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Predictive Validity of Person-Environment Fit on the Hiring Desirability of Software Engineers

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This is to certify that the doctoral dissertation by

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Walden University
2024

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Dissertation Submitted in Partial Fulfillment

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Abstract

Person-environment (P-E) fit, particularly in recruitment, has gained significant attention, expanding beyond the traditional focus on job-applicant compatibility to include alignment with team and organizational dynamics. Despite its importance, there is no consensus on how to effectively measure this fit, which limits its predictive power for employee outcomes. This quantitative correlational study addressed this gap by examining the predictive validity of congruence between candidates' psychological characteristics and various facets of the work environment among software engineers. Drawing on Schneider's attraction-selection-attrition model, the study examined congruence at multiple levels (candidate-team, candidate-leader, and candidate-role) and its influence on hiring desirability. Secondary data from European software companies were analyzed using binary logistic regression to assess congruence in personality traits, values, and interests. Established instruments such as the IPIP-NEO-120, 18-REST, Organizational Culture Profile, and the Great Eight competencies framework were used for data collection. The results indicated that congruence, especially in values and personality traits, plays a significant role in hiring decisions, while other factors, such as interests, show a weaker influence. Employers hiring software engineers may benefit from the results of this study, which has potential implications for positive social change that include refining hiring strategies, enhancing workforce alignment, and fostering more positive, long-term employment relationships.

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Chapter 1: Introduction to the Study

Recruitment decisions play a pivotal role in shaping a company's future capabilities because they involve the selection of individuals likely to possess the attributes and abilities necessary to execute the company's vision. Therefore, managers and practitioners must place great emphasis on designing recruitment practices that enable them to make informed and accurate hiring decisions, thereby aligning with their business goals. Despite the evident significance for a company's future success, recruitment practices often fail to consistently and accurately predict which candidate would best fit a particular company's needs, as evidenced by increasing attrition rates in companies over the years (Kar et al., 2011; Mehta et al., 2016; Shah & Bharti, 2014). One possible explanation for the persistent challenges in recruitment practices is their predominant focus on assessing only the candidate during recruitment activities. The current study aimed to explore different recruitment practices that emphasize both the candidate's and the employer's perspective when assessing fit between candidates and companies. In this chapter, the basic assumptions of this study are outlined, along with the theoretical foundations that underpinned the rationale for conducting this study. Additionally, the research problem is discussed, and the purpose of conducting the study is presented.

Background

It is not a new finding in recruitment that the alignment between the characteristics of an individual and those of their work environment influences an employee's work attitudes and overall performance. However, recruitment practices have, for years, placed significant emphasis on evaluating the suitability between the applicant and the job requirements (Kristof-Brown, 2000). Only recently have organizations started paying attention to the alignment of their new hires with the rest of the team or the entire organization in their recruitment practices (Kristof-Brown et al., 2023). Despite the increased interest in evaluating and selecting individuals who would fit into the team and organization (and not just the job), there is a lack of uniformity in how to operationalize and measure person-environment (P-E) fit. As a result, it is still difficult to predict the work attitudes and outcomes of newly hired employees using the predictor variables from the recruitment process. Therefore, there is an ongoing debate regarding the relevance of assessment practices in recruitment for predicting the future outcomes of employees in specific environments (Ekuma, 2012; Goldhaber et al., 2017; Kristof-Brown et al., 2023; Pashayan et al., 2016; Schmidt & Hunter, 1998).

Most existing research has focused on assessing P-E fit posthiring decisions (Huang et al., 2019) or on evaluating P-E fit through direct measures, specifically the perception of fit (Abdalla et al., 2018; Piasentin & Chapman, 2006; Sekiguchi & Huber, 2011; Vleugels et al., 2022). Limited research has explored the measurement of P-E fit through latent measures of fit, such as the congruence of personal characteristics, especially within the hiring context (Santos & De Domenico, 2015; Schelfhout et al., 2022). Most of the research has focused on measuring the observable, subjective perception of fit between an individual and their environment (whether it is their job role, team, supervisor, or culture). In such research, employees were usually asked to rate how well they perceived themselves to fit in their work environment, and the level of their perception was taken as a measure of fit. The literature typically defined this approach to measuring fit as a direct measure of fit. Contrary to direct measures of fit, not much research has focused on investigating how the similarities or differences in personal psychological characteristics (such as personality, values, or interests) explain the fit between an individual and their environment. Measuring these personal characteristics directly (personality traits, values, interests) as predictors of fit is referred to as latent measures of fit.

Additionally, previous research that focused on evaluating P-E fit in recruitment scenarios investigated outcomes of the recruitment practices on employees' work attitudes (Barrick & Parks-Leduc, 2019; De Cooman et al., 2009). Not much research has been conducted with a focus on evaluating the effect of P-E fit assessment through latent measures of fit on employers' hiring preferences. Several studies (Santos & De Domenico, 2015; Sekiguchi & Huber, 2011; van Vuuren et al., 2007) claimed that this should be one of the aspects to be investigated in future research on the topic of P-E fit in the recruitment context. Therefore, the gap related to evaluating the predictive validity of latent measures of P-E fit on employers' hiring preferences was the focus of the current study.

Problem Statement

The research problem that was addressed in this study was the extent to which congruence between personal psychological characteristics of the candidate and the work environment of the employer predicts the perception of the candidate's hiring desirability in the recruitment scenario. The problem of aligning candidates with the culture and environment of their potential employers has garnered increased attention in recent years. Although traditional recruitment practices have focused on assessing the fit between candidates and job requirements, there is a growing recognition of the importance of evaluating alignment with team dynamics and organizational culture as well. Despite this shift, there remains a lack of consensus on how to effectively measure this alignment, particularly through latent measures of fit such as personality traits, values, and interests.

Existing research has concentrated on posthiring evaluations of P-E fit or has relied on direct measures such as the subjective perception of fit. However, there is a notable gap in understanding how personal psychological characteristics influence fit within the recruitment context, particularly in predicting employers' hiring preferences. Although some studies have emphasized the need to explore this aspect, there is limited empirical research investigating the predictive validity of latent measures of P-E fit on employers' decisions.

The current study aimed to address this gap by examining the extent to which the congruence between candidates' personal psychological characteristics and employers' work environments predicts candidates' hiring desirability in recruitment scenarios. By focusing on latent measures of fit and their impact on employers' preferences, this research aimed to contribute to the refinement of recruitment practices, thereby enhancing the accuracy and effectiveness of hiring decisions.

Purpose of the Study

The purpose of this quantitative study was to examine the relationship between P-E fit and the hiring desirability of software engineers.

Research Questions and Hypotheses

RQ1: To what extent can the Candidate-Team congruence predict hiring desirability of software engineers?

Personality:

$H_0$1: There is no relationship between Candidate-Team Extraversion congruence and the employer extending the job offer to a candidate.

$H_1$1: There is a significant relationship between Candidate-Team Extraversion congruence and the employer extending the job offer to a candidate.

$H_0$2: There is no relationship between Candidate-Team Agreeableness congruence and the employer extending the job offer to a candidate.

$H_1$2: There is a significant relationship between Candidate-Team Agreeableness congruence and the employer extending the job offer to a candidate.

$H_0$3: There is no relationship between Candidate-Team Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_1$3: There is a significant relationship between Candidate-Team Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_0$4: There is no relationship between Candidate-Team Neuroticism congruence and the employer extending the job offer to a candidate.

$H_1$4: There is a significant relationship between Candidate-Team Neuroticism congruence and the employer extending the job offer to a candidate.

$H_0$5: There is no relationship between Candidate-Team Openness congruence and the employer extending the job offer to a candidate.

$H_1$5: There is a significant relationship between Candidate-Team Openness congruence and the employer extending the job offer to a candidate.

Values:

$H_0$6: There is no relationship between Candidate-Team Values congruence and the employer extending the job offer to a candidate.

$H_1$6: There is a significant relationship between Candidate-Team Values congruence and the employer extending the job offer to a candidate.

Interests:

$H_0$7: There is no relationship between Candidate-Team Interests' congruence and the employer extending the job offer to a candidate.

$H_1$7: There is a significant relationship between Candidate-Team Interests' congruence and the employer extending the job offer to a candidate.

RQ2: To what extent can the Candidate-Leader congruence predict hiring desirability of software engineers?

Personality:

$H_0$8: There is no relationship between Candidate-Leader Extraversion congruence and the employer extending the job offer to a candidate.

$H_1$8: There is a significant relationship between Candidate-Leader Extraversion congruence and the employer extending the job offer to a candidate.

$H_0$9: There is no relationship between Candidate-Leader Agreeableness congruence and the employer extending the job offer to a candidate.

$H_1$9: There is a significant relationship between Candidate-Leader Agreeableness congruence and the employer extending the job offer to a candidate.

$H_0$10: There is no relationship between Candidate-Leader Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_1$10: There is a significant relationship between Candidate-Leader Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_0$11: There is no relationship between Candidate-Leader Neuroticism congruence and the employer extending the job offer to a candidate.

$H_1$11: There is a significant relationship between Candidate-Leader Neuroticism congruence and the employer extending the job offer to a candidate.

$H_0$12: There is no relationship between Candidate-Leader Openness congruence and the employer extending the job offer to a candidate.

$H_1$12: There is a significant relationship between Candidate-Leader Openness congruence and the employer extending the job offer to a candidate.

Values:

$H_0$13: There is no relationship between Candidate-Leader Values congruence and the employer extending the job offer to a candidate.

$H_1$13: There is a significant relationship between Candidate-Leader Values congruence and the employer extending the job offer to a candidate.

Interests:

$H_0$14: There is no relationship between Candidate-Leader Interests' congruence and the employer extending the job offer to a candidate.

$H_1$14: There is a significant relationship between Candidate-Leader Interests' congruence and the employer extending the job offer to a candidate.

RQ3: To what extent can the Candidate-Role congruence predict hiring desirability of software engineers?

$H_0$15: There is no relationship between the congruence of candidate's and ideal role profile and the employer extending the job offer to a candidate.

$H_1$15: There is a significant relationship between the congruence of candidate's and ideal role profile and the employer extending the job offer to a candidate.

Theoretical Framework

The theory that grounded this study was Schneider's Attraction-Selection-Attrition (ASA) model (Wan & De Luque, 2020). Schneider's ASA model discusses why individuals are attracted to organizations and eventually hired, what makes them stay, and what motivates them to change employers. According to Schneider's ASA model, individuals are attracted to organizations with which they share similar values and beliefs (attraction), and representatives of the organizations are more likely to hire candidates who are alike regarding their value system, interests, and personality traits (selection). As a result, people are more prone to staying with organizations whose organizational culture aligns with their personal characteristics and are more likely to leave those that differ significantly from them (attrition).

PE fit refers to the compatibility between an individual and their work environment. A good fit leads to higher satisfaction, motivation, and performance. The ASA model explains how organizations, through attraction and selection, influence the P-

E fit of their employees. Therefore, the ASA model represented a theoretical foundation for the current study and justification for assumptions about the relationship between P-E fit and the hiring desirability of candidates in the recruitment process. In this study, the selection aspect of the ASA model was the central focus of theoretical assumptions.

The logical connections between the framework presented and the nature of this study included building on Schneider's ASA theory, whereby the measurement methods go beyond the perception of similarities in attributes between the person and the environment (organization). Moreover, the focus in this study was on measuring the exact congruence between psychological attributes of an individual and the environment (organization). In this study, the environment was defined on three levels: (a) team composition, (b) the leader, and (c) role structure. Team composition was derived from the aggregated results collected from the individual team members who compose a particular team. Role structure was derived from the core competencies needed to execute the role.

Nature of the Study

To answer the research questions in this quantitative study, I chose a correlation design (see Dziak, 2023) to investigate the extent to which the congruence between a candidate's characteristics and the characteristics of their work environment can explain the hiring desirability of software engineers. For the research design, I used secondary data sourced from private records obtained by other organizations during their recruitment of candidates for various vacancies. The instruments employed for recruitment purposes included the following:

- Personality questionnaire IPIP-NEO-120 (Maples et al., 2014)
- Values questionnaire 18-REST (Ambiel et al., 2018)
- Organizational Culture Profile (OCP; O'Reilly et al., 1991)
- The Great Eight Competencies Framework (Bartram, 2005)

Certain applicant tracking systems (ATS) available in Europe have already implemented such instruments in their offerings to the market. Therefore, companies using these ATS providers were approached for the purpose of the current study and were asked for access to their collected data. With this setup, I ensured that the instruments used in organizations for recruitment practices would be uniform and comparable. All the instruments were publicly available and did not require written permission for use for academic or commercial purposes.

Access to secondary data was sought from for-profit software development companies that hire software engineers in different programming languages, that operate across the European market, and that have conducted their recruitment processes using the instruments. The data were deidentified and encompassed assessment results for approximately 450 candidates who participated in recruitment processes. In the study, variables were defined in the following manner:

- Dependent variable (DV): Did the employer extend the offer to the candidate (Yes/No; nominal [dichotomous])
- Independent Variable (IV)1: Candidate-Team Value congruence (ordinal)
- IV2: Candidate-Leader Value congruence (ordinal)
- IV3: Candidate-Team Interests' congruence (ordinal)

- IV4: Candidate-Leader Interests' congruence (ordinal)
- IV5: Candidate-Team Extraversion congruence (interval)
- IV6: Candidate-Team Agreeableness congruence (interval)
- IV7: Candidate-Team Neuroticism congruence (interval)
- IV8: Candidate-Team Openness congruence (interval)
- IV9: Candidate-Team Conscientiousness congruence (interval)
- IV10: Candidate-Leader Extraversion congruence (interval)
- IV11: Candidate-Leader Agreeableness congruence (interval)
- IV12: Candidate-Leader Neuroticism congruence (interval)
- IV13: Candidate-Leader Openness congruence (interval)
- IV14: Candidate-Leader Conscientiousness congruence (interval)
- IV15: Candidate-Role congruence (interval)

Definitions

Candidate: An individual who participated in a recruitment process within an organization or institution.

Study Variables

Candidate-Leader Agreeableness congruence: The similarity in agreeableness levels between a candidate (such as a job applicant) and a leader (such as a manager or supervisor) within an organizational context.

Candidate-Leader Conscientiousness congruence: The similarity in conscientiousness levels between a candidate (such as a job applicant) and a leader (such as a manager or supervisor) within an organizational context.

Candidate-Leader Interests' congruence: The similarity in the interests' profile (measured by OCP) between a candidate (such as a job applicant) and a leader (such as a manager or supervisor) within an organizational context.

Candidate-Leader Extraversion congruence: The similarity in extraversion levels between a candidate (such as a job applicant) and a leader (such as a manager or supervisor) within an organizational context.

Candidate-Leader Neuroticism congruence: The similarity in neuroticism levels between a candidate (such as a job applicant) and a leader (such as a manager or supervisor) within an organizational context.

Candidate-Leader Openness congruence: The similarity in openness levels between a candidate (such as a job applicant) and a leader (such as a manager or supervisor) within an organizational context.

Candidate-Leader Value congruence: The similarity in the value profile between a candidate (such as a job applicant) and a leader (such as a manager or supervisor) within an organizational context.

Candidate-Role congruence: The degree of alignment between a candidate's characteristics and the requirements associated with a specific role within an organization.

Candidate-Team Agreeableness congruence: The similarity in agreeableness levels between a candidate (such as a job applicant) and the aggregated agreeableness level of the existing members of a team within an organizational setting.

Candidate-Team Conscientiousness congruence: The similarity in conscientiousness levels between a candidate (such as a job applicant) and the aggregated conscientiousness level of the existing members of a team within an organizational setting.

Candidate-Team Extraversion congruence: The similarity in extraversion levels between a candidate (such as a job applicant) and the aggregated extraversion level of the existing members of a team within an organizational setting.

Candidate-Team Interests' congruence: The similarity in the interests' profile between a candidate (such as a job applicant) and the aggregated interests' profile of the existing members of a team within an organizational setting.

Candidate-Team Neuroticism congruence: The similarity in neuroticism levels between a candidate (such as a job applicant) and the aggregated neuroticism level of the existing members of a team within an organizational setting.

Candidate-Team Openness congruence: The similarity in openness levels between a candidate (such as a job applicant) and the aggregated openness level of the existing members of a team within an organizational setting.

Candidate-Team Value congruence: The similarity in the value profile between a candidate (such as a job applicant) and the aggregated value profile of the existing members of a team within an organizational setting.

Hiring desirability: Whether the employer extended an offer to the candidate who participated in the recruitment process or not (Yes/No).

Personality Traits

Agreeableness: A personality trait characterized by compassion, cooperativeness, and trust. Individuals high in agreeableness are friendly and empathetic and seek harmonious relationships with others (Costa & McCrae, 1999).

Extraversion: A personality trait characterized by sociability, assertiveness, and enthusiasm. Extraverted individuals are outgoing and energetic and enjoy interacting with others (Costa & McCrae, 1999).

Conscientiousness: A personality trait characterized by diligence, reliability, and a strong sense of duty. Conscientious individuals are organized, responsible, and capable of self-discipline (Costa & McCrae, 1999).

Neuroticism: A personality trait characterized by the tendency to experience negative emotions such as anxiety, depression, and emotional instability. Individuals high in neuroticism are more likely to experience stress and mood swings (Costa & McCrae, 1999).

Openness to experience: A personality trait characterized by a willingness to engage in novel experiences, creativity, and intellectual curiosity. Individuals high in openness are imaginative and open-minded and appreciate variety and innovation (Costa & McCrae, 1999).

Professional Interests

Artistic interests: Preferences for activities that involve creativity, design, and self-expression. Individuals with artistic interests often enjoy engaging in activities such as writing, performing, or visual arts, and they prefer environments that allow for creativity and originality.

Conventional interests: Preferences for activities that involve organization, structure, and detail-oriented tasks. Individuals with conventional interests often enjoy working with data, following set procedures, and maintaining orderly systems and routines.

Enterprising interests: Preferences for activities that involve leadership, persuasion, and managing projects or people. Individuals with enterprising interests often enjoy taking initiative, leading groups, and making decisions in business or organizational settings.

Investigative interests: Preferences for activities that involve thinking, researching, and problem solving. Individuals with investigative interests often enjoy working with ideas and prefer tasks that require critical thinking, analysis, and intellectual inquiry.

Realistic interests: Preferences for activities that involve practical, hands-on problems and solutions. Individuals with realistic interests often enjoy working with tools, machines, or animals and typically prefer outdoor work.

Social interests: Preferences for activities that involve helping, teaching, and interacting with others. Individuals with social interests often enjoy working in collaborative environments and seek roles that allow them to support, care for, or educate others.

Value Dimensions

Affective autonomy: A cultural value that highlights the importance of individual pursuit of positive experiences and emotional satisfaction. Affective autonomy values personal enjoyment, pleasure, and a focus on individual feelings and emotions (O'Reilly et al., 1991).

Egalitarianism: A cultural value that promotes equality, social justice, and the welfare of all individuals. Egalitarianism values cooperation, concern for others, and the commitment to minimize hierarchical differences and power imbalances (O'Reilly et al., 1991).

Embeddedness: A cultural value that emphasizes the importance of maintaining traditional social relationships and collective activities. Embeddedness values social cohesion, group solidarity, and the importance of placing group goals over individual desires (O'Reilly et al., 1991).

Harmony: A cultural value that stresses the importance of fitting into the social and natural world without attempting to change it. Harmony values peace, understanding, and living in harmony with others and the environment (O'Reilly et al., 1991).

Hierarchy: A cultural value that emphasizes the importance of a structured and stratified social order. Hierarchy values clear authority, role differentiation, and a top-down approach to management and decision making (O'Reilly et al., 1991).

Intellectual autonomy: A cultural value that supports the freedom of individuals to pursue their own ideas and intellectual directions. Intellectual autonomy emphasizes creativity, curiosity, and the valuing of independent thought and innovation (O'Reilly et al., 1991).

Mastery: A cultural value that prioritizes ambition, assertiveness, and the pursuit of success and dominance over the environment. Mastery encourages individuals to seek out challenges, compete, and achieve personal and organizational goals (O'Reilly et al., 1991).

Organizational Culture Types

Aggressive: An organizational culture that focuses on competitiveness, assertiveness, and achievement. Organizations with an aggressive culture prioritize winning and are often characterized by a high drive to meet ambitious goals (O'Reilly et al., 1991).

Detail-oriented: An organizational culture that emphasizes precision, attention to detail, and accuracy. Organizations with a detail-oriented culture prioritize meticulousness and thoroughness in their processes and work (O'Reilly et al., 1991).

Innovative: An organizational culture that values creativity, experimentation, and the pursuit of new ideas. Organizations with an innovative culture encourage risk-taking and are open to change and new approaches (O'Reilly et al., 1991).

Outcome-oriented: An organizational culture that emphasizes results, performance, and achieving specific goals. Organizations with an outcome-oriented culture measure success by the achievement of objectives and often employ performance-based rewards (O'Reilly et al., 1991).

People-oriented: An organizational culture that prioritizes the well-being, development, and fair treatment of employees. Organizations with a people-oriented culture emphasize supportive relationships, respect, and consideration for individuals' needs (O'Reilly et al., 1991).

Stable: An organizational culture that values consistency, predictability, and maintaining the status quo. Organizations with a stable culture prioritize long-term planning and sustaining established procedures and structures (O'Reilly et al., 1991).

Team-oriented: An organizational culture that values collaboration, teamwork, and collective effort. Organizations with a team-oriented culture encourage cooperation, mutual support, and a sense of community among employees (O'Reilly et al., 1991).

Assumptions

The first assumption of this study was that all candidates who participated in the recruitment processes were genuinely interested in changing employers, and a certain level of motivation for participating in the company's recruitment process existed. Other assumptions were related to the structure of the environmental elements. I assumed that vacancies for which candidates were evaluated represented real recruitment needs that a particular company had, and not merely desired positions that were impossible to fill based on labor market demand. Additionally, I assumed that individuals composing the environment elements (peers, superiors) were representative and credible representatives of the companies, and that their characteristics and actions genuinely aligned with the company's business plan and vision.

Scope and Delimitations

This study focused on evaluating the fit within the recruitment scenario of working individuals in a narrow population: software engineers. Although there is a possibility of generalizing the results of this study, it is limited due to specific circumstances that exist in the recruitment practices among software engineers, such as imbalanced need-supply of the workforce, high competition among the employers, increased demand for certain skills in the labor market, and global competition due to hybrid/remote work setups. Also, the concept of fit can be evaluated on different levels and surpasses recruitment scenarios. The current study did not address the vocational aspect of assessing fit and, therefore, the findings might have limited longitudinal applicability and might not be significantly related to a person’s career choices. Finally, this research did not address cultural variations because the scope of data collection was limited to several European countries.

Limitations

Previous research on P-E fit indicated that the effect sizes of significant P-E fits were mixed due to differences in the operationalization of person and environment elements. Although the current study focused on an in-depth evaluation of fit by addressing fit from various levels and various variables, it is likely to expect similar findings (small effect sizes) to appear in this study due to the failure to consider all variables that may be important for fit assessment.

Although fit was expressed as the actual fit between the observed variables in the person and environment elements, measurement tools relied on self-reports from participants in the study (e.g., measurement of personality, values, and interests relied on self-reports from questionnaires), which might have impacted validity. Additionally, because the concept of fit is complex and influenced by a variety of factors, this study did not take into account possible mediating and moderating variables (such as work experience, age, previous work history) that could have affected the assessment of fit. However, I took such limitations into account by narrowing the focus of this study to a part of the recruitment process in which preselection (initial triage) of the candidates had been done and candidates had been included in further stages of the selection process. With such a design in mind, the possible interaction variables were controlled to a certain extent.

Significance

This study may be significant by adding to the literature in understanding how PE fit influences a candidate's employability perception and subsequently impacts their work outcomes. I sought to contribute to the recruitment scenario by aligning candidates with their future work environments, thereby fostering productivity and cultivating positive work attitudes. The research findings may benefit employers by facilitating the creation of more successful businesses through a well-aligned workforce. The study's contribution to positive social impact may include its approach to fit assessment in recruitment. By evaluating latent measures of fit through direct comparisons of psychological attributes of candidates and their work environments, I aimed to determine the precise congruence level between these characteristics.

Additionally, the study examined various levels of P-E fit and their influence on the perception of a candidate's hiring desirability. In comparison to existing research, the current study aimed to examine how specific levels of fit (individual, team, culture) impact a candidate's hiring desirability in the recruitment scenario. Previous studies (Barrick & Parks-Leduc, 2019; De Cooman et al., 2009; Piasentin & Chapman, 2006; Sekiguchi & Huber, 2011) focused on how a unified measure of P-E fit impacts recruitment outcomes or examined how different P-E fit levels affect postemployment work outcomes.

Summary

P-E fit, particularly in recruitment, has gained attention in recent years, moving beyond assessing solely job-applicant compatibility to considering alignment with team and organizational dynamics. However, there remains a lack of consensus on how to measure this fit effectively, hindering accurate prediction of employee outcomes. The current study aimed to address this gap by examining how congruence between a candidate's psychological characteristics and various facets of the work environment predicts hiring desirability, particularly focusing on software engineers. Drawing on Schneider's ASA model, which posits that individuals are attracted to organizations aligning with their values and are selected based on similarity, this study examined congruence on multiple levels: between candidates and their teams, leaders, and role profiles. Through a quantitative approach using a correlation design and secondary data from European software companies, the study aimed to investigate the predictive validity of congruence measures on hiring outcomes. The study employed established instruments such as the IPIP-NEO-120 for personality assessment, 18-REST for values, OCP for organizational culture, and the Great Eight Competencies Framework. Analyzing variables such as personality traits, values, and interests, the study sought to determine the extent to which these factors influence hiring decisions. The study's significance lies in its potential to enhance understanding of how P-E fit affects employability perceptions, benefiting employers by facilitating better workforce alignment and fostering positive work environments. The study aimed to contribute to positive social impact by refining fit assessment methods and examining various levels of fit influence on hiring desirability, thereby advancing recruitment practices beyond traditional approaches.

In Chapter 2, I provide a summary of Chapter 1, accompanied by an account of the literature search strategies employed, including the academic libraries and databases accessed. Additionally, the search terms used and the scope of the literature review are explained, with attention drawn to any identified deficiencies in the available research. Chapter 2 also addresses the theoretical framework for this study and provides an exhaustive review of extant literature related to relevant variables and the construction of the P-E fit concept.

Chapter 2: Literature Review

This study sought to examine the extent to which the alignment between candidates' personal psychological characteristics and the work environment of potential employers can predict the perceived hiring desirability of the candidates in recruitment scenarios. The purpose of this quantitative study was to investigate the relationship between P-E fit and the hiring desirability of software engineers. In recent years, there has been a notable shift in recruitment practices toward assessing alignment between candidates and organizational culture, beyond only job requirements. However, measuring this alignment, particularly using latent measures such as personality traits, remains a challenge. Existing research has largely focused on posthiring evaluations of P-E fit or subjective perceptions of fit. Limited studies have explored how personal psychological characteristics influence fit within recruitment, especially in predicting employers' hiring preferences. The current study aimed to address this gap by examining the predictive validity of latent measures of P-E fit on employers' hiring decisions, contributing to the refinement of recruitment practices. This chapter provides the strategies used for the literature search, the theories and concepts upon which this study was grounded, and an overview of previous research conducted on the topic of P-E fit in the recruitment context.

Literature Search Strategy

The keywords and databases searched included *culture fit*, *person-organization fit*, *person-group fit*, *person-environment fit*, *person-job fit*, *person-person fit*, *recruitment decisions*, and *organizational culture* in the databases PsycINFO, SAGE Journals, ProQuest Psychology Journals, International Journal of Selection and Assessment, Taylor & Francis Online, Elsevier, EBSCO Business Collection and IOP Central, as well as in a multidatabase search. The initial database search using the keywords *person-environment fit* yielded 6,659 results. To refine the search, Boolean combinations of keywords such as recruitment, *selection*, and *hiring* were added, resulting in 116 results. After screening articles based on publication date, those older than 2000 were excluded from further analysis. Additionally, articles marginally focused on P-E fit in selection situations or those dealing with vocational aspects of fit were also excluded. This process left a total of 83 peer-reviewed articles for examination.

Subsequent searches focused on specific types of fit (e.g., person-job fit, person-person fit, person-group fit, person-organization fit) combined with relevant outcome variables (e.g., turnover, satisfaction, engagement, work attitudes, intent to hire) and statistical methods of interest for this study (e.g., profile similarity index, regression analysis, polynomial regression). Although 17 articles overlapped with the initial search, an additional 22 articles were identified as relevant for this study.

Theoretical Foundation

The ASA model proposed by Schneider (1987) delineated the dynamics of organizational behavior, particularly in recruitment, selection, and retention. Schneider's model posits that individuals are attracted to organizations that fit their personalities and values, organizations select individuals who fit their culture, and over time those who do not fit tend to leave, while those who remain reinforce the organization's culture. The ASA model operates on several key principles:

- Attraction: Individuals are attracted to organizations that align with their personal values, preferences, and behaviors. This attraction is based on the perceived compatibility between the individual and the organization's culture.
- Selection: Organizations tend to select candidates who exhibit characteristics and values congruent with their existing culture. This selection process reinforces the organization's cultural norms and ensures a cohesive workforce.
- Attrition: Over time, individuals who do not fit well within the organizational culture are more likely to leave voluntarily or involuntarily. This attrition process serves to maintain and perpetuate the organization's culture.

In practice, the ASA model serves as a theoretical framework through which organizational founders and leaders establish and perpetuate expectations regarding fit, thereby shaping the organizational culture over time. This process begins with the founding of the organization and continues as the company evolves and new employees are integrated into the organizational structure. At the inception of an organization, founders play a pivotal role in establishing the initial expectations regarding fit. Through their actions, decisions, and communication, founders imbue the organization with a distinct culture, values, and norms. These cultural artifacts serve as attractors, drawing individuals who share similar beliefs, attitudes, and behaviors to the organization. Founders often articulate their vision, mission, and values, which serve as guiding principles for internal operations and external interactions. Additionally, founders may manifest their preferences through the selection of early employees, thereby shaping the organizational composition from the outset. (Schneider, 1987)

As the organization matures and evolves, the ASA model continues to influence the perpetuation of fit. Through the selection process, organizations reinforce their cultural norms by hiring individuals who align with the existing culture. Hiring decisions are informed not only by technical skills and qualifications but also by cultural fit assessments, ensuring that new employees resonate with the organization's values and ethos. Moreover, leaders play a crucial role in upholding and transmitting the organizational culture through their actions, decisions, and interactions with employees. By embodying the desired cultural attributes, leaders serve as role models and agents of socialization, further reinforcing the expectations regarding fit. As new employees are integrated into the organization, the ASA model continues to shape their experiences and interactions. New hires are socialized into the organizational culture through formal onboarding processes, informal interactions, and day-to-day experiences. New hires learn about the organization's values, norms, and expectations through observation, communication, and feedback from peers and leaders. Those who demonstrate a strong fit with the organizational culture are more likely to thrive and contribute positively to the organization, while those who diverge may experience challenges in adaptation or may self-select out of the organization over time.

Schneider's (1987) ASA model has been applied in organizational research, particularly in the domains of recruitment, selection, and organizational behavior. Numerous studies have investigated how organizational culture influences employee attraction, selection, and retention, confirming the model's validity across various contexts and industries. Research has also explored the role of person-organization fit in predicting job satisfaction, organizational commitment, and performance, highlighting the practical implications of the ASA model in human resources practices.

The selection of the ASA model for the current study was motivated by its relevance to the recruitment and selection process. Given the emphasis on cultural fit and compatibility in tech organizations, Schneider's (1987) model offered valuable insights into how hiring desirability is influenced by various factors besides knowledge, skills, and abilities, which are frequently shared as key criteria for a particular vacancy.

The research questions of the current study aligned with the core tenets of the ASA model. By examining the extent to which Candidate-Team, Candidate-Leader, and Candidate-Role congruence predict hiring desirability of software engineers, this study sought to explain the role of P-E fit in the recruitment and selection process. The research questions addressed how well candidates fit within the team dynamics, leadership style, and job roles, thereby contributing to the organization's cultural coherence and long-term viability. By focusing on hiring desirability, this study extended existing research on person-organization fit by exploring its implications for attracting and selecting top talent in the competitive field of software engineering.

Literature Review

P-E Fit

In psychological literature, the concept of fit between the person/individual and their environment has long been the focus of researchers' attention and the starting point for many interventions in the field of industrial and organizational (I/O) psychology (Kristof-Brown et al., 2005; Schneider, 1987; van Vianen, 2018; Vogel et al., 2016).

Although a common definition of P-E fit (hereafter fit) refers to the alignment between characteristics (values, norms, personality, and other attributes) of the individual and their environments (Kristof-Brown et al., 2005), in practice, fit can have different meanings depending on various factors such as the purpose of evaluation or the type of evaluator itself. In romantic relationships, fit can refer to the similarity of certain psychological characteristics of individuals (Lanning et al., 2024), whereas in recruitment scenarios, recruiters may place the greatest emphasis on assessing fit to a particular job position (Santos & De Domenico, 2015). Ryan and Kristof-Brown (2003) articulated another intriguing understanding of fit, stating that “you know it when you see it” (p. 7. Regardless of the definition, one commonality is that finding a fit refers to achieving compliance or harmony among the evaluated parties (Higgins, 2000). According to van Vianen (2018), fit theories are grounded in three principles: (a) Fit serves as a more potent predictor of individual outcomes than either of its components in isolation; (b) irrespective of the level of attributes on the person or environment side, outcomes are optimal when the two sides share similarity in the evaluated characteristics; and (c) disparities between person and environment attributes diminish positive outcomes in the work environment.

In the organizational environment, fit can occur at different levels (e.g., at the individual, group, or company level) and can pertain to fit for a specific job position, the team itself, or the company culture. The assessment of fit occurs on both ends (the person and the environment), and it is crucial to evaluate whether the two are aligned. Although attractive by its nature, the concept of fit can vary in relative importance in the work environment. For example, Ostroff and Judge (2007) suggested that fit depends on the rank hierarchy of the job position in the organization. For low-level roles, the similarity in psychological characteristics among employees might be more relevant than for managerial roles, where it is expected to have a more divergent set of psychological characteristics than its subordinates. The concept of fit has been extensively used to predict various outcomes related to the work environment, ranging from candidates' or employees' attitudes (Kristof-Brown et al., 2005; Pattnaik et al., 2020) to performance-related outcomes (Abdalla et al., 2018; Huang et al., 2019). Due to its complexity in many aspects, the concept of fit has captured researchers' attention over the last 30 years (Barrick & Parks-Leduc, 2019; De Cooman et al., 2009; Edwards, 1991; Kristof-Brown et al., 2023; Lowman et al., 2024; Piasentin & Chapman, 2006; Santos & De Domenico, 2015; Zhang et al., 2023).

One of the most prominent researchers of the P-E fit concept, particularly in work-related contexts, is Kristoph-Brown (Kristof-Brown & Billsberry, 2013; Kristof-Brown & Guay, 2011; Kristof-Brown et al., 2005; Yu, 2013), who has emphasized that the P-E fit concept strongly aligns with Schneider's (1987) ASA theory. According to Schneider's ASA theory, individuals are drawn to, selected for, and remain in environments (companies) that possess similar characteristics to their own. This phenomenon occurs because individuals are more inclined to remain in environments that fulfill their fundamental preferences or desires they jointly hold (Barrick & Parks-Leduc, 2019).

Supplementary Versus Complementary Fit

From an organizational perspective, fit can entail adding a new team member to the organization who possesses characteristics that are already identified as favorable among other team members, or adding a team member who possesses characteristics that other team members lack. Therefore, fit can represent augmenting existing attributes or supplementing what the current structure lacks to achieve wholeness. In the literature, these concepts are referred to as supplementary and complementary fit. The differentiation between supplementary and complementary fit was introduced by Muchinsky and Monahan (1987). According to their framework, supplementary fit occurs when a “person fits into some environmental context because he or she supplements, embellishes, or possesses some characteristics which are similar to other individuals in this environment” (Muchinsky & Monahan, 1987, p. 269). Conversely, complementary fit occurs when the “characteristics of the individual serve to ‘make whole’ or complement the characteristics of an environment” (Muchinsky & Monahan, 1987, p. 271). Muchinsky and Monahan proposed that supplementary fit was particularly relevant for explaining vocational fit and vocational guidance, while complementary fit was more applicable to personnel selection and hiring decisions. Muchinsky and Monahan also suggested that in supplementary fit, the “environment is defined primarily by the people in it” (p. 270), and is therefore relevant at the individual level, whereas complementary fit is more relevant at the organizational level and serves to achieve organizational goals.

In subsequent research (Chan, 1998; Cable & Edwards, 2004; Herath & Secchi, 2023; Vleugels et al., 2023), many scholars used supplementary and complementary fit to assess fit in the organizational context. Supplementary fit has been evaluated and applied as similarity between personal characteristics and organizational characteristics (Ostroff & Judge, 2007). Complementary fit has been conceptualized in three main ways: Some researchers (Choi, 2004; Diefendorff et al., 2016) have operationalized it as (a) a match between individual abilities and organizational demands (also known as demands-abilities fit), while others (Dörendahl et al., 2020; Vahidi et al., 2016) have viewed it as (b) a match between an individual's needs and organizational resources (also known as need-supply fit) or (c) a match between organizational resources and individual values, also known as supply-value fit (Livingstone et al., 1997; Yulianti & Fitdiarini, 2022).

Composition and Compilation Processes

Composition and compilation models are theoretical frameworks often employed in the context of P-E fit to elucidate the dynamics of how individual characteristics interact with environmental elements to influence fit perceptions. In composition models, the emphasis lies in the convergence and amalgamation of lower level elements or characteristics to yield a higher level construct that mirrors the constituent elements (Chan, 1998; Kozlowski & Klein, 2000). This conceptualization posits that the environment, whether it be a group, organization, or broader context, is composed of individuals with similar or identical characteristics, thereby creating a homogeneous entity. For instance, within an organizational setting, composition models suggest that fit occurs when an individual's characteristics align with those prevalent within the organizational culture or team composition.

Conversely, compilation models operate on the premise that specific configurations or profiles of individual characteristics result in the emergence of a higher level construct (Kozlowski & Klein, 2000). This framework views the environment as a system or configuration comprised of heterogeneous characteristics, where the collective interaction of individual attributes contributes to the formation of a coherent whole. For example, within a team context, compilation models propose that fit is achieved when individual personality traits complement and contribute to the overall team dynamics, resulting in a cohesive and functional team structure Composition models suggest that fit is attained when individuals possess characteristics congruent with those prevalent within the environment, fostering a sense of similarity and alignment. On the other hand, compilation models propose that fit arises from the complementary interaction of individual attributes, contributing to the overall coherence and functionality of the environment.

Fit Measurement Approaches

To examine fit, researchers have operationalized it in various ways. Some conceptualized fit as a personal attitude regarding the perception of fit or misfit, while others measured variables on both the person and environment sides and calculated discrepancies between them. These approaches are categorized in the literature as indirect (or perceived) or direct (or calculated) measures of fit (Kristof-Brown et al., 2005; Ostroff & Judge, 2007; van Vianen, 2018).

Perceived fit refers to an individual’s perception or feeling of alignment between a person’s attributes and those of the environment (Van Vuuren et al., 2007). Fit is typically assessed through a holistic evaluation, where individuals report their impression of overall fit or misfit with their environment. The reported perception of fit does not necessarily align with the objective fit with the environment and is subject to the respondent's subjective interpretation of fit. While this operationalization of fit is commonly used in research due to its ease of assessment, some researchers question this approach. Research (Kristof-Brown & Billsberry, 2013) has indicated that perceived fit is one of the strongest predictors of employees' decisions and behaviors, leading some researchers to question the distinctiveness of the perceived fit construct from job attitudes (Edwards et al., 2006).

On the other hand, calculated fit represents an operationalization in which fit is measured as the calculated difference between individual characteristics and those of the environment. Earlier research predominantly relied on discrepancy measures or profile similarity index (Edwards & Billsberry, 2010) to measure calculated fit, whereas newer research predominantly employ polynomial regression or surface plot analysis (Bohndick, Breetzke & Rosman, 2022) to represent such fit. The dominant assumption behind the use of these statistical methods is related to the limitations of discrepancy measures or profile similarity index. Researchers argued that classical regression methods were insufficient for explaining the relationship between person and environment elements (e.g., difference scores only reported the size of the difference between person and environment elements, without providing more nuanced information on the individual scores of person and environment elements or the direction of the difference - which of the two elements has lower scores) or provided oversimplified fit results (e.g., profile similarity index measures reduced the complexity of output results to just one unified measure of fit, instead of providing a more nuanced evaluation of the structure of fit across different traits). Therefore, polynomial regression and surface plot analysis were introduced to address the limitations of the earlier measures used. Polynomial regression and surface plot analysis do not rely on calculating the difference score. Moreover, these methods focus on graphical (3D) explanations of the relationship between results on person and environment elements and how they affect the outcome variable. Implementing polynomial regression for fit analysis has been limited in research due to methodological and resource challenges in executing such a research method in practice, or sometimes even obtaining relevant data to conduct such research (van Vianen, 2018).

Fit Analysis

In recent decades, extensive research has been conducted on the topic of P-E fit (Jiang & Jiang, 2022; Schelfhout et al., 2022; Sekiguchi & Huber, 2011; van Vuuren et al., 2007; van Zyl et al., 2023; Werbel & Johnson, 2001). However, several challenges have emerged, complicating the analysis and interpretation of fit results. These challenges predominantly stem from the multidimensional nature of the fit construct and the situational aspects in which fit is evaluated within the I/O context. Barrick and Parks-Leduc (2019) identified five challenge domains related to the concept of P-E fit, which will be partially addressed in this dissertation: (a) Taxonomic challenges, (b) domain challenges, (c) perceptual challenges, (d) predictor challenges, and (e) methodological challenges.

Taxonomic challenges arouse from the variety of psychological characteristics and variables utilized by researchers in their attempts to measure fit, such as values, personality, interests, and goals. This diversity has led to difficulties in uniformly measuring fit and comprehensively understanding its constituents. Domain challenges pertain to the different types of fit that can be assessed within the P-E fit construct, including fit to the organization (person-organization fit), fit to vocation (person-vocation fit), fit to a particular job (person-job fit), or fit to other individuals in the organization (person-person or person-group fit). Another challenge arose from the context in which fit evaluation typically occurs - in work-related environments, especially during recruitment scenarios, where both candidates (person element) and employers (environment element) are motivated to present themselves positively, complicating the assessment of fit. Systematic literature review (Abdalla et al., 2017; Huang et al., 2019; Kristof-Brown et al., 2005; Pattnaik et al., 2020; van Vianen, 2018) encounters predictor challenges, because researchers have employed the concept of fit to evaluate various outcomes, ranging from "fitting in" outcomes (e.g., attraction, intent to stay, commitment, satisfaction) to "doing well" outcomes (e.g., actual job performance, organizational citizenship behaviors, organizational outcomes). Lastly, methodological challenges have emerged in recent years, as researchers strive to demonstrate the fitting relationship between person and environment elements more effectively. To address this, an increasing number of researchers have adopted the use of polynomial regression to illustrate the relationship between the evaluated elements (van Vuuren et al., 2007; Schelfhout et al., 2022).

Ostroff and Judge (2007) demonstrated that the combination of the aforementioned challenges influences organizations in diverse ways. For example, various types of fit impacted different organizational outcomes. Person-Person fit has been demonstrated to affect employee satisfaction (Farooqui & Nagendra, 2014), whereas Person-Job fit exerted a greater influence on work performance (Rajper et al., 2020). Moreover, personality traits influenced the relative importance of specific types of fit; individuals with greater achievement-seeking characteristics, for instance, tend to prioritize Person-Job fit, while extraverted and highly agreeable individuals may value Person-Group fit more (Judge et al., 2002; King et al., 2017; Park et al., 2012; van Vianen, 2018).

In literature, the evaluation of fit is approached from various perspectives. Some researchers (Glomb & Welsh, 2005; Meglino et al., 1989; Muchinsky & Monahan, 1987; Vecchio & Bullis, 2001) investigated the relationship between person and environment constructs, while others (Dineen et al., 2002; Fonteyne et al., 2022; Kristof-Brown & Guay, 2011; Rounds et al., 1987; Yang et al., 2008) have focused on the components that constitute the environment component. Broadly, modes of fit pertain to the way the person and environment constructs interact, whereas types of fit refer to the hierarchical level of the environment component (Ostroff & Jude, 2007). In light of these findings, it is evident that the concept of fit is a powerful construct relevant to both individuals and organizations. However, its effective application requires meticulous evaluation and a nuanced understanding to positively impact the success and well-being of both individuals and companies.

Modes of Fit

Although the construct of fit has garnered researchers' attention due to its broad applicability in the I/O context, the construct of fit has been a subject of debate among scholars regarding the definition and combination of the elements of P-E fit (Kristof-Brown et al., 2005; van Vianen, 2018; van Vuuren et al., 2007). One area of contention among experts pertains to how the two elements, person and environment, are conceptualized and integrated (Ostroff & Jude, 2007). This area of interest is commonly referred to as different modes of fit. Modes of fit can be categorized as person-based or situation-based (Ostroff & Jude, 2007). An example of the person-based mode of fit involves assessing the alignment between personal characteristics of an individual and those of its environment (e.g., personal characteristics of the leader), whereas the situation-based mode of fit entails evaluating the alignment between a certain characteristic of an individual and situational requirements, such as specific job demands. Situation-based mode of fit is frequently used when assessing person-vocation or person-job fit.

In literature (Abdalla et al., 2017; Huang et al., 2019; Kristof-Brown et al., 2005; Piasentin & Chapman, 2006), the person element is generally operationalized as pertaining to an individual. Various researchers (Kristof, 1996; Ostroff, 1993) considered different variables in operationalizing the person element, ranging from experience-related variables (such as knowledge, skills, and abilities) to personality-based and person-centered attributes (such as traits, needs, desires, preferences, interests, goals, values, and perceptions), as well as demographic and background characteristics (such as race, gender, and education). The operationalization of the environment element varies considerably, ranging from attribution to the job, group, or organization. In some instances (Park et al., 2012; Rajper et al, 2020; Sekiguchi & Huber, 2011; van Zyl et al., 2023), the environment element was operationalized as features of the situational context (such as organizational goals or values or job requirements), while in others it is conceptualized as a global or aggregate assessment of the personal characteristics among individuals who are part of a particular organization (Hogan & Roberts, 2000; Holland, 1997; Muchinsky & Monahan, 1987). These differing conceptualizations of the environmental elements led to the formation of different levels of analysis of fit (individual vs group level).

Modes of fit play a significant role in P-E fit research because they can influence the interpretation of results (van Vianen, 2018). Depending on how the person or environment elements are defined, different fit outcomes can be anticipated. For example, when examining the fit of goals between an applicant and the environment, it is crucial to closely consider how the environment element is operationalized. If the environment element is defined as the aggregated sum of individual characteristics, or as the aggregated perceptions of goals of individuals who comprise a particular organization, the outcome of such fit evaluation may differ based on the operationalization of the environment element in such an analysis.

Types of Fit

The methodological challenge of operationalizing the environment element persists even at a level related to who is perceived as the environment - whether it is an individual, such as the supervisor, or a group, such as peers or the organization as a whole, or whether the environment is defined as the job itself (van Vianen, 2018). Thus far, the concept of fit was operationalized in various ways, ranging from assessing the compatibility between an applicant's knowledge, skills, abilities, interests, values, personality, and other characteristics with the requirements of a job, to evaluating the alignment of an applicant's characteristics with those of other team members in the organization, or with the company's organizational culture. Consequently, fit can be examined from multiple levels of analysis, and individuals can fit into different hierarchical levels of analysis, such as their job, group, or organization (Kristof-Brown et al., 2005; Santos & De Domenico, 2015). As a result, these different levels of analysis produce different types of fit, such as person-job fit, person-group fit, and person-organization fit, among others. For the purpose of this dissertation, the focus of elaborating on fit will be restricted to the organizational setting. Therefore, the concepts of person-vocation and person-occupation fit will not be thoroughly discussed.

Studies conducted thus far were oriented towards assessing a specific type of fit (such as person- group, person-job, or person-organization) in relation to various criterion variables - ranging from variables categorized as “fitting in” to those related to “doing well.” The literature (Barrick & Parks-Leduc, 2019; Kristof-Brown et al., 2005; Santos & De Domenico, 2015) consistently demonstrates that each type of fit contributes independently to the overall fit, and that different types of fit have differing impacts on criterion variables. For example, Person-Job fit had a greater impact on “doing well” criterion variables, such as individual work performance or engagement (Abdalla et al., 2017; Huang et al., 2019), whereas person-group fit had more impact on "fitting in" criterion variables, such as satisfaction, intention to leave, and organizational citizenship behavior, among others (De Cooman et al., 2009; Vogel et al., 2016). Little research has focused on assessing multiple types of fit simultaneously, largely due to the complexity of executing such research or issues with data collection (Barrick & Parks-Leduc, 2019). Another interesting factor is the substantial variation in effect sizes among studies in research conducted thus far on the topic of types of fit (Hoffman & Woehr, 2006; Verquer et al., 2003), with one of the most significant reasons attributed to differences in the operationalization of the fit construct.

Person-Job Fit. Person-job fit refers to the degree of compatibility between an individual's skills, abilities, and preferences, and the requirements and expectations of a specific role within an organization (Edwards, 1991). In the personnel selection literature, the concept of person-job fit has been one of the most commonly evaluated types of fit (Barrick & Parks-Leduc, 2019) because it arises from the most commonly assessed fit in the recruitment and selection scenario. Person-job fit is typically evaluated as a complementary fit in the literature (van Vianen, 2018), although it has been operationalized in various ways. Most of the literature suggested that when person-job fit is defined as demands-abilities fit, it is more relevant for predicting job attitudes (De Crom & Rothmann, 2018; Kim et al., 2020; Park, 2019), whereas when it is defined as needs-supply fit, it is more relevant for predicting actual job performance (Basit & Arshad, 2016; Dust & Resick, 2014; Vahidi et al., 2016). From a theoretical perspective, researchers (Caplan, 1987; van Vianen, 2018) contend that stress and strain are the most prevalent outcomes of poor person-job fit.

Person-Person Fit. Person-person fit focuses on the attribute congruence between an individual and their colleagues or the supervisor (Kristof-Brown et al., 2005). Person-supervisor fit is among the most assessed types of fit at the individual level because supervisors represent relevant individuals in an organization who can assess the employee's work and directly impact its outcomes in the organizational setting (Barrick & Parks-Leduc, 2019). As posited by the similarity attraction hypothesis, when employees perceive similarity with their supervisors, it engenders a sense of inclusion and certainty within the organizational context, fostering high-quality leader-member exchanges and trust in the supervisor (van Vianen & De Dreu, 2001). This alignment is often attributed to supervisors' tendency to reflect the organizational values (Giberson et al., 2005), thereby implying that shared similarity with supervisors may facilitate the adoption of work behaviors consonant with the organizational values and objectives (Sluss, et al., 2012), consequently leading to favorable outcomes such as enhanced job performance and attainment of rewards.

Person-Group Fit. Person-group fit refers to the match between an individual and the characteristics of a workgroup or team (Kristof-Brown et al., 2005). This encompasses shared goals, norms, and values within the group, which influence an individual's sense of belonging and motivation within the team context (Armitage & Amar, 2021). Groups can be defined and assessed at the team or peer level, or they can encompass a wider scope within the organization, such as the entire department or even the entire organization. Person-group fit is commonly assessed as supplementary fit (van Vianen, 2018), and most criteria variables relate to "fitting in" because alignment with the team is likely to positively affect a sense of belonging (Barrick & Parks-Leduc, 2019). In accordance with extant research, person-group fit demonstrates a moderate association with coworker satisfaction, job attitudes, and organizational citizenship behaviors, while displaying a somewhat weaker relationship with task performance (Kristof-Brown et al., 2005).

Person-Organization Fit. Person-organization fit examines the alignment between an individual's values, beliefs, and goals, and the culture and objectives of the organization (Kristof-Brown et al., 2005). Similar to person-group fit, person-organization fit is typically assessed as supplementary fit in the literature (van Vianen, 2018) and is commonly operationalized by value fit measures as representations of underlying aspects of culture (Judge & Cable, 1997). Research findings indicate that value fit exhibits a relatively strong association with job attitudes, a less strong relationship with contextual performance, and only a marginal correlation with overall and task performance, as well as actual turnover (Arthur et al., 2006; Kristof-Brown et al., 2005).

Fit, No Fit, and Misfit

From previous research findings (Chi et al., 2020; Edwards et al. 2006; van Vianen, 2018), it is possible to conclude that fit occurs when the characteristics of an individual do not differ significantly from the characteristics of their environment, or when a certain degree of similarity in observed characteristics exists. Regarding similarities, researchers identified certain patterns that must exist, suggesting that pure difference in observed constructs between the individual and their environment would not imply fit (Ostroff & Judge, 2007). Ostroff (2012) introduced the terms “similarity fit” and “compilation fit” to explain the two situations in which fit occurs. Similarity fit refers to a situation where there is similarity between the individual and their environment on the evaluated characteristic. Compilation fit refers to a situation where there is a certain degree of difference between the individual and their environment on the observed characteristic, but the two complement each other. In other words, in compilation fit, the individual is likely to bring a unique difference in the observed characteristic to a team or environment and, with it, contribute to the environment in a unique, complementary manner.

Contrary to fit, the literature presents non-uniform findings regarding what is classified as opposite to fit. Misfit denotes a lack of alignment or incongruence between individual attributes and environmental features (Kristof-Brown et al., 2005). Misfit occurs when there is a discrepancy between an individual’s characteristics and the demands or values of the work environment (Barrick & Parks-Leduc, 2019). Misfit is typically associated with negative outcomes, including decreased job satisfaction (Yu, 2016), lower performance (Ostroff & Zhan, 2022), higher turnover intentions (Gati et al., 1996), and heightened stress or dissatisfaction (Kristof-Brown et al., 2005). On the other hand, “no fit” represents a neutral or undefined state where there is neither clear alignment nor evident misalignment between individual attributes and environmental characteristics (Kristof-Brown et al., 2005). In instances of no fit, there may be a lack of meaningful connection or relevance between an individual's characteristics and the demands of the work environment. No fit may result from ambiguous job roles, vague organizational values, or a lack of clarity regarding expectations (Chi et al., 2020). While no fit may not necessarily lead to negative outcomes, it can contribute to feelings of ambiguity, uncertainty, or detachment among employees (Kristof-Brown et al., 2005).

Measurement Variables

One of the challenges in the assessment of fit is related to different measurement variables that researchers used to measure fit, both on the side of the predictor and on the criteria variables (van Vianen, 2018). Due to the complex nature of the fit construct, researchers used various concepts (varying from personality, values, interests, goals, motivation, etc.) to measure fit between an individual and its environment (Barrick & Parks-Leduc, 2019; Kristof-Brown et al., 2005; Sekiguchi, 2004). Those different constructs were operationalized using different measurement instruments in different research - varying from different personality questionnaires to different tools and techniques to assess goals or motivation (Barrick & Parks-Leduc, 2019). Because of different measures and instruments that were used to measure fit, it is difficult to compare results gained through different research and compare it. Therefore, current findings arising from the fit literature have limited generalizability. However, there are certain trends visible when evaluating currently available literature on the fit assessment.

Predictor Variables

In literature, predictor variables used to assess fit were usually values (Edwards & Shipp, 2007), personality (Su et al., 2015), interests (Edwards & Billsberry, 2010), work goals (Hesketh & Gardner, 1993). As person-job and person-organization fit are among the most commonly researched constructs (Sekiguchi, 2004), predictor variables that were commonly used to assess such fit types vary from values, that are most prevalent in person-organization fit research (van Vianen, 2018) to individuals' desires, which are most prevalent in person-job fit assessment (Sekiguchi, 2004). Individual desires typically include goals (Locke, Shaw, Saari, Latham, 1981), interests (Campbell & Swanson, 1983), psychological needs (Dawis & Lofquist, 1984) and values (Locke, 1976). On the other hand, in person-job fit assessment, job demands were typically operationalized as the assessment of knowledge, skills, and abilities needed to perform a certain job (Caldwell & O'Reilly, 1990). In person-organization fit assessment, values were, by far, the most prevalent variable used for assessing fit between an individual and its environment. The literature, in general, identifies four different operationalizations of person-organization fit (Ostroff & Judge, 2007) measuring: (a) similarity between fundamental characteristics of an individual and the organization through value congruence (Boxx et al., 1991); (b) goal congruence with organizational leaders or peers (Vancouver & Schmit, 1991); (c) fit between individual preferences or needs and organizational systems and structures (Turban & Keon, 1993); (d) fit between the characteristics of individual personality and organizational climate (Ivancevich & Matteson, 1984)

As seen from the examples of person-organization and person-job fit assessment above, values remain one of the most used predictor variables in fit assessment. Values refer to enduring beliefs about what is important and desirable (Kristof-Brown et al., 2005). Fit in values occurs when an individual's core beliefs align with the values espoused by their role, team, or organization. In person-organization fit assessment, values represent an important factor in predicting fit because they represent an underlying aspect of the organizational culture (Schneider, 1987). Several researchers used the construct of values to assess person-team fit, where values played an important role in predicting team fit based on sharing similar values that contribute to the sense of belonging (Ivancevich & Matteson, 1984; Judge & Cable, 1997; Kristof-Brown et al., 2005).

Another predictor variable that deserves a place in person-environment fit assessment is personality. Personality traits influence how individuals perceive and interact with their environments (Kristof-Brown et al., 2005). Fit in personality occurs when an individual's traits complement the demands and expectations of their roles or teams. The assessment of person-person and person-group fit was predominantly assessed by the measures of personality, using similarity profile index to measure fit (Ivancevich & Matteson, 1984; Yang et al., 2008). Although such research produced mixed findings on the relevance of fit on personality measures for concrete work performance, most of the research claim at least moderate influence on person-group personality fit on "fitting in" output variables (Kristof-Brown et al., 2018; van Vianen, 2018). Similar findings were found around the research on the importance of person-group fit and interest variables, where sharing similar interest with other team members increased team cohesion and communication (Young Seong & Kristof-Brown, 2012).

Outcome Variables

Regardless of the level of analysis or operationalization of person and environment elements the criteria variables in literature were defined on the individual level, measuring a person’s work-related attitudes (Kristof-Brown et al., 2005), performance (Oh et al., 2014), turnover (Chi et al., 2020), efficacy (Xiao et al., 2021), etc. Less commonly, the criteria variables were defined on a group or organizational level, measuring profitability, survival or success in the marketplace (Doty et al, 1993). Another interesting finding is related to the types of fit that influence criteria variable. For example, research (Edwards & Shipp, 2007) showed that different types of fit influence different criteria variables. Person-organization fit, in terms of value congruence, was significantly related to job satisfaction (Xiao et al., 2021), organizational identification (Demir et al., 2015), citizenship behaviors (Kristof-Brown et al., 2005), and turnover (Cha et al., 2014), as well as to organizational commitment and perceived support (Kristof-Brown et al., 2005). In contrast, person-job fit from an ability-demand perspective was not related to attitudinal variables or to task performance, whereas fit to the job, in terms of a need-supply perspective, was related to job and career satisfaction and occupational commitment (Lauver & Kristof-Brown, 2001). According to De Cooman et al. (2016), person-team fit was related strongly to attitudes towards peers. Similarly, person-supervisor fit related strongly to attitudes regarding the supervisor (van Viannen, 2018). These findings are important because they imply that each type of fit is important to understand because it contributes uniquely to the employees and organizational outcomes. As seen from the previous research, most fit types were related to “fitting in” criteria, whereas person-job fit (Edwards, 1991) and person-organization fit (Chatman, 1991; Goodman & Svyantek, 1999) were related to “doing well”. Research (Sekiguchi, 2004) consistently showed that each fit type had discriminant validity on the outcome variables, proving that each fit type contributed individually to the individual attitudes or success (Kristof-Brown et al., 2005; Sekiguchi, 2004; van Vianen, 2018).

Interaction Effect Variables

The concept of P-E fit gained considerable attention within organizational research because of its implications for employee outcomes, including satisfaction, performance, and well-being. While the importance of P-E fit is well-established, researchers’ interest in understanding the nuanced role of interaction effect variables in P-E fit measurement increased in recent years (Kristof-Brown et al., 2005). Cable and DeRue (2002) conducted research indicating that job complexity acts as a moderating variable in the relationship between skills and person-environment fit. In environments characterized by complexity, individuals possessing diverse skill sets may perceive a stronger fit due to the opportunity to leverage a wider range of competencies. Chatman (1989) identified organizational culture as a mediating variable in the relationship between values and person-environment fit. Employees whose personal values aligned with the prevailing organizational culture were inclined to perceive a higher level of fit, leading to heightened job satisfaction and commitment.

Leader attitudes play an important role in shaping the person-environment fit within organizational contexts. Leaders serve as role models whose attitudes set the tone for the organizational climate (Schneider et al., 2013). Their attitudes towards various aspects of work, including communication, teamwork, and organizational goals, shape the norms and values within the organization. Leader attitudes influence the perception of organizational support and fairness among employees (Eisenberger et al., 1986). Employees are sensitive to cues from their leaders regarding the extent to which the organization values their contributions and cares about their well-being. Leader attitudes shape the implementation of human resources practices and policies, influencing the degree of alignment between individual and organizational goals (Kristof-Brown et al., 2005). Leaders who endorse a strategic approach to human resources management, emphasizing the development and utilization of employee talents, are more likely to create opportunities for employees to leverage their strengths and interests effectively. This alignment enhances the person-job fit by enabling employees to engage in tasks that are congruent with their skills and preferences.

The socialization process, particularly during onboarding, constitutes a critical mechanism through which P-E fit is established within organizational contexts. Onboarding serves as an organizational process designed to integrate new employees into the organizational culture, facilitating the development of a mutual understanding between individuals and their work environment (Bauer et al., 2007; Van Maanen & Schein, 1979). Onboarding provides new employees with information and experiences that help them assess the compatibility between their own values, goals, and abilities and those of the organization (Bauer et al., 2007). Through formal orientation sessions, informal interactions with colleagues and exposure to organizational norms and values, new employees gain insights into the organizational climate and culture. This exposure enables them to evaluate the degree of alignment between their own preferences and the expectations of the organization, thereby influencing their perceived person-organization fit. Onboarding provides opportunities for clarifying role expectations and job responsibilities, thereby influencing the person-job fit (Saks & Ashforth, 1997). Clear communication regarding job tasks, performance expectations, and career development opportunities enables new employees to assess the compatibility between their skills, knowledge, preferences and the requirements of the job role. Effective onboarding processes that provide accurate and comprehensive information help mitigate role ambiguity and enhance the perceived congruence between individual capabilities and job demands, thereby fostering person-job fit.

Fit in Recruitment

Employee selection practices were traditionally focused on achieving person-job fit (Barrick & Parks-Leduc, 2019; Kristof-Brown et al., 2005). Recruiters focused on identifying and evaluating candidates who are deemed suitable for a specific job role. Their approach can be interpreted from a needs-supply perspective (Barrick & Parks-Leduc, 2019). However, recent findings (Kristof-Brown et al., 2023) suggest that both practitioners and researchers are observing a shift where person-job fit is becoming less significant compared to other types of fit. This shift is attributed to accelerated changes in the work environment, globalization, and the prevalence of employees holding multiple roles within a single company.

In addition to the emphasis on person-job fit, recruiters and hiring managers started incorporating recruitment practices that assess person-organization fit (Sekiguchi, 2004). By implicitly or explicitly evaluating how well candidates align with other team members and the organizational culture, certain aspects of person-organization fit are considered in contemporary recruitment practices across various organizations (van Vianen, 2017). However, many organizations do not approach the assessment of person-organization fit systematically and with methodological validity. One of the most common methods used to assess a candidate's fit with the organizational culture is through interviews (Kristof-Brown et al., 2023) or by employing the Q-sort technique to evaluate value congruence as a representation of organizational culture fit (Gardner et al., 2012). Despite concerns regarding their validity and reliability, interviews remain one of the most frequently used tools to assess any type of fit between applicants and the organization (Sekiguchi, 2004). While researchers found that recruiters can distinguish between person-job and person-organization fit, questions regarding the significant impact of recruiter training and knowledge in this domain and the presence of similarity bias remain unaddressed factors influencing recruiter hiring decisions (Barrick & Parks-Leduc, 2019). In other words, despite a wealth of relevant findings available from research and academia, recruitment practices continue to exhibit shortcomings due to the slow adaptation of research findings into practice, hindering organizational effectiveness and employee professional well-being (Kristof-Brown et al., 2023). This results in recruitment practices with limited predictive power regarding employees' future attitudes and behaviors at work.

Summary and Conclusions

The concept of P-E fit is central to I/O psychology, focusing on the alignment between individuals and their environments. Although fit is commonly defined as the alignment between individual and environmental characteristics, its interpretation varies depending on context. Fit can refer to psychological similarity or alignment with job requirements, but in all cases, it implies harmony between parties. Fit theories highlight its predictive power for individual outcomes, emphasizing that optimal outcomes occur when both sides share similar characteristics. Fit was assessed at various levels in organizational contexts and was extensively studied for its impact on attitudes and performance outcomes. Much of the research on P-E fit aligns with Schneider's ASA theory, suggesting that individuals are drawn to environments mirroring their characteristics. Fit can be supplementary, augmenting existing attributes, or complementary, filling gaps in the environment. Composition and compilation models explain how individual and environmental characteristics interact to influence fit perceptions. Fit can be measured through perceived or calculated approaches, with calculated methods like polynomial regression providing nuanced insights into fit dynamics.

Recent research on P-E fit highlighted challenges complicating fit analysis and interpretation. Taxonomic challenges arose from the diverse psychological characteristics used to measure fit, while domain challenges related to the different types of fit assessed. Perceptual challenges arose from the context of fit evaluation, especially in work-related environments where candidates and employers tend to present themselves positively.

Predictor challenges involved outcomes evaluated using fit, ranging from “fitting in” outcomes to “doing well” outcomes. Methodological challenges emerged because researchers strived to demonstrate the relationship between person and environment elements more effectively. Different modes and types of fit had significant roles in P-E fit research. Modes of fit included person based and situation based modes, influencing the interpretation of fit outcomes. Types of fit contributed independently to overall fit and impact different criterion variables. Understanding these challenges and nuances in fit assessment was crucial for effectively applying the concept to enhance both individual and organizational success and wellbeing.

Employee selection practices traditionally focused on achieving person-job fit but are now shifting towards considering person-organization fit. Recruiters increasingly assess how well candidates align with organizational culture and other team members. However, many lack systematic and methodologically valid approaches to assess this fit, relying on interviews and other methods despite concerns about validity and reliability. This study aimed to contribute to the understanding of the P-E fit concept by empirically validating assumptions from previous research that congruence in personal characteristics of an individual and the environment plays a pivotal role in recruitment decisions. By utilizing a quantitative approach, this study measured both the psychological characteristics of the candidate and those of the environment in the recruitment process to evaluate if they influence the hiring desirability of a candidate, and ultimately if they influenced hiring decisions. Chapter 3 presents a detailed description of the methodology used and the operationalization of key constructs.

Chapter 3: Research Method

Chapter 3 delineates the research design, sampling methods, participant selection, and instrumentation processes employed in the current study. Additionally, the data analysis plan and pertinent ethical considerations are outlined. The importance of the research design is explained, along with the planned sample characteristics, size, and data collection procedures. This quantitative study examined the relationship between P-E fit and hiring desirability of software engineers.

Research Design and Rationale

In this study, variables were operationalized from secondary data collected from various companies' recruitment processes. The DV was the employer's hiring intention, specifically whether the employer extended an offer to the candidate, and it was dichotomous in nature. IVs encompassed the congruence between the candidate's attributes and various levels of environmental characteristics including personality traits, interests, and values. Moreover, IVs encompassed the congruence between the role's demands and the candidate's abilities. To elaborate, the IVs were defined as follows:

IV1: Candidate-Team Value congruence

IV2: Candidate-Leader Value congruence

IV3: Candidate-Team Interests' congruence

IV4: Candidate-Leader Interests' congruence

IV5: Candidate-Team Extraversion congruence

IV6: Candidate-Team Agreeableness congruence

IV7: Candidate-Team Neuroticism congruence

IV8: Candidate-Team Openness congruence

IV9: Candidate-Team Conscientiousness congruence

IV10: Candidate-Leader Extraversion congruence

IV11: Candidate-Leader Agreeableness congruence

IV12: Candidate-Leader Neuroticism congruence

IV13: Candidate-Leader Openness congruence

IV14: Candidate-Leader Conscientiousness congruence

IV15: Candidate-Role congruence

This study examined the relationship between the congruence of candidate and environment characteristics and the hiring desirability of software engineers in recruitment practices. A correlational design was used to evaluate the extent to which the congruence of candidate characteristics with those of the environment predicts the intent to hire a software engineer. Each type of fit (person-person, person-team, person-role) and mode of fit was examined separately through the research questions posited in this study.

Prior research (Park et al., 2012; Rajper et al, 2020; Sekiguchi & Huber, 2011; van Zyl et al., 2023) highlighted the challenge of obtaining precise psychological measurements from the environmental elements (e.g., supervisors, peers, other employees) in recruitment scenarios. Given the necessity of accessing such elusive data for this study's design and the specific variables involved, I assumed that the findings may have limited comparability with previous research. For instance, limited research exists on latent measures of fit, and there is a plethora of psychological assessment tools available for measuring personality, interests, or values, each characterized by different psychometric characteristics and operationalizations of key measurement constructs, complicating the task of generalizing findings. A quantitative, correlational design is commonly employed to address research questions concerning predictive validity or outcomes in a broad context (Seeram, 2019). Regression analysis, as a statistical tool, facilitates addressing the extent to which changes in independent variables (in this case congruence of psychological characteristics between candidates and the environment) explain changes in the dependent variable (in this case intent to hire a candidate).

Methodology

Population

The target population for this study comprised individuals who had engaged in recruitment processes for software engineer roles. Additionally, the study incorporated the viewpoints of companies seeking to fill software engineering positions within the Southeastern European and Central and Eastern European job markets. As reported by Statista (n.d.), the estimated number of vacancies for software engineers across the Southeastern European and Central and Eastern European markets in 2023 was approximately 100,000 positions. Furthermore, the estimated size of the software engineering labor market in the same geographical regions in 2023 was reported to be over 5 million individuals (Statista, n.d.).

Sampling and Sampling Procedures

From the target population, only companies employing the specified recruitment tools for hiring software engineers were considered. Among the available data pertaining to their hiring processes, entries lacking company-side information or companies in which no applicants were evaluated for a particular software engineer vacancy were excluded. I employed a nonprobability, opportunistic sampling method in which participants were derived from secondary data sourced from a recruitment company using these recruitment processes. Not every individual within the population had an equal, nonzero chance of being recruited to participate in the study. The use of an opportunistic sampling method introduces the potential for sampling bias. Given that not all companies employ identical software solutions for tracking recruitment processes or use the same assessment tools, it is reasonable to infer that the generalizability of this study is constrained. The sample selected for this study may not adequately represent either the candidate pool or the diversity of companies within the target population.

G*Power software has been used as a tool to determine the minimum sample size required for conducting a study and minimizing the risk of Type II error (Faul et al., 2009). Although the minimum sample size is determined based on statistical criteria, it does not ensure a representative sample (Faul et al., 2009). For the linear regression analysis to be employed in the current study, an effective size index of 153 participants was identified. This index accounted for seven predictors with an alpha level of .05 and a power of .95.

Procedures for Recruitment, Participation, and Data Collection

I used archival data sourced from companies operating within the Southeastern European and Central and Eastern European markets, which had engaged in the recruitment of software engineers and had used specific software tools to facilitate their recruitment processes. Given the nature of this data acquisition method, there was no requirement for additional recruitment procedures or the imposition of new informed consent protocols. Consent had been obtained during the participants' preemployment testing phase. During this phase, participants had consented to the potential future use of their data for research purposes, including the data employed in the current study, as stated in the informed consent form they signed.

Archival Data Use

The archival data, anonymized and deidentified, were supplied by a recruitment company based in Croatia, which operates the preemployment software solution used in this study. The company employs licensed psychologists who oversee the secure transfer of data in accordance with guidelines outlined by the American Psychological Association (APA, 2020). Access to the database was restricted through secure, password-protected measures, and the data were subsequently imported into the Statistical Package for the Social Sciences (SPSS) for analysis. To ensure that only current data was assessed, I formulated a database query to export data collected from January 2023 onward. The SPSS file containing the data was then securely stored on a personal server, protected by password authentication measures.

Instrumentation and Operationalization of Constructs

To conduct this study, I used the following instruments: (a) IPIP-NEO-120, (b) 18-REST, (c) OCP, and (d) The Big Eight Competencies Framework. The instruments listed were employed within companies' recruitment processes to screen candidates applying for software engineer vacancies.

IPIP-NEO-120

To measure personality characteristics, I used the IPIP-NEO-120 questionnaire. Developed by Johnson (2014), this questionnaire extended Goldberg's (1999) work in constructing a 300-item inventory designed to assess constructs similar to those in the NEO Personality Inventory (NEO PI-R; Costa & McCrae, 1992). The NEO PI-R is widely recognized as one of the most valid and commonly used methods for assessing personality in nonclinical and work environments (Costa, 1996).

The IPIP-NEO-120 questionnaire is rooted in the five factor model proposed by Costa and McCrae (1999). Consistent with the five factor model, the IPIP-NEO-120 measures five broad domains of personality: Neuroticism, Extraversion, Conscientiousness, Agreeableness, and Openness to experience. Besides board personality domains, the IPIP-NEO-120 assesses six narrower facets within each broad domain (Costa & McCrae, 1992).

According to Johnson (2014), the IPIP-NEO-120 demonstrates satisfactory psychometric characteristics. In large internet sample, the IPIP-NEO-120 exhibited acceptable reliability (facets mean alpha > .80) and appropriate convergent validity (mean r = .73) with the NEO-PI-R. Additionally, the factor structure and facet scores demonstrated high similarity to the NEO-PI-R structure (average r = .66). The internal reliability (Cronbach's alpha) for the factors and their corresponding facets were as follows: Openness to experience (0.81), Conscientiousness (0.90), Extraversion (0.89), Agreeableness (0.86), and Neuroticism (0.90), with facet values ranging from 0.63 to 0.88.

The IPIP-NEO-120 consists of 120 items and measures participants' personality traits and facets using a 5-point Likert scale, where respondents indicate the extent to which each statement represents their behavior or preferences in various situations. Completion of the questionnaire typically requires 15–20 minutes. In the current study, the focus was on the five broad domains of personality to ensure greater compatibility with previous research described in Chapter 2, as other researchers have predominantly relied on instruments based on the five factor model.

The IPIP-NEO-120 is freely available for use, and its contents can be reproduced and employed for research and educational purposes without the need for formal permission. Proper credit should be attributed to the author through accurate source citations and acknowledgment of copyright information in accordance with intellectual property laws. According to the International Personality Item Pool (n.d.), "the items and scales are in the public domain, which means that one can copy, edit, translate, or use them for any purpose without asking permission and without paying a fee" (para. 1).

18-REST

The 18-REST questionnaire, developed by Ambiel et al. (2018), is designed to assess professional interests by offering a concise yet valid and reliable representation of Holland's RIASEC interest types. Comprising 18 statements, the questionnaire covers six broad interest types: realistic, investigative, artistic, social, enterprising, and conventional. Its aim is to capture professional interests independently of educational levels and temporal changes in the labor market, ensuring relevance across diverse contexts. The 18-REST questionnaire is intended for use in large-scale assessments in educational and labor market settings.

Participants indicate their degree of preference for statements describing activities within each interest type using a 5-point Likert scale. While completion of the questionnaire is not constrained by time, it typically takes 5–10 minutes to complete. Despite each scale containing only three items per interest type, the 18-REST demonstrates favorable psychometric characteristics and adequate reliability, with coefficients ranging from .68 to .81. Moreover, the questionnaire exhibits substantive correlations with its parent RIASEC types, as measured by the 54-item RIASEC questionnaire (all above .87; rR = .94, rI = .87, rA = .93, rS = .90, rE = .94, and rC = .88).

Although initially developed and validated on a Brazilian sample (N = 473), the demographic composition aligned with that of the current study, both focusing on the adult working population. The 18-REST questionnaire is freely accessible and can be used for research and educational purposes without the need for formal authorization (Ambiel et al., 2018). However, adherence to intellectual property guidelines necessitates proper attribution to the author(s) through accurate citations and acknowledgment of copyright information (APA, 2020).

Organizational Culture Profile

The OCP was developed by O’Reilly et al. (1991) to describe individual and/or organizational values using a profile comparison approach. In previous research (Caldwell & O’Reilly, 1990; Chatman & Jehn, 1994; Sarros et al., 2023), the OCP has been frequently used to evaluate person-organization fit or organizational culture fit. Comprising 54 value statements categorized into seven dimensions, the questionnaire is typically administered using the Q-sort technique (Sarros et al., 2023). Respondents arrange statements based on their desirability to an employee or the accuracy with which they depict an organization, with completion of the questionnaire typically taking approximately 20 minutes.

The seven dimensions of cultural values underlying the OCP are as follows: (a) Hierarchy, (b) Mastery, (c) Affective Autonomy, (d) Intellectual Autonomy, (e) Egalitarianism, (f) Harmony, and (g) Embeddedness. These dimensions correspond to the seven types of organizational culture identified by O’Reilly et al. (1991): Detail-Oriented, Innovative, Aggressive, Outcome-Oriented, Stable, People-Oriented, and Team-Oriented.

Numerous researchers, including Caldwell and O’Reilly (1990), Chatman and Jehn (1994), O’Reilly et al. (1991), Sheridan (1992), and Vandenberghe (1999) have examined the reliability of the OCP, reporting satisfactory results ranging from .84 to .94. Perceived person-organization fit as measured by the OCP has demonstrated positive correlations with separate subjective assessments of person-organization fit, subjective person-job fit, and general organizational image (Cable & Judge, 1996). These findings substantiate the validity of the OCP as a measure of organizational culture. Given that values are considered fundamental constructs underlying culture (Sarros et al., 2023), the OCP was justified as a means of assessing individuals’ values related to the work environment for the purposes of the current study.

The Great Eight Competencies Framework

The Great Eight represent a broad assortment of relatively independent work behaviors relevant to today's professional workforce (Bartram, 2005). The Great Eight competencies framework follows the work of Tett et al. (2000) on developing a generic competency framework aimed at assessing work performance regardless of the job position or job type. Kurz and Bartram (2002) were the first to validate the Great Eight competency factors as a criterion measurement framework. Their study revealed that personality scales were moderate to good predictors of all eight competencies, as well as moderately to highly correlated with line-manager ratings. These findings justified the inclusion of this measurement tool in the current study to assess person-job fit by outlining the ideal candidate personality profile for a particular job through the Great Eight competencies.

For the current study, the questionnaire consisted only of the titles and short descriptions of each of the eight competencies (eight statements in total). Bartram's (2005) version of the competencies framework listing was used. I measured a subjective self-report on the level of mastery of each of the eight competencies by the hiring manager. Hiring managers read the titles of the competencies and their descriptions (titles and descriptions were taken from SHL Universal Competency Framework™ Profiler and Designer Cards) and assessed the importance level of each competency for the requested vacancy. Using a 5-point Likert scale, hiring managers were asked to rate the level of mastery of each competency required for a particular job position.

Hiring Desirability

Hiring desirability was assessed as a dichotomous measure of whether the employer extended an offer to the candidate who participated in the recruitment process. This information was obtained from the software system that administered the flow of the recruitment process.

Data Analysis Plan

For the current study, I used a correlational research design with binary logistic regression to answer the research questions. The SPSS package was used to conduct statistical analysis, and archival data were securely transferred to the SPSS file and stored on a local server. During data analysis, there were times when data cleaning or screening was necessary. According to Van den Broeck and al. (2005), this process was essential for identifying and correcting errors in the collected data. By doing so, the impact of corrupted, erroneous, or incomplete data on the overall study results was minimized. The data cleaning process was conducted in two stages. In the first stage, all information on the environment element that did not have any applicants for a particular vacancy were excluded from the analysis. For example, if company representatives entered data about the vacancy and peers' and superiors' personal characteristics, but no applicants applied for the role, no information on the congruence level between person and environment elements existed. In the second stage, all participants whose answers to a particular questionnaire item were missing were excluded from further analysis.

Research questions and hypotheses that were answered by the current study are the following:

RQ1: To what extent can the Candidate-Team congruence predict hiring desirability of software engineers?

Personality:

H_o1: There is no relationship between Candidate-Team Extraversion congruence and the employer extending the job offer to a candidate.

H_11: There is a significant relationship between Candidate-Team Extraversion congruence and the employer extending the job offer to a candidate.

H_o2: There is no relationship between Candidate-Team Agreeableness congruence and the employer extending the job offer to a candidate.

H_12: There is a significant relationship between Candidate-Team Agreeableness congruence and the employer extending the job offer to a candidate.

H_o3: There is no relationship between Candidate-Team Conscientiousness congruence and the employer extending the job offer to a candidate.

H_13: There is a significant relationship between Candidate-Team Conscientiousness congruence and the employer extending the job offer to a candidate.

H_o4: There is no relationship between Candidate-Team Neuroticism congruence and the employer extending the job offer to a candidate.

H_14: There is a significant relationship between Candidate-Team Neuroticism congruence and the employer extending the job offer to a candidate.

H_o5: There is no relationship between Candidate-Team Openness congruence and the employer extending the job offer to a candidate.

$H_1$5: There is a significant relationship between Candidate-Team Openness congruence and the employer extending the job offer to a candidate.

Values:

H_o6: There is no relationship between Candidate-Team Values congruence and the employer extending the job offer to a candidate.

$H_1$6: There is a significant relationship between Candidate-Team Values congruence and the employer extending the job offer to a candidate.

Interests:

H_o7: There is no relationship between Candidate-Team Interests' congruence and the employer extending the job offer to a candidate.

$H_1$7: There is a significant relationship between Candidate-Team Interests' congruence and the employer extending the job offer to a candidate.

RQ2: To what extent can the Candidate-Leader congruence predict hiring desirability of software engineers?

Personality:

H_o8: There is no relationship between Candidate-Leader Extraversion congruence and the employer extending the job offer to a candidate.

$H_1$8: There is a significant relationship between Candidate-Leader Extraversion congruence and the employer extending the job offer to a candidate.

H_o9: There is no relationship between Candidate-Leader Agreeableness congruence and the employer extending the job offer to a candidate.

$H_1$9: There is a significant relationship between Candidate-Leader Agreeableness congruence and the employer extending the job offer to a candidate.

H_o10: There is no relationship between Candidate-Leader Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_1$10: There is a significant relationship between Candidate-Leader Conscientiousness congruence and the employer extending the job offer to a candidate.

H_o11: There is no relationship between Candidate-Leader Neuroticism congruence and the employer extending the job offer to a candidate.

$H_1$11: There is a significant relationship between Candidate-Leader Neuroticism congruence and the employer extending the job offer to a candidate.

H_o12: There is no relationship between Candidate-Leader Openness congruence and the employer extending the job offer to a candidate.

$H_1$12: There is a significant relationship between Candidate-Leader Openness congruence and the employer extending the job offer to a candidate.

Values:

H_o13: There is no relationship between Candidate-Leader Values congruence and the employer extending the job offer to a candidate.

$H_1$13: There is a significant relationship between Candidate-Leader Values congruence and the employer extending the job offer to a candidate.

Interests:

H_o14: There is no relationship between Candidate-Leader Interests’ congruence and the employer extending the job offer to a candidate.

$H_1$14: There is a significant relationship between Candidate-Leader Interests' congruence and the employer extending the job offer to a candidate.

RQ3: To what extent can the Candidate-Role congruence predict hiring desirability of software engineers?

H_o15: There is no relationship between the congruence of Candidate's and ideal Role profile and the employer extending the job offer to a candidate.

$H_1$15: There is a significant relationship between the congruence of Candidate's and ideal Role profile and the employer extending the job offer to a candidate.

Due to the ipsative ranking of work values (measured with the OCP) and professional interests (measured with the 18-REST), it was not possible to use traditional parametric statistical procedures. Therefore, the congruence on values and interests was operationalized by computing rank-order correlation between the applicant's ranking of work values or professional interests and the team's or leader's ranking of work values or professional interests. The team's results on OCP or 18-REST measures was calculated as aggregated profiles based on the individual rankings of the assessed employees in a team. Regarding personality-related variables (measured by IPIP-NEO-120), congruence was operationalized by computing the standardized absolute difference score between the applicant's results in each of the five factors and the team's or leader's results on each of the five factors. To construct the independent variable of candidate-role congruence, a two-step process was implemented. In the first step, the applicant's results on the five dimensions of personality (measured by the IPIP-NEO-120) were associated with the assumed prevalence of the corresponding competency factors (The Big Eight

Competency Framework). In the second step, congruence was operationalized by computing a correlation between the candidate's assumed competency factors and the ideal role profile.

To interpret the data, descriptive statistics on individual variables such as personality traits, values, and interests were conducted. Following this, I calculated the congruence variables and correlations of the observed person and environment elements. In the later stage, I calculated binary logistic regression analyses to test the hypotheses. For each hypothesis tested and regression analysis conducted, several statistics were discussed. Coefficients (β) for the predictor variable was reported and discussed, indicating the change in the log of odds of the outcome for a one-unit increase in the predictor variable. The exponential coefficient (Odds Ratio (Exp(β))) was reported on the change in odds of the outcome (i.e., whether the offer was extended to the candidate or not) occurring for a one-unit increase in each predictor variable. Additionally, p-values were reported to indicate whether the null hypothesis is confirmed or rejected. To assess the overall significance of the model, the Likelihood ratio test (Chi-Square) was reported. Furthermore, to provide an indication of the proportion of variance explained by the model, the Pseudo R-Squared metric (e.g., Cox & Snell) was reported.

Threats to Validity

Threats to External Validity

Threats to external validity represent factors that limit the generalizability of the results of a study beyond the specific conditions under which the study was conducted (Hammersley, 2008). The results of the current study are likely to be generalized to the population of interest - candidates participating in the labor market and competing for software engineering roles, and companies hiring software engineers. Due to the study's focus on the recruitment scenario in which candidates were inclined to present themselves in the best possible light (Chiang & Suen, 2015), the reactive effects of experimental arrangements (Hawthorne effect) likely represented a threat to external validity. This threat was partially mitigated by including an impression management control scale in the candidate assessment process. However, it is important to note that the Hawthorne effect did not necessarily need to be completely excluded from this type of study, as it reflected a phenomenon likely to occur in a real work and assessment environment and may contribute to the variance in results (Dondolo & Chinyamurindi, 2018).

Threats to Internal Validity

These factors could lead to incorrect conclusions about the cause-and-effect relationship in a study (Hammersley, 2008). As the current study employed a correlational research design, internal validity was weaker because determining causation was not the primary objective of correlational research (Hammersley, 2008). It is possible that some participants in the current study had previously participated in different recruitment processes and were exposed to various psychological measurement tools. Consequently, some participants may have already possessed experience with conducting psychological assessments and could have been aware of what was evaluated with a particular tool. The testing threat was addressed by randomizing questions in the software tool when assessing candidates, and by providing instructions to the assessed candidates to answer the statements as honestly as possible, as this increased the likelihood of pairing candidates with employers that better align with candidates' personal characteristics. Attrition of applicants during the recruitment process presented another threat to internal validity. Not all candidates who applied for the vacancies included in this study completed all assessments. Therefore, the lack of assessment results from candidates who applied for a particular vacancy could have biased the results of the current study. In addition to attrition, the motivation of candidates to apply for a particular vacancy represented another threat to internal validity. Some candidates, whose personal characteristics might closely match those of a particular company, might not have applied for a specific vacancy, potentially introducing selection bias into the study.

Threats to Construct or Statistical Conclusion Validity

Debates surrounding the operationalization of the P-E fit construct remain an ongoing topic among researchers (Santos & De Domenico, 2015; Sekiguchi & Huber, 2011; van Vuuren et al., 2007). Each contribution to measuring and explaining person and environment elements in P-E fit can simultaneously be considered as a threat to construct validity, but also a valuable addition to the ongoing research discussion and understanding of the P-E fit construct. In previous research on P-E fit (Barrick & Parks-Leduc, 2019; Kristof-Brown, Zimmerman & Johnson, 2005; Santos & De Domenico, 2015), it was evident that measuring fit through latent measures of fit (e.g., similarities between characteristics of an individual and the environment) yielded lower statistical power, and generally, effect sizes were small. Additionally, the research design of the current study implied conducting multiple statistical tests to test hypotheses and answer research questions. Therefore, there was a risk of Type I error due to the many comparisons, increasing the likelihood of finding at least one significant result by chance. Another threat was related to the structure of variables. The DV is dichotomous: whether the employer extended the job offer to the applicant. Due to the operationalization of the variable, the variability in results (and consequently study findings) was artificially narrowed. On the other hand, IVs were structured as congruence measures of different personal characteristics. Because of the structure of independent variables, the implications of the study findings were limited (e.g., it was not possible to conclude the structural differences between the person and environment elements, only the size of difference). To address the aspect of structural differences between person and environment elements, different statistical methods should be employed (such as polynomial regression analysis). Considering all the aforementioned points, it is possible to conclude that threats to statistical conclusion validity existed, and it was important to closely pay attention to the interpretation of results in this study and the conclusions that were drawn based on these findings.

Ethical Procedures

The pre-employment archival data utilized in this study were provided by a privately held recruitment company in Croatia and were delivered in an Excel file. The dataset exclusively comprised variables relevant to the current research. No identifying information about the participants - whether candidates, employees, or companies - was included. All participants had previously signed informed consent forms during their involvement in the recruitment process, fully aware that their prescreening results could be used for future research. The prescreening involved psychological assessments using the instruments employed in this study (IPIP-NEO-120, 18-REST, OCP, The Big Eight Competencies), which generated the archival data analyzed.

The private company that owns, manages, and controls the necessary archival data granted permission for its use in this study. Additionally, the current study was submitted to Walden University's Institutional Review Board (IRB) for review and approval (IRB approval number: 07-22-24-0558518). All data used in the current study were kept confidential. Participants were assigned unique numbers by the organization, ensuring that no identifying information was included in the dataset. The Excel file that was created for this study was stored at the private company and will be destroyed by the researcher after five years, in compliance with the American Psychological Association guidelines (APA, 2020).

Summary

The current study employed a quantitative, correlational design, utilizing binary logistic regression to analyze the data. The study's methodology involved secondary data from recruitment processes, with non-probability, opportunity sampling. Data collection relied on archival data from pre-employment software, ensuring ethical handling and anonymity. Key instruments used included IPIP-NEO-120 for personality assessment, 18-REST for professional interests, OCP for values, and The Big Eight competencies framework for job competencies. The study focused on various congruence types (person-team, person-leader, person-role) and their predictive validity on hiring desirability. Data analysis involved computing congruence variables, descriptive statistics, and binary logistic regression. Threats to validity, such as external validity (generalizability) and internal validity (causation), were acknowledged and mitigated where possible.

In the next chapter, the process of analyzing the data obtained through the previously outlined methods is detailed. The findings are presented and discussed, along with their interpretation in relation to the research questions. The outcomes of the quantitative analysis are delineated and the research methodologies employed are explicated. Chapter 4 provides information on the implications of the findings, the conducted research, and potential areas for future investigation.

Chapter 4: Results

The purpose of this quantitative study was to investigate how P-E fit influences the hiring desirability of software engineers, focusing on three key relationships: Candidate-Team, Candidate-Leader, and Candidate-Role congruence. The study examined how well a candidate's personality traits, values, and interests align with team members, leaders, and job roles, and how these factors impact whether a job offer is extended. This chapter provides information on the data collection process, details on how the variables of this study were constructed and provides an overview of key findings from the logistic regression analysis conducted to answer each of the three research questions and the corresponding hypotheses.

Data Collection

The data for this study were sourced from archival records of companies involved in the recruitment of software engineers within the Southeastern European and Central and Eastern European regions, covering the period from January 2023 to March 2024. These companies used specific recruitment tools to assess candidates for software engineer roles. The archival data comprised company-level and candidate-level information collected during the recruitment processes. No demographic or socioeconomic information for the candidate, leader, or peer level was collected. A total of 323 fit cases were evaluated for the current study, spread across 25 distinct recruitment processes for software engineering roles. Each fit case included psychological information about the candidate and at least one level of the environment corresponding to the recruitment process. The environment levels referred to (a) team congruence, (b) leader congruence, and (c) role congruence. In some cases, certain levels of the environment were missing (e.g., the fit case included candidate and peer information but lacked data on the leader). Because this study relied on secondary data, no additional recruitment or participation procedures were necessary. The candidates had previously given informed consent during the preemployment testing phase, which included permission for their data to be used for research purposes.

Results

Construction of Variables

To construct each of the independent variables, I used individual results from the candidate and the corresponding element from the environment setup (superior's, peer's, or role's result). The candidate's and environment's results were then compared to assess the level of congruence. Congruence for each of the personality dimensions (measured by the IPIP-NEO-120) was calculated by subtracting the environment's standardized result from the candidate's result (all expressed in *z* scores). The congruence level was then expressed as the absolute value of this difference. Due to the ipsative ranking of work values (measured with the OCP) and professional interests (measured with the 18-REST), traditional parametric statistical procedures could not be used. Therefore, congruence for values and interests was operationalized by assessing profile similarity through rank-order correlation between the applicant's ranking of work values or professional interests and the team's or leader's ranking. The team's results on the OCP or 18-REST measures were calculated as aggregated profiles based on the individual rankings of the assessed team members.

To construct the independent variable for candidate-role congruence, I implemented a two-step process. First, the applicant's results on the five personality dimensions (measured by the IPIP-NEO-120) were mapped to the assumed prevalence of the corresponding competency factors (The Big Eight Competency Framework). Ranks of prevalence were then assigned to both candidate and role competencies. In the second step, congruence was operationalized by computing a rank-order correlation between the candidate's assumed competency factors and the ideal role profile.

Due to differences in the operationalization of personality congruence variables compared to the other independent variables, the results were interpreted differently. In the case of personality congruence variables, higher scores indicated greater differences between the candidate's and the environment's scores. In contrast, for role, interests, and values congruence variables, higher scores indicated higher correlation between the variables (and lower differences between the candidate's and the environment's scores).

The following IVs were constructed for the purpose of this study:

IV1: Candidate-Team Value congruence

IV2: Candidate-Leader Value congruence

IV3: Candidate-Team Interests' congruence

IV4: Candidate-Leader Interests' congruence

IV5: Candidate-Team Extraversion congruence

IV6: Candidate-Team Agreeableness congruence

IV7: Candidate-Team Neuroticism congruence

IV8: Candidate-Team Openness congruence

IV9: Candidate-Team Conscientiousness congruence

IV10: Candidate-Leader Extraversion congruence

IV11: Candidate-Leader Agreeableness congruence

IV12: Candidate-Leader Neuroticism congruence

IV13: Candidate-Leader Openness congruence

IV14: Candidate-Leader Conscientiousness congruence

IV15: Candidate-Role congruence

These variables were constructed to test hypotheses related to the three research questions of this study. Research questions and corresponding hypotheses were as follows:

RQ1: To what extent can the Candidate-Team congruence predict hiring desirability of software engineers?

The following hypotheses were tested to answer this research question:

Personality:

$H_0$1: There is no relationship between Candidate-Team Extraversion congruence and the employer extending the job offer to a candidate.

$H_1$1: There is a significant relationship between Candidate-Team Extraversion congruence and the employer extending the job offer to a candidate.

$H_0$2: There is no relationship between Candidate-Team Agreeableness congruence and the employer extending the job offer to a candidate.

$H_1$2: There is a significant relationship between Candidate-Team Agreeableness congruence and the employer extending the job offer to a candidate.

$H_0 3$: There is no relationship between Candidate-Team Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_1 3$: There is a significant relationship between Candidate-Team Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_0 4$: There is no relationship between Candidate-Team Neuroticism congruence and the employer extending the job offer to a candidate.

$H_1 4$: There is a significant relationship between Candidate-Team Neuroticism congruence and the employer extending the job offer to a candidate.

$H_0 5$: There is no relationship between Candidate-Team Openness congruence and the employer extending the job offer to a candidate.

$H_1 5$: There is a significant relationship between Candidate-Team Openness congruence and the employer extending the job offer to a candidate.

Values:

$H_0 6$: There is no relationship between Candidate-Team Values congruence and the employer extending the job offer to a candidate.

$H_1 6$: There is a significant relationship between Candidate-Team Values congruence and the employer extending the job offer to a candidate.

Interests:

$H_0 7$: There is no relationship between Candidate-Team Interests' congruence and the employer extending the job offer to a candidate.

$H_1 7$: There is a significant relationship between Candidate-Team Interests' congruence and the employer extending the job offer to a candidate.

RQ2: To what extent can the Candidate-Leader congruence predict hiring desirability of software engineers?

The following hypotheses were tested to answer this research question:

Personality:

$H_0$8: There is no relationship between Candidate-Leader Extraversion congruence and the employer extending the job offer to a candidate.

$H_1$8: There is a significant relationship between Candidate-Leader Extraversion congruence and the employer extending the job offer to a candidate.

$H_0$9: There is no relationship between Candidate-Leader Agreeableness congruence and the employer extending the job offer to a candidate.

$H_1$9: There is a significant relationship between Candidate-Leader Agreeableness congruence and the employer extending the job offer to a candidate.

$H_0$10: There is no relationship between Candidate-Leader Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_1$10: There is a significant relationship between Candidate-Leader Conscientiousness congruence and the employer extending the job offer to a candidate.

$H_0$11: There is no relationship between Candidate-Leader Neuroticism congruence and the employer extending the job offer to a candidate.

$H_1$11: There is a significant relationship between Candidate-Leader Neuroticism congruence and the employer extending the job offer to a candidate.

$H_0$12: There is no relationship between Candidate-Leader Openness congruence, and the employer extending the job offer to a candidate.

$H_1$12: There is a significant relationship between Candidate-Leader Openness congruence and the employer extending the job offer to a candidate.

Values:

$H_0$13: There is no relationship between Candidate-Leader Values congruence and the employer extending the job offer to a candidate.

$H_1$13: There is a significant relationship between Candidate-Leader Values congruence and the employer extending the job offer to a candidate.

Interests:

$H_0$14: There is no relationship between Candidate-Leader Interests' congruence and the employer extending the job offer to a candidate.

$H_1$14: There is a significant relationship between Candidate-Leader Interests' congruence and the employer extending the job offer to a candidate.

RQ3: To what extent can the Candidate-Role congruence predict hiring desirability of software engineers?

The following hypotheses were tested to answer this research question:

$H_0$15: There is no relationship between the congruence of Candidate's and ideal Role profile and the employer extending the job offer to a candidate.

$H_1$15: There is a significant relationship between the congruence of Candidate's and ideal Role profile and the employer extending the job offer to a candidate.

Descriptive Statistics

Table 1 shows the summary of descriptive statistics of the variables in this study. The number of participants according to the independent variable varied from $N = 283$

(e.g., IV1) to *N* = 323 (e.g., IV15). Variable size depended on whether each pairing existed for each candidate who participated in the recruitment process (if the appropriate aspect of environment level existed). As in all cases, the ideal role profile was provided by the employer, the Candidate-Role Congruence (IV15) appears to be the variable with the biggest sample size.

Table 1

Descriptive Statistics for Variables Included in the Study

Variable name	*N*	Min	Max	*M*	*SD*	Skewness (Std. error)	Kurtosis (Std. error)
Job offer (DV)	328	1.00	2.00	1.17	.377	1.758 (.135)	1.098 (.281)
Candidate-Team Value congruence	283	-.607	.929	.29	.347	-.292 (.145)	-.505 (.289)
Candidate-Leader Value congruence	299	-.821	.964	.12	.372	.051 (.141)	-.276 (.281)
Candidate-Team Interests' congruence	283	-.943	.943	.03	.438	-.028 (.145)	-.652 (.289)
Candidate-Leader Interests' congruence	299	-.886	.943	.03	.421	-.121 (.141)	-.532 (.289)
Candidate-Team Extraversion congruence	283	.000	3.518	1.03	.813	.580 (.145)	-.532 (.289)
Candidate-Team Agreeableness congruence	283	.000	3.581	.83	.669	1.061 (.145)	1.555 (.289)
Candidate-Team Neuroticism congruence	283	.000	4.573	1.56	1.096	.358 (.145)	-.731 (.289)
Candidate-Team Openness congruence	283	.000	4.491	1.15	.864	.743 (.145)	.683 (.289)
Candidate-Team Conscientiousness congruence	283	.000	2.746	.83	.657	.703 (.145)	-.156 (.289)
Candidate-Leader Extraversion congruence	299	.000	3.148	.76	.575	.837 (.141)	.705 (.281)
Candidate-Leader Agreeableness congruence	299	.000	3.837	1.35	.968	.322 (.141)	-.845 (.281)
Candidate-Leader Neuroticism congruence	299	.000	6.859	1.93	1.395	.655 (.141)	.100 (.281)
Candidate-Leader Openness congruence	299	.000	3.878	.93	.7285	.999 (.141)	1.350 (.281)
Candidate-Leader Conscientiousness congruence	299	.000	4.453	1.37	.977	.388 (.141)	-.645 (.281)
Candidate-Role congruence	323	-.795	.797	.031	.293	.118 (.141)	.097 (.271)

In the evaluation of value congruence at the team and leader levels, the Candidate-Leader Value congruence showed a slightly wider range (Min_{IV2} = -0.821, Max_{IV2} = 0.964) compared to the Candidate-Team Value congruence (Min_{IV1} = -0.607, Max_{IV1} = 0.928). On average, candidates were more aligned with team values (M_{IV1} =

0.293) than with leader values (M_{IV2} = 0.124), while the variability in congruence between these two variables remained similar (SD_{IV2} = 0.371, SD_{IV1} = 0.347). The distribution of congruence scores was more balanced in the candidate-leader context compared to the candidate-team context. This was reflected in a slightly negative skew for Candidate-Team Value congruence (sk_{IV1} = -0.292), indicating a small tendency for values to cluster at the higher end. In contrast, Candidate-Leader Value congruence had skewness near 0 (sk_{IV2} = 0.051), suggesting a more symmetrical distribution. Both distributions were slightly platykurtic; however, the Candidate-Team Value congruence was more platykurtic (ku_{IV1} = -0.505) than the Candidate-Leader Value congruence (u_{IV2}= -0.276), indicating a more evenly spread distribution in the former.

In the evaluation of interests variables on a team and leader level, both variables demonstrated a wide range of results (Min_{IV3} = -0.942, Max_{IV3} = 0.943; Min_{IV4} = - 0.943, Max_{IV4} = 0.943), covering almost the entire correlation span (from -1 to 1). The similarity in means and standard deviations suggested that candidates' interests aligned equally poorly with both teams (M_{IV3} = 0.03, SD_{IV3} = 0.438) and leaders (M_{IV4} = 0.03; SD_{IV4} = 0.421). Both distributions exhibited slightly negative skewness, indicating a marginal tendency for the data to cluster toward higher congruence values. However, the skewness was closer to 0 for Candidate-Team Interests congruence (sk_{IV3} = -0.028), suggesting a nearly symmetrical distribution. In contrast, Candidate-Leader Interests congruence had a slightly more pronounced negative skew (sk_{IV4} = -0.121), indicating a minor tendency for more values to fall on the higher congruence side. Both distributions exhibited slightly negative skewness, indicating a marginal tendency for the data to cluster toward higher congruence values. Both distributions were platykurtic, with negative kurtosis values indicating flatter distributions with lighter tails than a normal distribution. Candidate-Team Interests congruence had a more negative kurtosis (ku_{IV3} = -0.652), suggesting it was slightly flatter and had fewer extreme values compared to Candidate-Leader Interests congruence (ku_{IV4} = -0.532).

The descriptive statistics for Candidate-Team personality congruence across the five dimensions (Extraversion, Agreeableness, Neuroticism, Openness, and Conscientiousness) provided insights into how well candidates' personalities aligned with their teams. Because personality congruence variables were constructed as standardized difference scores (expressed in *z* scores) between a candidate and a certain environment level (team or superior), these variables could range from -3 to +3 *z* scores, indicating possible values from 0 to 6. Given that higher scores on personality congruence variables indicated a greater difference between the candidate's and the team's personalities (i.e., less congruence), it could be concluded that across all personality traits, the scores reflected moderate to relatively high levels of congruence between candidates and teams, meaning candidates' personalities generally did not differ significantly from their teams' (see Table 1). Most distributions were positively skewed, suggesting that more candidates tended to have smaller differences with their teams, though a significant number still showed larger differences. The variability in kurtosis values indicated that although some traits exhibited more extreme incongruences (leptokurtic: ku_{IV8} = 0.683; ku_{IV6} = 1.555), others were more evenly distributed (platykurtic: ku_{IV5} = -0.532; ku_{IV7} = -0.731) or nearly normal (ku_{IV9} = -0.156).

When evaluating the congruence levels in personality of candidates and their potential future superiors, I needed to consider that higher scores on congruence variables indicated a greater difference between candidates' and leaders' personalities (i.e., less congruence). Across all traits, the level of congruence between candidates and leaders was generally high, as means did not exceed the value of 2 (in total span from 0 to 6). Some traits, such as candidate-Leader Extraversion congruence (M_{IV10} = 0.75, SD_{IV10} = 0.575) exhibited relatively low average scores, indicating that candidates in general had similar extraversion levels to their leaders. On the other hand, candidates and their leaders were more likely to possess different Neuroticism personality traits with their leaders (M_{IV12} = 1.93, SD_{IV12} = 1.395). The distributions tended to be positively skewed, meaning that more candidates showed smaller differences in personality traits with their leaders. However, the degree of skewness and kurtosis varied, with some traits exhibiting more peaked (leptokurtic) distributions, indicating that for those traits, some candidates had much larger personality differences from their leaders (see Table 1).

When evaluating Candidate-Role congruence, data showed that candidates tend to show poor alignment with their roles. The mean scores (M_{IV15} = 0.03) indicated a low level of congruence between candidates and their roles on average, with moderate variability in the congruence scores (SD_{IV15} = 0.293). The low positive skewness (sk_{IV15} = 0.118) indicated a nearly symmetrical distribution, meaning that most candidates were clustered around the mean. However, there was a slight tendency for more candidates to have positive congruence results, with fewer having negative results. Kurtosis statistic (ku_{IV15} = 0.097) stated that the distribution is almost normal. This means that the tails of the distribution (representing outliers or extreme cases of congruence or incongruence) were neither particularly heavy nor particularly light, implying that extreme cases of role misalignment were not overly common. Skewness and kurtosis on independent variables were calculated to assess whether the congruence variables differ from normal distribution. Those findings were important both for data interpretation, as well as for the implications for future research, because different statistical methods (such as logistic regression with splines or polynomial regression) might explain better data findings of variables that differ from normal distribution.

The dependent variable in the current study was a binary variable of whether the employer offered a job to a certain candidate. The analysis indicated that most candidates did not receive a job offer ($M_{DV} = 1.17$; $SD_{DV} = 0.377$), as reflected by the mean close to 1 and the right-skewed distribution (Table 1). The skew showed that only a small proportion of candidates were offered a job, and the leptokurtic distribution confirmed that most candidates fell into the "no job offer" category.

Criteria for Binary Logistic Regression

To conduct binary logistic regression, several criteria needed to be met: DV had only two values, IVs needed to be measured on interval scales, and no multicollinearity across IVs existed. In the existing data sample, the DV consisted only of two possible recruitment outcomes: "offer extended" and "offer not extended", coded as 1 and 2.

The existence of multicollinearity was assessed both through the correlation coefficient among IVs, as well as by examining Variance Inflation Factor (VIF) and Tolerance statistics (Table 2.). According to correlation matrix, the correlation between

Candidate-Leader Neuroticism congruence and Candidate-Leader Conscientiousness congruence (r = 0.603) indicated moderately high correlation among variables, suggesting that there was some multicollinearity between the two variables.

Table 2

Collinearity Statistics for Independent Variables Included in the Study

Variable name	Tolerance	VIF
Candidate-Team Value congruence	.831	1.204
Candidate-Leader Value congruence	.763	1.311
Candidate-Team Interests' congruence	.905	1.105
Candidate-Leader Interests' congruence	.886	1.128
Candidate-Team Extraversion congruence	.692	1.445
Candidate-Team Agreeableness congruence	.754	1.327
Candidate-Team Neuroticism congruence	.477	2.097
Candidate-Team Openness congruence	.579	1.726
Candidate-Team Conscientiousness congruence	.582	1.717
Candidate-Leader Extraversion congruence	.899	1.113
Candidate-Leader Agreeableness congruence	.577	1.733
Candidate-Leader Neuroticism congruence	.389	2.573
Candidate-Leader Openness congruence	.671	1.489
Candidate-Leader Conscientiousness congruence	.415	2.411
Candidate-Role congruence	.873	1.146

As VIF scores for all dimensions did not exceed the score of 1, and Tolerance scores for all variables were close to 1, it can be concluded that no severe multicollinearity existed among variables. Due to lower Tolerance score ($Tolerance_{\mathrm{IV15}}$ = 0.55), Candidate-Role congruence variable could be seen as the one with moderate multicollinearity but was still acceptable one.

Binary Logistic Regression

RQ1

I conducted logistic regression analysis to explore the extent to which Candidate-Team congruence predicted hiring desirability of software engineers. Specifically, the analysis tested the hypotheses related to personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness), values congruence, and interests' congruence in predicting whether the employer extended a job offer to a candidate. Results indicated that the logistic regression model ($\chi^2(7,283) = 36.77$, $p < .001$) was statistically significant, suggesting that the set of predictors reliably distinguished between candidates who received a job offer and those who did not (Table 3). The model explained a modest amount of variance in the DV (Cox & Snell $R^2 = .122$, Nagelkerke $R^2 = .198$). This suggested that the predictors account for approximately 12.2% to 19.8% of the variance in hiring decisions. The model had a high accuracy in predicting candidates who received a job offer (98.7%) but was less effective in predicting those who did not receive an offer (13.5%).

Table 3

Binary Logistic Regression

RQ	χ^2	*df*	Sig.	-2 Log likelihood	Cox & Snell R^2	Nagelkerke R^2
RQ1	36.766	7	< .001	233.230	.122	.198
RQ2	19.555	7	.007	262.884	.063	.104
RQ3	5.372	1	.020	289.416	.016	.028

Personality Traits Congruence. As seen in Table 4, the analysis did not find a significant relationship between Candidate-Team Extraversion congruence and the likelihood of receiving a job offer ($B_{IV5} = 0.184$, $p = .426$). Therefore, I failed to reject the null hypothesis ($H_0 1$), indicating no significant effect of Extraversion congruence on hiring desirability. Candidate-Team Agreeableness congruence was found to be a significant predictor of hiring outcomes ($B_{IV6} = -0.870$, $p = .009$), with the odds of receiving a job offer decreasing as the differences in Agreeableness increased. This led to the rejection of the null hypothesis ($H_0$2), supporting the alternative hypothesis ($H_1$2). The relationship between Candidate-Team Conscientiousness congruence and hiring desirability was not statistically significant (B_{IV9} = -0.263, p = .445). Thus, the null hypothesis ($H_0$3) was not rejected. Similarly, no significant relationship was found between Candidate-Team Neuroticism congruence and job offer likelihood (B_{IV7} = -0.015, p = .941). Therefore, I failed to reject the null hypothesis ($H_0$4). There was a significant negative relationship between Candidate-Team Openness congruence and the likelihood of receiving a job offer (B_{IV8} = -0.471, p = .037), suggesting that greater differences in Openness results between a candidate and the team were associated with a lower likelihood of receiving an offer. This led to the rejection of the null hypothesis ($H_0$5) in favor of the alternative hypothesis ($H_1$5).

Table 4

Regression Coefficients for RQ1

Variable name	B	*SE*	Wald	*df*	Sig.	Exp(B)
Candidate-Team Value congruence	2.285	.608	14.130	1	<.001	9.830
Candidate-Team Interests' congruence	-.681	.405	2.824	1	.093	.506
Candidate-Team Extraversion congruence	.184	.230	.634	1	.426	1.201
Candidate-Team Agreeableness congruence	-.870	.333	6.819	1	.009	.419
Candidate-Team Neuroticism congruence	-.015	.196	.006	1	.941	.986
Candidate-Team Openness congruence	-.471	.226	4.335	1	.037	.624
Candidate-Team Conscientiousness congruence	-.263	.345	.583	1	.445	.769
Constant	-1.200	.388	9.574	1	.002	.301

Values Congruence. The analysis revealed a strong, significant positive relationship between Candidate-Team Values congruence and the likelihood of receiving a job offer (B_{IV1} = 2.285, p < .001). This result supported the rejection of the null hypothesis ($H_0$6) and confirmed the alternative hypothesis ($H_1$6), indicating that higher values congruence significantly increased the chances of receiving a job offer.

Interests Congruence. The relationship between Candidate-Team Interests' congruence and job offer likelihood was not statistically significant ($B_{IV3} = -0.681$, p = .093), although it approached significance. Therefore, the null hypothesis (H_07) was not rejected. To conclude, the logistic regression analysis provided partial support for the hypothesis that Candidate-Team congruence predicted hiring desirability. Among the personality traits, Agreeableness and Openness congruence were significant predictors, with higher difference in candidate's and team's personality traits leading to a reduced likelihood of a job offer. Also, values congruence was a strong positive predictor, indicating that alignment in values between the candidate and the team plays a crucial role in hiring decisions. Interests' congruence did not show a significant effect, although it was marginally close to significance.

RQ2

Similarly to the previous research question, to answer the second research question, I conducted logistic regression analysis to determine the extent to which Candidate-Leader congruence predicts the hiring desirability of software engineers. Results showed that the logistic regression model was statistically significant ($\chi^2(7,299) = 19.55$, $p = .007$), indicating that the set of predictors distinguished between candidates who received a job offer and those who did not (Table 3). The model explained between 6.3% and 10.4% of the variance in hiring outcomes (Cox & Snell $R^2 = .063$, Nagelkerke $R^2 = .104$). While these values indicated a relatively low explanatory power, the results suggested that Candidate-Leader congruence does have some predictive relevance in the hiring process. The model correctly classified 81.9% of the cases overall. The model perfectly predicted candidates who received a job offer (100.0%) but failed to predict any candidates who did not receive an offer (0.0%). This discrepancy suggests that while the model was good at identifying those who were offered jobs, it struggled to identify those who were not.

Personality Traits Congruence. The analysis (see Table 5) found no significant relationship between Candidate-Leader Extraversion congruence and the likelihood of receiving a job offer ($B_{IV10} = 0.087$, $p = .753$). Thus, I failed to reject the null hypothesis ($H_0$8), indicating no significant effect of Extraversion congruence on hiring desirability. Similarly, Candidate-Leader Agreeableness congruence did not significantly predict hiring outcomes ($B_{IV11} = 0.041$, $p = .833$). The null hypothesis ($H_0$9) was not rejected, suggesting no significant impact of Agreeableness congruence. Candidate-Leader Conscientiousness congruence was found to be a significant predictor of hiring outcomes ($B_{IV14} = -0.480$, $p = .039$). The negative coefficient suggested that higher the differences in candidate's and leader's conscientiousness level were associated with a lower likelihood of receiving a job offer. This led to the rejection of the null hypothesis ($H_0$10) in favor of the alternative hypothesis ($H_1$10). The relationship between Candidate-Leader Neuroticism congruence and hiring desirability was not statistically significant ($B_{IV12} = -0.212$, $p = .194$). Therefore, I failed to reject the null hypothesis ($H_0$11). No significant relationship was found between Candidate-Leader Openness congruence and job offer likelihood ($B_{IV13} = -0.163$, $p = .467$). Consequently, the null hypothesis ($H_0$12) was not rejected.

Table 5

Regression Coefficients for RQ2

Variable name	B	*SE*	Wald	*df*	Sig.	Exp(B)
Candidate-Leader value congruence	-.232	.486	.228	1	.633	.793
Candidate- Leader interests' congruence	-.648	.406	2.551	1	.110	.523
Candidate- Leader Extraversion congruence	.087	.275	.099	1	.753	1.090
Candidate- Leader Agreeableness congruence	.041	.195	.045	1	.833	1.042
Candidate- Leader Neuroticism congruence	-.212	.163	1.687	1	.194	.809
Candidate- Leader Openness congruence	-.163	.225	.529	1	.467	.849
Candidate- Leader Conscientiousness congruence	-.480	.232	4.280	1	.039	.619
Constant	-.530	.361	2.156	1	.142	.589

Values Congruence. The analysis did not reveal a significant relationship between Candidate-Leader Values congruence and the likelihood of receiving a job offer (B_{IV2} = -0.232, p = .633). As a result, I failed to reject the null hypothesis ($H_0$13), indicating that values congruence with the leader did not significantly predict hiring outcomes in this context.

Interests Congruence. The relationship between Candidate-Leader Interests' congruence and job offer likelihood approached significance but was not statistically significant (B_{IV4} = -0.648, p = .110). Therefore, I failed to reject the null hypothesis ($H_0$14), though this variable may still warrant further investigation. The logistic regression analysis provided mixed results regarding the influence of Candidate-Leader congruence on hiring decisions (Table 5). Among the personality traits, only conscientiousness congruence was a significant predictor, with higher differences in this personality trait leading to a decreased likelihood of a job offer. The model overall had a modest ability to predict hiring outcomes, indicating that while Candidate-Leader congruence does play a role, it was not the dominant factor in the decision making process.

RQ3

The third research question was developed to explore the relationship between Candidate-Role congruence and hiring desirability for software engineers. More precisely, it addressed whether the congruence between a candidate's profile and the ideal role profile significantly predicted the likelihood of the candidate receiving a job offer. Results indicated that the logistic regression model was statistically significant ($\chi^2(1,323) = 5.37$, $p = .020$), suggesting that Candidate-Role congruence was a significant predictor of hiring outcomes (Table 3). The model explained between 1.6% and 2.8% of the variance in the hiring decision (Cox & Snell $R^2 = .016$, Nagelkerke $R^2 = .028$). These values suggested that while Candidate-Role congruence was a statistically significant factor, its overall contribution to predicting hiring outcomes was modest. The model correctly classified 83.0% of the cases overall. However, it only accurately predicted candidates who received a job offer (100.0%) and failed to predict any candidates who did not receive an offer (0.0%). This perfect prediction for those offered a job suggested the model was more effective in identifying positive outcomes but less so for negative ones.

The logistic regression results showed a significant negative relationship between Candidate-Role congruence and the likelihood of receiving a job offer ($B_{IV15} = -1.197$, $p = .023$). The negative coefficient indicated that higher congruence between the candidate's profile and the ideal role profile was associated with a decreased likelihood of receiving a job offer (Table 6). This finding led to the rejection of the null hypothesis ($H_0 15$) and the acceptance of the alternative hypothesis ($H_1 15$), which stated that there was a significant relationship between Candidate-Role congruence and hiring desirability. The results from the logistic regression analysis indicated that Candidate-Role congruence did have a significant impact on hiring outcomes, but not in the expected direction. Higher congruence between a candidate's profile and the ideal role profile was associated with a lower likelihood of receiving a job offer.

Table 6

Regression Coefficients for RQ3

Variable name	B	*SE*	Wald	*df*	Sig.	Exp(B)
Candidate-Role Congruence	-1.197	.526	5.189	1	.023	.302
Constant	-1.586	.150	111.267	1	<.001	.205

The odds ratio ($\text{Exp(B)}_{\text{IV15}}$ = .302) suggested that for each standard deviation increase in Candidate-Role congruence, the odds of receiving a job offer decreased by approximately 70%. This counterintuitive result implied that greater alignment with the ideal role profile did not necessarily enhance the chances of a candidate being offered the position.

Summary

This chapter provided a detailed analysis of results confirming that different aspects of P-E fit influenced a candidate's attractiveness in the hiring process, with some fit levels being more influential than others. For example, regarding Candidate-Team congruence (RQ1), values congruence was a strong predictor of job offers, along with Agreeableness and Openness, while interests' congruence had no significant effect on hiring decisions. When evaluating Candidate-Leader congruence as a predictor of hiring desirability (RQ2), only Conscientiousness congruence significantly influenced job offers, with mismatches reducing hiring desirability. Other traits and values were not significant. Surprisingly, higher Candidate-Role congruence (RQ3) had a negative effect on job offers, potentially due to perceptions of overqualification or concerns about turnover. The next chapter elaborates on how the findings of this study align with previous research on this topic, discuss the potential limitations of the study, and suggest how future research can address these shortcomings to contribute to the knowledge of the P-E fit domain. Possible implications for the field of I/O psychology are discussed, along with recommendations for I/O practitioners.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative study was to examine how P-E fit influences the hiring desirability of software engineers by investigating how the congruence between candidates' psychological characteristics (personality, values, and interests) and their work environments affects employers' hiring decisions. The study included a correlational design to examine how the alignment between a candidate's traits and the work environment predicts their desirability in the hiring process. This research addressed the growing importance of aligning candidates with organizational culture and team dynamics, which is becoming increasingly important in recruitment. Although traditional practices focused on job requirements, there has been a shift toward evaluating candidates' fit within the broader work environment. Existing research often evaluated fit posthiring or relied on subjective perceptions of fit. The current study contributed to the field by investigating how latent measures of P-E fit predict employers' hiring preferences, helping to improve recruitment practices.

The results showed that different aspects of the work environment (team, leader, and role) influenced the hiring desirability of software engineers. Each level had specific facets that contributed to explaining the relationship between variables. For example, the Agreeableness and Openness congruence between candidates and teams (RQ1) were strong predictors of job offers, while interests' congruence had no significant impact. In Candidate-Leader congruence (RQ2), only Conscientiousness alignment significantly affected hiring decisions, with mismatches decreasing desirability. Higher Candidate-

Role congruence (RQ3) also significantly influenced job offers, with greater alignment increasing the likelihood of receiving an offer.

Interpretation of the Findings

Findings of this study confirm the rationale that different aspects of P-E fit affect the perception of attractiveness of a candidate in the recruitment process from the employer's perspective. This aligns with the work of Kristof-Brown et al. (2005), who posited that P-E fit is a critical determinant of organizational outcomes, including recruitment and retention. Also, study findings confirmed the assumptions that not all fit levels are equally important for potential positive recruitment outcomes.

RQ1

The logistic regression analysis revealed that Candidate-Team congruence is a significant predictor of hiring desirability for software engineers. Specifically, values congruence emerged as a strong positive predictor, indicating that alignment in values between the candidate and the team significantly increases the chances of receiving a job offer. This finding aligns with the existing literature (Judge & Cable, 1997; Kristof-Brown et al., 2005) that emphasized the importance of cultural fit in hiring decisions. According to Armitage and Amar (2021), the more newcomers feel connected to the rest of their team, the greater the likelihood that they will stay with the organization. Additionally, values have been shown to be one of the strongest determinants of organizational culture (Judge & Cable, 1997; van Vianen, 2018).

Regarding personality traits, Agreeableness and Openness congruence were found to be significant predictors. Greater similarity in these personality traits between the candidate and the team were associated with increased likelihood of receiving a job offer. These findings align well with the “fitting in” concept from the literature, which suggested that personality congruence with the team is important for an employee to develop a sense of belonging, which in turn decreases their intentions to leave the organization (De Cooman et al., 2009; Vogel et al., 2016). Personality traits related to socialization and interactions with others, such as Agreeableness and Openness, are more likely to positively influence this construct.

Interests congruence did not show a significant effect, suggesting that although interests may be important for job satisfaction and performance, they might not be as crucial in the initial hiring decision. Although previous research found a relationship between Candidate-Team interest congruence and positive organizational outcomes (Kristof-Brown et al., 2005), the differing findings and lack of such a relationship in the current study could be attributed to the relatively narrow population evaluated, whose interests may have already been somewhat aligned. Additionally, it may be that similarity in interests among team members plays a less significant role in the prehiring stage compared to the posthiring context (Barrick & Parks-Leduc, 2019).

RQ2

The analysis of Candidate-Leader congruence revealed a more limited predictive power. Conscientiousness congruence emerged as the only significant predictor, with higher differences in this trait leading to a decreased likelihood of a job offer. This suggests that leaders may prefer candidates who share their level of conscientiousness, possibly due to the importance of reliability and work ethic in the software engineering role. In many previous studies, conscientiousness had been shown to be a relevant predictor of work performance (Su et al., 2015). Therefore, it is possible that leaders significantly value the similarity in conscientiousness levels between themselves and new employees. Values congruence and personality traits other than Conscientiousness did not show significant effects, indicating that the relationship between these factors and hiring desirability might be more complex or less influential in the context of Candidate-Leader congruence. Contrary to previous research findings (Kristof-Brown et al., 2005; van Vianen & De Dreu, 2001), the current study did not confirm that Person-Leader fit is one of the strongest predictors of overall P-E fit and positive employee outcomes. This discrepancy opens the door for further investigation into the topic and a deeper understanding of the likely more complex relationship between employees and their superiors (Barrick & Parks-Leduc, 2019).

RQ3

Contrary to previous research (De Crom & Rothmann, 2018; Kim et al., 2020; Park, 2019), Candidate-Role congruence was shown to have a negative effect on the hiring desirability of software engineers. This implies that higher congruence between a candidate’s profile and the ideal role profile is associated with a lower likelihood of receiving a job offer. This counterintuitive finding could be explained with the context of this study, where candidates who participated in the recruitment process were preselected by expressing their interest to participate in the recruitment process. This assumption can be justified by the Attraction aspect of the ASA model (Schneider, 1987), which claims that candidates are more likely to be attracted by companies who share similar characteristics to theirs and will be less attracted by those with which they do not share similar characteristics. From the other perspective, these unexpected findings can be explained in the broader context of the organizational culture. Candidates who closely align with the ideal role might be perceived as overqualified, leading to concerns about potential dissatisfaction or turnover. The organizational culture and hiring practices might favor candidates who demonstrate a certain level of mismatch with the ideal role, perhaps to ensure a balance of skills and perspectives within the team. In fit theory, this is often referred to as complementary fit (Muchinsky & Monahan, 1987).

Limitations of the Study

First and foremost, the nature of the dependent variable (a dichotomous variable indicating whether an offer was extended to the candidate) limited the range of possible statistical tests that could be conducted in this study (e.g., polynomial regression). Although previous research (Yang et al., 2008) suggested that advanced statistical methods, such as polynomial regression analysis or regression analysis with splines, could explain the (potentially nonlinear) relationship between congruence variables and the dependent variable, the dichotomous nature of the dependent variable restricted the statistical power of the findings to binary logistic regression. Unfortunately, the secondary data collected contained only information about whether the offer was extended to the candidate. The data set did not include information on whether the candidate accepted the offer or whether the candidate perceived the employer to be equally attractive as the employer rated the candidate. Although the type of data collected was limited, this research offered a unique perspective on evaluating fit in the prehiring scenario, as most available literature (Kristof-Brown et al., 2005; Schneider, 1987; van Vianen, 2018; Vogel et al., 2016) had focused on evaluating P-E fit among candidates who were hired and/or had already accepted a job offer.

Regarding the quality of the data set, it is worth noting that the operationalization of environmental elements was, in some cases, inadequate. For example, in some recruitment processes, the team level consisted of only two peer profiles (personality, values, and interests). As a result, some of the aggregated team profiles may not have accurately represented the peer dimension of the environment. On the other hand, it is possible that individuals administering these recruitment processes intentionally selected those employees to represent the team element of the environment, possibly because they were the most relevant representatives of the team, the most successful ones, or the ones the company intended to retain, and therefore served as a valuable reference point. Although cases where certain elements of the environment (role, team, or superior) were missing were excluded from further analysis, it is possible that the missing data decreased the accuracy of the overall regression model because there were fewer available evaluation points. As seen in the results in Chapter 4, the evaluated data set was quite imbalanced, with significantly fewer candidates receiving job offers compared to those who were rejected. This imbalance made it more challenging for the model to accurately predict cases in which a job offer was extended to a candidate.

In terms of construct operationalization, several limitations are acknowledged. For personality-related variables, congruence was operationalized as the difference between the scores of an individual and the corresponding environmental element (using standardized and absolute values). On the other hand, variables related to interests and values were operationalized as the level of similarity between the two profiles (candidate and corresponding environmental element). As seen in this case, the two types of variables differed in direction (positive vs. negative) and in the type of operationalization (congruence of each personality trait was calculated individually, while interests and values were calculated based on profile similarity). The interpretation of the findings from such a regression model may not be entirely intuitive and could be challenging to interpret. Additionally, this might reduce the power of the overall regression model because some constructs (e.g., personality) were more saturated than others (e.g., interests, values), leading to greater penalties for differences in personality traits than for differences in values or interests, even though it is unclear whether this reflects reality. For example, it is not fully known whether differences in each personality dimension are more important for hiring desirability than differences in other traits (e.g., specific interests or values). These differences in approach stem from how these constructs (personality, interests, values) were operationalized in previous research (Barrick & Parks-Leduc, 2019; De Cooman et al., 2009; Edwards, 1991; Kristof-Brown et al., 2023; Lowman et al., 2024; Piasentin & Chapman, 2006; Santos & De Domenico, 2015; Zhang et al., 2023). No concrete information was found regarding whether a specific value or interest was shown to be more relevant than another in P-E fit research, whereas for personality dimensions, previous research (Abdalla et al, 2017; Huang et al., 2019; Kristof-Brown et al., 2005; Pattnaik et al., 2020) indicated that certain personality traits are more relevant than others in P-E fit research.

Another limitation of this study related to the construction of personality congruence variables was the use of absolute scores. Although the literature (Edwards & Billsberry, 2010) suggested this is an appropriate method to operationalize congruence between variables, it does not account for the direction of the differences between variables. Despite this, some literature (Bohndick et al., 2022) claimed that the direction of differences is an important aspect of P-E fit evaluation because it reveals preferences among different elements of the environment (e.g., highly extroverted managers may prefer working with less extroverted subordinates, while peers may prefer similarly extroverted coworkers). For interests and values congruence variables, the profile similarity method was used to construct the congruence variables. These variables were created from individual results on values and interests questionnaires. Although most previous literature (Hogan & Roberts, 2000; Holland, 1997; Muchinsky & Monahan, 1987) used the same technique to assess congruence levels for these constructs, applying this method likely resulted in some data loss due to the conversion from one scale of measurement to another (from interval to ordinal).

The current study involved a very narrow population of candidates from the labor market (only candidates who participated in selection processes for software engineering roles), and the study used data from a very narrow location (recruitment processes that took place across the South Eastern and Central European market). Therefore, it is questionable whether findings of this study could be generalizable to other cultures (non-Western cultures) or to other vocations (outside of the information technology industry). Also, there was no sociodemographic information on the participants who participated in those recruitment processes. Therefore, some other variables (e.g. sex, race, level of education) could have influenced the relationship between the evaluated variables or could have explained the relationship of the variables better.

Another limitation of this study was related to predictive power of the study findings. As seen in study findings in Chapter 4, all effect sizes were rather small. One possible explanation of this is related to the structure of the sample size. All candidates who participated in the recruitment processes were already preselected in a way that they already expressed interest in a particular employer and vacancy to be able to enter the selection process. Therefore, the sample size was narrower than it would naturally be if the sample involved random selection of candidates from the labor market. Although big enough for interpretation, the sample size was rather small and narrow in the type of participants involved. Should the sample include a wider population of candidates from the labor market, the effect sizes might be different, and the P-E fit construct might explain different variance of candidate desirability among employers. However, for random selection of candidates in the labor market, no information on their psychological aspects was available, so this type of study was not feasible.

Recommendations

Even though this study provided valuable information regarding factors that influence the perception of fit in recruitment scenarios, it was not without its limitations. To address some of these shortcomings, future research could focus on applying different statistical methods to better understand the relationships among variables. Additionally, other variables could be considered to further explore their influence on the proposed regression model.

This study sheds light on P-E fit as a promising construct in explaining recruitment decisions but still requires more empirical research, especially in prehiring scenarios. As noted, many of the included variables did not significantly contribute to explaining the DV. For future research, one possible direction could involve using different statistical methods to interpret results. Instead of interpreting differences between scores as a congruence measure, future research could focus on measuring squared difference scores as a measure of congruence. With this approach, greater differences in scores would be penalized more, allowing for a more nuanced assessment of what (and to what extent) influenced hiring decisions. Another potential direction for future research could involve exploring variables that moderated or mediated the relationship between the variables already included. As mentioned earlier, sociodemographic characteristics were not available in the evaluated dataset. Therefore, it would be interesting to explore how variables such as gender, education level, vocation, years of professional experience, etc., influence the perception of hiring desirability among software engineers.

The current study highlighted several methodological challenges that have been noted by other researchers (Bohndick et al., 2022; Zhang et al., 2023). In the current study, congruence variables were constructed as levels of similarity or differences between a candidate and a corresponding aspect of the environment. However, no information was available regarding the direction of these differences (e.g., whether a candidate's results were lower and how that affected the outcome on the dependent variable). Future research should apply different statistical methods (e.g., polynomial regression analysis or regression analysis with splines) to more accurately evaluate the relationships among the variables. A limitation of the current study was the type of DV, which prevented such statistical analysis. Future research should also consider measuring the dependent variable on a more statistically significant scale (e.g., interval) or expanding the DV to posthiring scenarios (e.g., assessing how fit influences retention, satisfaction, engagement, commitment, etc.) or assessing the candidate's perspective (e.g., how appealing the candidate rated the employer). Regarding the independent variables of interests and values congruence, profile similarity, which was used to assess congruence, could have been replaced with a more powerful method. In the current study, a significant amount of in-depth information was lost about the structure of values and interest congruence due to the chosen method of calculating fit.

Although all regression models in the current study were significant, the effect sizes were rather small. To increase the amount of variance explained by the model, it would be advisable to include other predictor variables that have been proven to be relevant to recruitment decisions, such as skills, knowledge, experience, etc. (Barrick & Parks-Leduc, 2019; Kristof-Brown et al., 2023; Lowman et al., 2024; Zhang et al., 2023). Additionally, to increase model stability and ease of interpretation, it would be helpful to normalize the variables included in the regression models. Although congruence in the current study was calculated based on normalized individual results, the distribution of the constructed congruence variables was not normalized.

Future research should also address the generalizability of the findings. While the current study provided valuable insight for the information technology industry, it would be advisable to investigate whether the findings are similar when applied to different samples (e.g., different vocations, physical locations, etc.). Given that the construct of P-E fit has its roots in organizational culture, it would also be relevant to explore its broader applicability to different societal cultures. In this regard, further exploration of what constitutes the environment and to what extent it is relevant to different types of populations is crucial for a deeper understanding of the P-E fit construct. Understanding whether the relevance of each IV is equally important for different subgroups would provide a more nuanced understanding of how and why hiring decisions are made. Lastly, to enhance the predictive power of the research findings, future studies should consider using larger sample sizes than those in the current study.

Implications

Findings of the current study have implications for both organizations and job seekers. Organizations can use these results to refine their hiring strategies and selection criteria, focusing on values alignment and considering the potential drawbacks of excessive congruence with the ideal role. Job seekers can benefit from understanding the importance of values congruence and the potential complexities of aligning too closely with the ideal role. Moreover, this research offers a deeper understanding of how environmental elements in the P-E fit framework operate within the recruitment process. By exploring the relative importance of different environmental factors (such as the fit with a supervisor versus the fit with a team) the current study provides a foundation for future research to better weigh the significance of each element.

Besides the relevant implications for the I/O professionals, findings of the current study can influence future work in the emerging area of utilizing cutting-edge technologies in recruitment practices. The rapid development of Machine Learning and Artificial Intelligence tools in recent years has revolutionized various fields, including human resources and recruitment. The findings of the current study can play an essential role in the further development of machine learning models aimed at understanding decision making processes in selection and recruitment. Given that many machine learning models are based on regression techniques, research such as this one provided valuable insights into how different variables influence hiring decisions. The results of the current study may contribute to refining machine learning algorithms, enabling them to better capture the complex dynamics of decision making in recruitment processes.

The relevance of fit in recruitment extends beyond the hiring process itself. It is a critical determinant of a team's and an organization's future success. A good fit between a candidate and their work environment is linked to higher levels of employee satisfaction, engagement, retention, and performance (Kristof-Brown et al., 2005). Thus, the current study not only contributed to the academic understanding of recruitment processes but also has practical implications for organizations aiming to optimize their selection practices to ensure long term success and stability.

Conclusion

This study tried to add to the knowledge in understanding how P-E fit influenced candidate's employability perception and subsequently impacted their work outcomes. These research findings could benefit employers by facilitating the creation of more successful businesses through a well aligned workforce. Effective organizational development hinges on making sound decisions at the very start of a candidate's journey with the organization. If poor hiring choices were made, the repercussions are far-reaching and detrimental. Wrong hiring decisions not only compromise the immediate quality of work but also have a multiplying negative effect on the organization's potential for long term success. These missteps can lead to decreased employee morale, increased turnover rates, and higher training and development costs. Therefore, investing in a robust and thorough hiring process is crucial for fostering a productive, engaged, and stable workforce that can drive the organization towards its strategic goals. The current study brings attention to factors beyond skills and experience that impact recruitment decisions and deserve further exploration.

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