	I create new ideas and original solutions for improvements in my field	
Organisational citizenship behaviour (OCB)	OCB01	I took time to advise, coach, or mentor a coworker	(Spector et al., 2010)
	OCB02	I voluntarily helped a coworker learn new skills or shared job knowledge	
	OCB03	I voluntarily helped new employees get oriented to the job	
	OCB04	I lent a compassionate ear when someone at work had a work problem	
	OCB05	I offered suggestions to improve how work is done	
	OCB06	I helped a coworker who had too much to do	
	OCB07	I volunteered for extra work assignments	
	OCB08	I worked after-hours, weekends or other days off to complete a project or task	
	OCB09	I volunteered to attend meetings or work on committees in my time	
	OCB10	I gave up meal and other breaks to complete work	

3. RESEARCH RESULTS

3.1. FACTOR ANALYSIS

The first step of the analysis tested the data for normality. K-S test indicated that the distributions are deviating from normality ($p < 0.001$). For this reason, the further analysis used the exploratory factor analysis (EFA) with the maximum likelihood estimation method as a method relatively robust to the deviation from normality (Fuller & Hemmerle, 1966).

For EFA, a subset of 123 observations was randomly chosen from the total set of 246 responses. In this step, two models were estimated:

- Three first-order factor model - three sub-dimensions of OI as separate factors ("Sub" column in Table 3): self-categorisation (OIS), value and goal sharing (OIV), and emotional attachment + belonging and membership (OIE) correlated with each other. All three factors (OIS - five items; OIV - five items; OIE - nine items) were analysed separately for communalities lower than 0.5. After removing values lower than 0.5, for further analysis

(CFA), ten items were accepted: OIV01-OIV03, OIE01, OIE02, OIE07, OIE08, OIS01, OIS03 and OIS05. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy for those three factors: $KMO(10) = 0.925$, $p < 0.01$ and total variance explained by them at the level of 71.737 %. The three first-order factor model accepted for further testing is shown in Fig. 2.

- One first-order factor model - one first-order factor accounting for all the common variance. In the first iteration of EFA, the values of communalities after the extraction of items OIE03-OIE06, OIE09, OIS02, OIS04, and OIV03-05 were lower than 0.5. Hence, those were excluded from further analysis. The second iteration for the remaining ones: OIS01, OIS03, OIS05, OIV01, OIV02, OIE01, OIE02, OIE07 and OIE08 showed no communalities values lower than 0.5; KMO test result: $KMO(9) = 0.921$, $p < 0.01$ and total variance explained by one factor at the level of 62.827 %. Those nine items were thus accepted for further analysis (CFA). The one first-order factor model accepted for further testing is shown in Fig. 3.

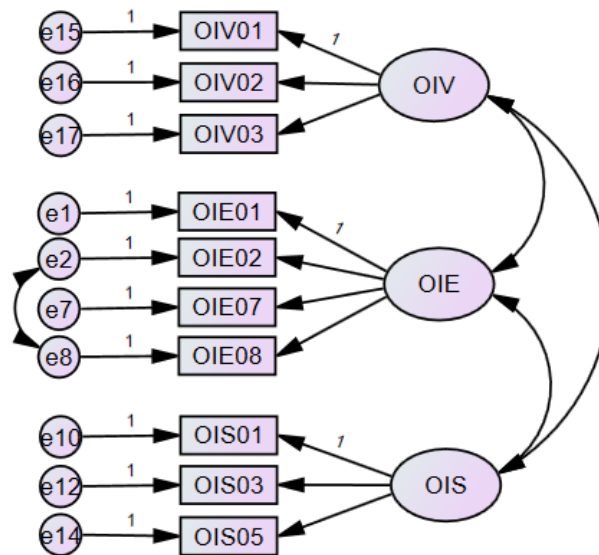


Fig. 2. Three first-order factor model

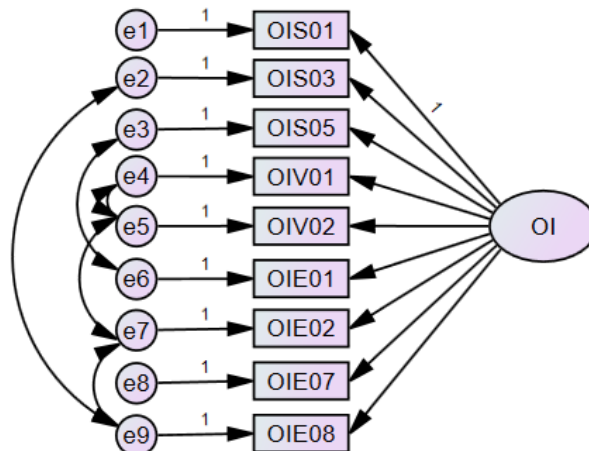


Fig. 3. One first-order factor model

Tab. 4. Fit summary for the tested models

STATISTIC	THREE FIRST-ORDER FACTOR MODEL	ONE FIRST-ORDER FACTOR MODEL
Chi-square (CMIN)	38.767	25.326
df	31	22
CMIN/df	1.251	1.151
RMR	.034	.026
GFI	.946	.958
AGFI	.903	.914
NFI	.952	.965
TLI	.985	.992
CFI	.990	.995
SRMSR	.0371	.0264
RMSEA	.045	.035

For confirmatory factor analysis (CFA) of the two models, a subset of the remaining 123 observations was assumed (from the total set of 246 responses). The detailed results of the analysis are presented in Tab. 4.

The CFA results presented in Table 4 indicate a good fit of the proposed model, with a slightly better match of the one first-order factor model. The CMIN/df ratios of 1.251 and 1.151 are lower than the acceptable threshold of 2 (Ullman & Bentler, 2003). The GFI (Goodness-of-Fit) and AGFI (Adjusted Goodness-of-Fit) indices, which are relatively resistant against normality and measure how much the models jointly account for the variances and covariance, are also greater than the recommended threshold of 0.9 (Hair

et al., 2010; Somers et al., 2003). The good model fit is also justified by values of CFI (Confirmatory Fit Index) and TLI (Tucker-Lewis Index) above 0.9 (Bentler, 1990) as well as of SRMSR (Standardised Root Mean Square Residual) and RMSEA (Root Mean Square Error of Approximation) below 0.08 (Hu & Bentler, 1998).

3.2. STRUCTURAL EQUATION MODELLING

The research hypothesis was tested with the use of Structural Equation Modelling (SEM) in AMOS on the sample of $n=173$. One-factor organisational identification (OI) was assumed as an independent variable, with work engagement (WE) and organisational

Tab. 5. Path coefficients of the structural equation model

HYPOTHESIS	PATH	STANDARDISED ESTIMATE	S.E.	C.R.	P-VALUE	HYPOTHESIS ACCEPTANCE
H1	OI to WE	.636	.095	6.220	< .001	Accepted
	WE to JP	.210	.075	2.296	.022 < .05	
	WE to OCB	.339	.096	3.472	< .001	
	OCB to JP	.210	.070	2.488	.013 < .05	

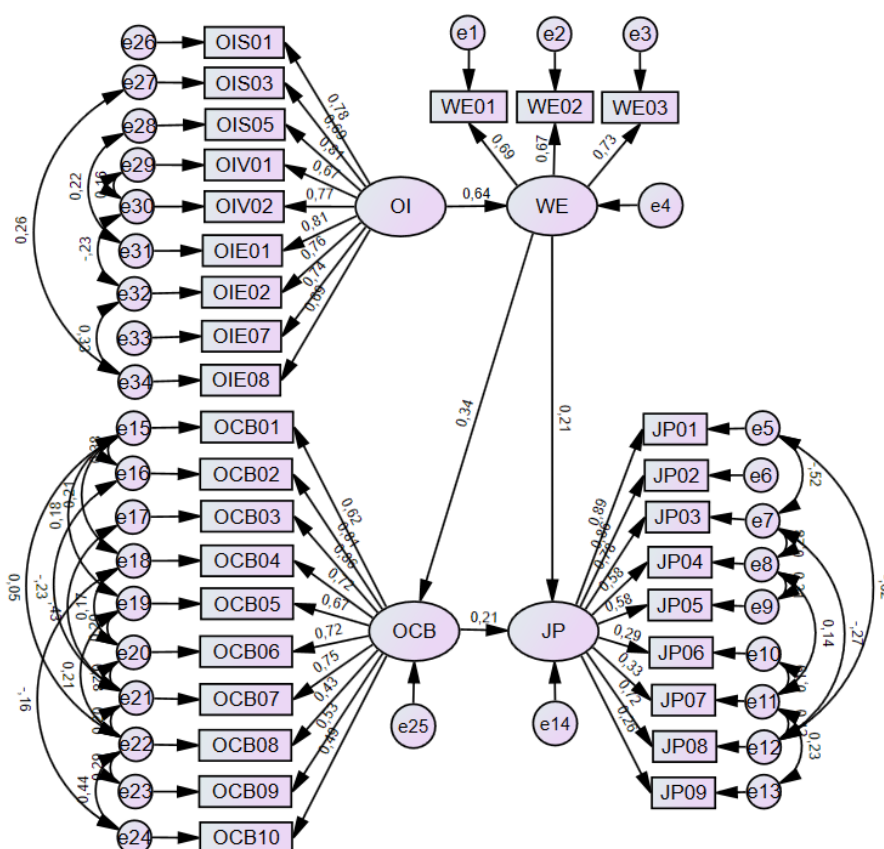


Fig. 4. Tested model

citizenship behaviour (OCB) as intermediate variables, and job performance (JP) as the dependent variable. The tested model with latent variables is shown in Fig. 4. For the final model, meeting the following criteria of the model's goodness-of-fit still enables the conclusion that the model is well-fitted: $CMIN/df = 1.416 < 2.0$; $CFI = 0.938 > 0.9$; $TLI = 0.929 > 0.9$; $RMSEA = 0.049 < 0.08$.

- The analysis results show that OI has a strong, positive and statistically significant effect on WE (path factor = 0.636, p -value < 0.001). The impact of WE on JP (path factor = 0.210, p -value = 0.022) is positive and statistically significant. The results also show a positive and statistically significant impact of WE on OCB: path factor = 0.339, p -value < 0.001, as well as OCB on JP: path factor = 0.210, p -value = 0.013, which means that the assumed hypothesis H1 has been confirmed. Analysis of indirect effects shows that OI affects JP indirectly via two paths:
 - OI → WE → JP: Indirect effect: $0.636 \times 0.21 = 0.1336$ (positive, statistically significant),
 - OI → WE → OCB → JP: Indirect effect: $0.636 \times 0.339 \times 0.21 = 0.0453$ (positive, statistically significant).

3.3. SUMMARY OF THE RESULTS

The conducted statistical analysis aimed to assess two models of organisational identification (OI) and an indirect influence of OI on job performance (JP), based on a sample of IT-sector specialists in Poland and Germany. The results showed:

- a good fit of the multidimensional model, emphasising cognitive identification (self-categorisation and value and goal sharing), and affective identification (emotional attachment as well as belonging and membership),
- a slightly better fit of the unitary model, emphasising a strong correlation between the theoretical dimensions,
- a good fit of the model assessing the influence of Organisational Identification (OI) on Job Performance (JP) via Work Engagement (WE) and Organisational Citizenship Behaviour (OCB), with all direct effects between variables shown in Table 5 being statistically significant. Additionally, two specific indirect effect pathways are identified: (1) the mediation of WE in the relationship between OI and JP, and (2) the serial mediation of WE and OCB between OI and JP.

4. DISCUSSION OF THE RESULTS

This paper aimed to build a synthetic construct for organisational identification (OI) and analyse the role of OI in strengthening job performance (JP) in the IT sector. This aim was fulfilled by a literature review followed by empirical research. The literature review allowed for the finding of items belonging to affective and cognitive dimensions of OI, thus building a theoretical OI scale for the IT sector. The conducted literature review was also a basis for the hypothesis development. The theoretical OI construct and hypothesis were verified in the empirical research. In the conducted research, two new scales for organisational identification have been verified: a three first-order factor scale and a one first-order factor scale. The final scales comprise items reflecting affective and cognitive dimensions, which is consistent with the theoretical conceptualisation of the term (Edwards, 2005; Johnson et al., 2012). The analysis confirmed that not all the items mentioned in the subject literature are appropriate for the IT sector knowledge workers. As expected, only the items that support IT employees' sense of individualism and need for empowerment can build the final models, which is consistent with the characteristics of IT sector knowledge workers (Zhan et al., 2013). Although three- and one-factor models are both well-fitted, the latter has demonstrated better fit indices. This result is consistent with previous research depicting OI as a unitary construct, which provides a simplified, but still reliable measurement across different types of organisations. Likewise, Edwards (2005) concluded that such an approach can be justified by strong empirical correlations between the dimensions, which makes it reasonable to use a single-factor approach in practice. Hence, the unitary construct was used for further path analysis. However, the multidimensional model offers valuable theoretical insights. It may help distinguish how the particular dimensions predict, e.g., attitudes and behaviours (Edwards, 2005).

Moreover, the analysis confirmed the main research hypothesis that there is a positive influence of organisational identification (OI) on job performance (JP) through work engagement (WE) and organisational citizenship behaviour (OCB). The direct effect of OI and WE in the collected data goes in line with previous findings stating that OI determines employee attitudes towards work and rein-

forces the willingness to be engaged (Karanika-Murray et al., 2015; Ötken & Erben, 2010). In the conducted research, WE has been proven to have a positive and statistically significant impact on JP, with partial mediation of OCB. Generally, this result is consistent with previous empirical studies that also confirm a positive relationship between WE and JP (Yongxing et al., 2017), the willingness of highly engaged employees (WE) to engage in voluntary activities (OCB) (Rahman & Karim, 2022; Smruti Rekha & Sasmita, 2019; Wahyu, 2013), and that engaging in OCB leads to higher JP (Organ et al., 2006). The indirect effect of OI on JP through WE also turned out to be positive: employees who identify strongly with the organisation tend to be more engaged in their work, which, in turn, translates into higher job performance. The results may be perceived as an approach to build on Kahn's psychological conceptualisation of WE. In Kahn's model, performance is fostered by psychological conditions closely linked to identification (meaningfulness, safety, availability, belonging, and meaning at work) via the mediating role of personal engagement (energy, motivation, and commitment) (Kahn, 1990). Moreover, a statistically significant, serial mediation pathway $OI \rightarrow WE \rightarrow OCB \rightarrow JP$ shows that OI positively affects work engagement, which then stimulates greater organisational citizenship behaviour. This increased OCB further improves job performance. This indirect path empirically shows how OCB emerges from underlying psychological concepts of OI and WE, and ultimately strengthens JP. Therefore, the research gap has been filled by developing a measurement for the OI construct, finding a link between OI and building a model explaining the relationship between OI, WE, OCB, and JP.

CONCLUSIONS

The obtained results contribute to the human resources management field, especially to the ongoing debate regarding the conceptualisation of OI, by introducing a three-factor OI scale that synthetically represents cognitive and affective OI dimensions, as well as a one-factor OI scale that underlines the closeness of the dimensions in practice. The presented approach advances the understanding of OI by providing a holistic, empirically validated model of both affective and cognitive components, which are traditionally examined separately in the literature (with an emphasis on the cognitive dimension).

The results also add to the existing literature by not only proving an influence of OI on JP through WE, but also emphasising the partially mediating role of OCB in the relationship between WE and JP. To the best of the author's knowledge, such an influence has not been directly shown in any of the existing theoretical JP models. Given the rapid, project-based work environment, the results provide empirical support for the hypothesis that OI remains a driver of WE, OCB, and ultimately JP, not only in traditional, process-based corporate environments. By modelling these mediating relationships, the study clarifies the psychological and behavioural mechanisms linking identification to performance, offering a refined framework for the IT sector.

The developed OI scale and OI-based job performance model also have a practical significance, especially in the IT sector. As employee job performance is a crucial factor in the overall performance of the organisation, it should be reinforced and stimulated by management. The results of this study indicate that management can influence job performance by nurturing employees' sense of belonging, emotional attachment and self-categorisation as a part of an organisation. Moreover, the results show the importance of recruiting employees who share the organisation's goals and values. Such employees, who are compatible from the beginning, are more likely to identify themselves with the organisation, be more engaged, and, in consequence, get involved in voluntary activities and perform well.

Although the aim of this paper has been successfully fulfilled and theoretical and practical implications have been recognised, the results have certain limitations. The first limitation is the study sample, which is relatively small and was purposively collected only in Poland and Germany, in the IT sector. Second, the research was conducted only once, yet employee views tend to vary in time (e.g., they reflect the current economic and political situation). Third, a literature review shows a plethora of factors that can influence employee job performance, and this study considered only organisational identification, work engagement and organisational citizenship behaviour.

The above limitations can be a starting point for future research. The research could be replicated with a bigger sample that would be more geographically diverse and not limited to the IT sector. Appropriateness of a unitary versus multidimensional model may vary across industries and cultural settings. Future research may benefit from testing multidimensional

OI models in other sectors or national contexts where organisational cultures are less cohesive than in IT, as this might reveal meaningful distinctions between various facets of identification. Such exploration could provide a deeper theoretical understanding and increase the generalisability of measurement models for Organisational Identification. In further research, it would also be worth considering other factors influencing job performance, like leadership, training and other HRM solutions. Finally, it could be beneficial to check if there are some moderating factors to the described relationships, e.g., the type of employment, gender, company size, sector, etc.

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