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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

FACTORS AFFECTING LOCATION-BASED CAREER PLANNING OF FREELANCE EMPLOYEES: AN ASYMMETRIC ANALYSIS BY OECD MEMBER COUNTRIES

FREELANCE ÇALIŞANLARIN LOKASYONA DAYALI KARİYER PLANLAMASINDA ETKİLİ OLAN FAKTÖRLER: OECD ÜYE ÜLKELERİNE GÖRE ASİMETRİK ANALİZ

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ABSTRACT

The growing interest in freelancing after the 1980s has led to the need to deepen the academic scope. Although there are various studies on freelancing, location-based studies have remained at a basic level. The study aims to identify the factors affecting the location-based career planning of freelancers in the context of OECD countries. In this context, the methodology of the research is a theoretical comparative qualitative analysis based on asymmetric analysis (Fuzzy Set QCA). The adequacy/requirements, configurations and country-specific clusters of effective conditions suitable for self-employment are revealed. According to the research findings, while all variables are found to be sufficient for the freelancing score in a singular sense, the absence of demand for freelancers reveals the absence of demand for the freelancing score as an absolute requirement. Based on the configuration results, specific results are found that could potentially suggest a model for freelancing status (FS) and non-freelancing status (~FS) of countries. Ultimately, the findings are instrumental in identifying the most favorable conditions and countries for freelancers. In this way, the research enables employees to plan their careers by taking into account the conditions that they deem important for them individually.

Keywords: Freelancer, OECD, Career Planning, FsQCA, Asymmetric Analysis.

JEL Classification Codes: F66, J01, O15.

ÖZ

1980'lerden sonra serbest çalışmaya artan ilgi, akademik kapsamın derinleştirilmesi ihtiyacını doğurmuştur. Serbest çalışma konusunda çeşitli çalışmalar olmasına rağmen lokasyon bazlı çalışmalar temel düzeyde kalmıştır. Araştırma, OECD ülkeleri bağlamında serbest çalışanların lokasyon bazlı kariyer planlaması yapmalarına etki eden faktörleri belirlemeyi amaçlamaktadır. Bu bağlamda araştırmanın yöntemi asimetrik analize (Bulanık Küme KKA) dayalı teorik karşılaştırmalı nitel analiz olarak belirlenmiştir. Serbest çalışmaya uygun etkin koşulların yeterliliği/gereklilikleri, konfigürasyonları ve ülkeye özgü kümelenmeleri ortaya konulmaktadır. Araştırma bulgularına göre, tüm değişkenlerin tekil anlamda freelance skoru için yeterli olduğu belirlenirken; freelance çalışanlara yönelik talebin olmaması, mutlak bir gereklilik olarak freelance skoru için talebin olmamasını ortaya koymaktadır. Konfigürasyon sonuçlarına göre, ülkelerin serbest çalışma durumu (FS) ve serbest çalışmama durumu (~FS) için potansiyel bir model önerisi oluşturabilecek spesifik sonuçlar bulunmuştur. Nihayetinde bulgular, serbest çalışanlar için en uygun koşulların ve ülkelerin belirlenmesinde etkili olmaktadır. Bu sayede araştırma, çalışanların bireysel anlamda önemli gördükleri koşulları dikkate alarak kariyer planlaması yapabilmelerine olanak sağlamaktadır.

Anahtar Kelimeler: Freelancer, OECD, Kariyer Planlama, FsQCA, Asimetrik Analiz.

JEL Sınıflandırma Kodları: F66, J01, O15.

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GENİŞLETİLMİŞ ÖZET

Amaç ve Kapsam:
Küreselleşmenin yoğunlaştığı dünya düzeninde sosyo-ekonomik yapıda dönüşüm kaçınılmaz olmuştur. Bu durumun en önemli yansımalarından birisi de işgücü piyasasına etkileri olmuştur. İşgücü piyasasındaki birincil etki işgücünün kendi yapısına yöneliktir. Geleneksel işgücü yapısından esnek çalışan bileşenlerine geçiş yapılmıştır. Bu durum freelance, gig, altın yakalı gibi kavramların iç içe geçmesine etki ederek esnek çalışma tiplerinin somut olarak derinlik kazanmasına olanak tanımıştır. 80'li yıllardan sonra akademik ve uygulamaya yönelik eğilim yaşanan İnsan Kaynakları Yönetimi anlayışında yer alan klasik kariyer gelişim süreçlerinin de farklılaşmasına etken olmuştur. Öyle ki freelance çalışan tipleri için çalışmanın lokasyon ile bağımsızlık kazanması, bireylere olan değeri artırmıştır. Araştırmanın amacı, güncel ve geleceğin işgücü yapısının değerli tezahürü olan freelance çalışanların OECD ülkeleri lokasyonu bazlı kariyer planlamalarında etkili faktörlerin belirlenmesidir. Bu faktörler küme-teorik bağlamda ülkelerin kendine özgü etkenlerin belirleyeceliğini ortaya çıkarmaktadır. Böylelikle OECD ülkeleri bağlamında freelancerlar kendilerini cezbedecek faktörlere göre lokasyona dayalı kariyer planlaması yapabilmesine olanak tanınmaktadır. Freelance çalışma biçimine uygunluğunun somut yansıması "Freelance Skor" için koşul değişkenlerin gereklilik/yeterlilikleri ve ülkelerin kendine özgü gruplandırılması yapılmaktadır. Akademik literatürde freelance çalışanlara yönelik araştırmalara ilgilerin henüz artış göstermesine rağmen freelance çalışmaya uygun lokasyona dayalı araştırmalar oldukça sınırlıdır. Literatürdeki ihtiyaç göz önüne alınarak araştırmanın freelance çalışanlar için kariyer planlamalarında yol gösterici olabileceği düşünülmektedir. Araştırmanın hipotezi: OECD ülkeleri bağlamında freelance çalışma koşulları farklı değişken kombinasyonlar ile ortaya çıkmaktadır.

Yöntem:
Toplumsal yapının sürdürülebilirliği açısından önemli olan koşulların sonuç üzerindeki etkisi değerlendirilerek toplumsal dengenin sağlanması için araştırmada işlevselci paradigma benimsenmiştir. Araştırma verileri, Tipalti tarafından paylaşılan Freelance çalışmaya uygun (Freelance Skor-FS) olduğu düşünülen nedensel koşulların (Serbest Meslek Sahibi Kişi Sayısı-NSEP, Yaşam Maliyeti-CLM, Ortak Çalışma Alanları-NCS, Ortalama Geniş Bant Hızı-ABS, Ortalama Geniş Bant Fiyatı-ABF, Ortalam Mobil Hız-AMS, Yıllık Çalışan Araması-AS) ülkelere özgü değerlendirilmesi yapılmıştır. Nedensel koşulların sonuç üzerindeki değerlendirmeleri genellikle regresyon temelli simetrik araştırma tekniklerine dayanmasına karşın bu yöntem asimetrik ilişkinin belirlenmesinde etkisiz kalmaktadır. FS değerlendirmelerin varlığı ile birlikte FS yokluğunun değerlendirmeleri yapılması literatür eksikliğini gidermesi açısından gereklidir. Hem simetrik hem asimetrik boyutları değerlendirmek için araştırmada bulanık küme nitel karşılaştırmalı analiz (FSQCA) tekniği kullanılmıştır. Bahsedilen simetrik-asimetrik analiz yapılabilmesi için öncelikle değişkenlerin çeşitli nitelikteki ham veri kalibrasyonu yapılmaktadır. Böylelikle 0.05 ile 0.95 aralığında tek tip veriler oluşturularak analize hazır hale getirilmektedir. Ardından FS'nin varlığı ve yokluğun için bahsedilen koşulların varlığını ve yokluğunun gereklilik-yeterlilikleri ortaya çıkarılmaktadır.

Bulgular:
Ham verilerin kalibrasyonu işleminden elde edilen tek tip veriler ile öncelikle gereklilik ve yeterlilik analizi yapılmıştır. Kapsam değeri, teorik ve araştırmanın pratik etkileri bağlamında sonuç değişken için yeterli veya gerekliliğine yönelik çıkarım sağlar. Buna göre ~NCS, ~CLM ve ~ABP gibi koşulların FS için gereklilik değerine yakın olabildiği anca yine de tüm faktörlerin tutarlılığının 0.90 değerinin üzerinde yer almadığı gözetilerek gerekli olmadığı belirlenmiştir. Ancak bu durum araştırma için endişe teşkil etmemektedir. Önemli olan diğer bir durum yeterlilik aşamasıdır. Öte yandan tüm değişkenler için kapsam oranının 0.50 değeri üzerinde yer aldığı görülerek tüm koşulların FS için yeterli olduğu belirlenmiştir. Asimetrik yaklaşımın karşılığı olarak ortaya çıkan diğer bir bulgu, ~FS için ~AS'nin gerekli bir nedensel koşul olduğu ve ~NSEP'nin gerekli olmaya yakın olduğudur. Diğer taraftan, ~FS için tüm koşulların yeterli olduğu tespit edilmiştir. İkinci aşama olan doğruluk tablosu analiz sonuçlarına göre; FS için toplamda 128, ~FS için de 128 olası kombinasyon söz konusudur. Mantıksal minimizasyon işlemi uygulanarak algoritmada 1'den küçük satır genişliklerinin sayısı silinmiş ve satırlar 0,8'e eşit veya daha büyük olacak şekilde işlenmiştir. FS için 18 kombinasyon ve ~FS için 18 kombinasyon elde edilmiştir. Doğruluk tablosu, AS ve ABS'nin varlığının birçok kombinasyonda FS'nin varlığının en yaygın nedeni olduğunu göstermektedir. NCS'nin bulunmadığı birçok kombinasyonda FS'nin varlığı göze çarpmaktadır. Öte yandan, ~FS için, ~NSEP ve ~AS'nin çoğu kombinasyonda mevcut olduğu görülmektedir. Mantıksal minimizasyon işleminden sonra ortaya çıkan konfigürasyonlara göre genel içgörü elde edilmesi için ara çözümlerden bulgular yorumlanmıştır. İlgili bulgulara göre çözüm tutarlılık değeri 0.75'in eşik değerinin üzerinde yer alması modelin iyi tasarlandığı, iyi açıklanabilir olduğu ve koşul değişkenlerin sonuç değişkende bir alt kümede yer alma derecesini ifade etmektedir. Ayrıca çözüm kapsam değeri ise 0,25 üzerinde olduğu durumlar için koşul değişkenlerin sonuç değişken içerisindeki üyelik oranı uygun olarak ifade edilmektedir. FS ve ~FS için çözüm tutarlılığı uygun eşik değerin üzerinde hesaplanmıştır. Koşul değişkenlerin sonuç değişkenleri uygun tutarlılık ve açıklama gücüne sahip olduğu anlamına gelmektedir. Kapsam oranına göre nedensel koşulların %77,25 oranında FS sonuç değişkenini kapsadığı görülmektedir. Nedensel koşulların %76,43 oranında ~FS sonuç değişkenini kapsadığı belirlenmiştir. Bu bulgular, nedensel koşulların sonuç değişkenler için oldukça iyi biçimde kombinasyonlandığını ifade etmektedir. OECD ülkeleri bağlamında ortaya çıkan FsQCA bulgularına göre Freelancer Skor'un varlığı veya yokluğuna dair sonuçlar değişim göstermektedir. Bu durum freelancer çalışanları genellemenin ötesinde ülkelere dair yerel çıkarımlar yapılmasına da olanak tanımaktadır.

Sonuç ve Tartışma:
FsQCA için nedensel koşulların varlığının/yokluğunun sonuç değişkeninin varlığını/yokluğunu açıklama oranı eşik değerin üzerinde olduğu bulgulanmıştır. Bu sebeple birinci ve ikinci safhada öngörülen modelin iyi tasarlandığını ve iyi açıklanabilir seviyesinde olduğunu kanıtlamış bulunmaktayız. Küme teorik bağlamda vakalar/ülkeler için ayrı ayrı freelance çalışmaya uygun koşulları oluşturulmasında etkili koşulların kombinasyonları ortaya çıkarılmıştır. Araştırma OECD üye ülkeleri özelinde incelenmiş olup gelecek çalışmalarla ülke bağlamı genişletilmeli ve böylelikle bulgularının geçerliliği test edilmelidir. Ortaya çıkan her konfigürasyon, ülkeler özelinde test edilmeye hazır varsayımsal modeli kapsamaktadır. Gelecek çalışmalarda konfigürasyon sonuçları dikkate alınarak vakaların/ülkelerin/bölgelerin/küreselin kendine has durumları ile tartışmalar ve değerlendirmeler yapılmalıdır.

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1. INTRODUCTION

The changing work structure and the increasing demand for freelancing raise the question: is the traditional career structure becoming rare (Van den Born & Van Witteloostuijn, 2013). In response, it is argued that traditional career development has not ended but is no longer taboo for a significant number of people in the new/transforming workforce structure (Baruch, 2006). The emergence of a wide variety of working arrangements now reveals a career protean structure that is shaped around the individual rather than the organization (Ghosh, 2023). In the post-modern era, many authors have emphasized the individuality of workers, describing them as freelancers who rent their skills to organizations, and the responsibility for their careers increasingly lies with the employee (Raabe et al., 2007; Kirkpatrick & Hoque, 2006). Rather than traditional hierarchical organizational career management, digital work allows freelancers the opportunity for self-determination through online, flexible and remote project-based work (Greenhaus et al., 2008). Location, which is one of the most important factors of self-determination, can be effective in enabling freelancers to act in line with their expectations.

The research enables freelancers to make self-determination and location-based career planning according to the factors that will attract them in the context of OECD countries. For this purpose, the research was conducted with a comparative qualitative analysis technique in a cluster theoretical context. As an alternative approach that can overcome the shortcomings of symmetric analysis, asymmetric analysis is used to interpret not only the suitability of freelancing conditions but also the unsuitability of freelancing conditions. A case-based cluster theoretical analysis was conducted. Local configuration findings are shared in the context of OECD countries by determining the sufficiency/requirements of causal conditions in a singular sense. For the career planning that can be made for freelancers based on location, clustering was made according to the factors specific to each country. Considering the need for research on the subject in the academic literature, it is thought that the research can be a guide for freelancers in their country selection and career planning based on this.

2. LITERATURE REVIEW AND HYPOTHESIS

In order to evaluate the favorable conditions for freelancing in a cluster theoretical context, the linkages with relevant variables are revealed. First of all, the OECD's original definition of self-employment rate (NSEP) is defined as the employment of employers, self-employed, producers, entrepreneurial spirits who want to be their own boss, company partners or unpaid family workers (OECD, 2016). Self-employed individuals are categorized into many different fields as well as in the category of freelance work (Cieślik & Dvouletý, 2019). Over the last decade, the occupational components of self-employment have changed, with a predominance of white and gold-collar workers for more specialized intellectual and technical services (Milasi & Mitra, 2022). The self-employed workforce can engage in both service-technical work and highly skilled freelancing (Burke, 2015).

Cost of living (CLM); real livable income is the amount of cost required for basic needs such as housing, food, education, health, etc. for a certain level of comfort (Neal, 2022). Many factors such as high inflation, low real income, rising food prices and energy bills contribute to the rise in the cost of living (Lokshin et al., 2023, p. 2). As a result of Economist Intelligence's (2022) research on the cost of living in the global context, prices for the world's largest cities increased by 8.1% on average in local currency terms, and factors such as the current impact of the Covid-19 pandemic and global wars were cited as factors in the increase in the cost of living. This global imbalance causes fluctuations and the balance between the income and expenses of freelancers is disrupted, and workers face exploitation in their jobs due to their financial concerns (Enriquez, 2020).

Coworking spaces (NCS) are shared spaces where freelancers work on an individual basis, with private desks and work-related infrastructure services (Osdoro, 2022). According to a joint report by Coworking Resources and Coworker (2020), the number of coworking spaces worldwide is expected to exceed 40,000 by 2024, with a 2.5-fold increase from 2018, the first data year, to 2024. In the same report, the number of employees is expected to increase more than 2.5 times between 2018 and 2024. As coworking spaces are more flexible and efficient than office leasing, they are expected to be a global trend (Roth & Mirchandani, 2016). The continuous increase in the demand for coworking spaces has been a factor in the increase in the tendency towards this area in the academic literature. Coworking spaces for freelancers are reflected as a collective manifestation of a trusting social network based on promotion and respect (Gandini & Gandini, 2016). Zhao et al. (2020) conducted a structured interview study in Australia and found that coworking spaces increase the incentive for freelancing and entrepreneurship, and contribute to social-cultural interaction, urban mobility and sustainability.

Broadband access (ABS) is seen as a factor that accelerates global networks and increases efficiency (Pilat, 2003). Speed is the most important quality criterion for broadband service, which completely affects user behavior, marketing, network traffic and the way of working through the Internet (Bauer et al., 2010). Especially in countries such as North America and Europe, where freelancers are concentrated, the most important working infrastructure is broadband speed, which has a significant impact on employment growth and economic growth (Mettler & Williams, 2011, p. 20). Broadband price (ABP) is broadly defined as the key priority affecting labor market transformation and economic and social growth in the 21st century (ITU, 2012). Broadband price is characterized as the contractual fee paid by broadband providers for the Internet access support they offer (Thiele, 2023). According to the telecom expert Uswitch.com, decisions to increase the price of broadband for information technology have been paired with a cost of living crisis for the self-employed (Staff Reporter, 2022).

It is familiar that the usage and traffic of mobile networks (MNs) has grown tremendously in recent years. With the increasing importance of mobile networks and traffic, there is a need for a better understanding of the basic characteristics of networks and services (Midoglu, 2018). Poor speed on mobile devices, where all the information and transactions in the world can take place, can lead to poor user experience. In Li and Lyons' (2012) study, the spread of mobile speed and its impact on social life was found to have increased from 2% of the population to 97% over a 16-year period, and labor productivity was also emphasized.

The key role for freelancing is to accommodate online networked freelancing, which accommodates demand (AS) and offer (Gheorghe, 2015, p. 1474). In this market, annual searches reveal searches for freelancers in search engines and the demand for them. The demand for freelancers is broadcast through online networks and is globally competitive. According to the report conducted on Latin America and the Caribbean, the highest demand for freelance workers was in areas such as design, media, engineering, science, writing, translation, IT, software (Hilbert, 2020, p. 29). In the study conducted on the UK labor force survey, it was determined that the demand for freelancers is constantly increasing and the supply of freelancers is also experiencing an absolute increase (Kitching, 2015). Therefore, the demand for freelancers makes the tendency of employees towards the location/market usual.

Research Hypothesis: Different combinations of variables associated with freelancing work patterns emerge across OECD countries.

3. RESEARCH METHODOLOGY

Attention is paid to the power of the conditions evaluated for the continuity of the social structure to affect the results, and an approach is adopted to create social balance or reconstruct it for sustainable purposes (Brym & Lie, 2006). Thus, the functionalist paradigm was adopted in the research. In the functionalist paradigm, it contributes to sustainable socio-economic structure by making a rational assessment of current conditions with an objective perspective (Günbayı & Sorm, 2018).

3.1. Research Data

The variables of the study consist of a total of eight variables, one of which is an outcome variable and seven of which are condition variables. Although the data of the variables were obtained from separate databases, they evolved to give a uniform result within the scope of the analysis. Freelance Index/Score (FS), which is the outcome variable, is a data created by Tipalti company over the other seven condition variables and constitutes the conditions suitable for freelancing (Tipalti, 2024). On a scale of 0-10 points, it ranges from the worst to the best freelancing conditions. The closer to 10 points, the more favorable the conditions are for freelancing in the country.

Number of Self-Employed People (NSEP), which is one of the effective condition variables in the formation of the FS; An assessment was made based on the most recent data for 2021 for the FS created by Tipalti company. The main data source is the U.S. Census Bureau (2024) employment status criterion. The relevant data represents the intensity of self-employment. Based on self-employment data, it is possible to test the interest in freelancing. It represents the number of self-employed people in the country and is the number of self-employed people per 100,000 inhabitants. The higher the number, the higher the country's interest in self-employment (OECD, 2024). Another factor in FS formation is the cost of living data (CLM) for 2022. The test was conducted in the light of data from the World Population Review (2024). The cost of living is among the factors that positively or negatively affect the attractiveness of a country. The cost of living, calculated in dollars for countries, is the amount of money needed to determine the comfort level of housing, food, taxes, etc. In fact, since freelancers have a more flexible

employment structure, it is usual for them to prefer and migrate to places with low cost of living. Another factor is the number of coworking spaces in 2022 (NCS), which refers to the number of coworking spaces for freelancers and takes into account their rate per 100,000 people. Using data from Coworker (2024), the analysis was conducted according to the density of the number of coworking spaces. This density is a factor that can have positive or negative consequences for freelancers and guide their career planning, as it is the space of the nature of work. Another variable is the average broadband speed (ABS). In the light of the data obtained from the World Population Review (2024), it is assumed that internet speed, which is one of the main resources in the working conditions of freelancers, affects job availability. Indeed, considering that all freelancers conduct their work over the internet, the speed of the inter network is considered among the indispensable factors**.** Average Broadband Price (ABP) is considered as an effect that increases the cost of freelancers' working conditions. The research was conducted based on data from Cable (2024). This factor can affect the ease or difficulty in the way freelancers conduct business. As a matter of fact, it is a factor that increases the cost of living and can become important in the career planning process of employees. Another factor for FS formation is the average mobile speed (AMS). Data obtained from World Population Review (2024). It is an accelerating factor of the way workers do their work and can be considered as an attractive or repulsive factor in career planning. It corresponds to download speed in megabits per second and is related to the working conditions of freelancers. The final factor in FS formation is annual searches (AS), reflecting the demand for work for freelancers. The research was conducted on the basis of data from Ads Google (2024). Accordingly, searches for freelancers are reflected as an increase in demand. This can be an attractive factor in career planning.

3.2. Data Analysis of the Study

Linear symmetric methods based on regression are insufficient for researchers to identify asymmetric relationships between constructs (Diwanji, 2022). To address the asymmetric dimension, researchers are recommended to use fuzzy set qualitative comparative analysis (FSQCA) to determine the necessary and sufficient conditions for the outcome on both sides (presence/absence) and to obtain configurations (Gligor & Bozkurt, 2020). In the second phase of the research, the effect of causal conditions on the outcome variable is revealed with asymmetric contribution in the context of countries. This approach, which combines qualitative and quantitative research techniques, is based on the idea that the cluster-theoretic relationship is better defined than the correlation of causal conditions for the outcome (Ragin, 2009; Fiss, 2011). Thus, by analyzing the necessity/adequacy of condition variables for the outcome variable, combinations of effects for presence/absence are revealed in configuration analysis (Rihoux & Ragin, 2008).

Analyses can be conducted with the complementary effects of Pappas and Woodside's (2021) symmetric analysis (structural equation modeling) and symmetric-asymmetric analysis (FsQCA) techniques, especially for future research. In fact, in the research conducted by Rasoolimanesh et al. (2021), valuable insights by determining the structure scores of the nomological structure network with PLS-SEM and configurations with FsQCA proved that symmetric and asymmetric analyses absolutely support each other. In FsQCA, the analysis was conducted with a case-based approach. With FsQCA, a hybrid approach has been adopted in which configuration analysis within the framework of qualifications/requirements and which condition variable is effective for countries are determined.

3.3. Fuzzy Set Comparative Qualitative Analysis (FsQCA) Results

The research adopts the FsQCA technique to identify the configurations of causal contingent variables that affect the freelancer index. This technique has become popular because it helps to overcome the shortcomings of correlation-based research techniques to obtain reliable data (Gligor et al., 2022). The goal of this technique is to appropriately explain the patterns of events/phenomena investigated in the context of fuzzy set theory with causal conditions (Ragin, 2014). It is seen as a suitable method to obtain the findings of complex causal hypotheses with a limited number of cases (Muñoz & Kibler, 2016). Combining qualitative and quantitative methods, FsQCA helps to analyze the relationship between a large number of various factors and the outcome variable in various combinations (Gonçalves & Gaio, 2023). This technique allows both symmetric and asymmetric investigations with negative, neutral and positive values in possible configurations by revealing the requirements of the conditions (Bandara et al., 2021). FsQCA is an effective tool that is more prominent where classical research methods that include the effect of causal conditions are lacking (Papatheodorou & Pappas, 2017).

3.3.1. Calibration of Raw Data

In FsQCA, raw data are calibrated to obtain uniform data suitable for analysis. This process allows the analysis and evaluation of conditions in a theoretical context by performing a uniformization process for each data set (Schneider & Wagemann, 2012). Ragin's recommendations were carefully used for the calibration process. The calibration stage is an important process that affects the reliability of the research, and calibration is usually done by considering three thresholds (0.05-0.50-0.95) for raw values (Ragin, 2009). Table 1 presents the calibration thresholds and descriptive statistics of the raw values. The variables were adapted to uniform values to make them suitable for analysis.

Table 1. Calibration of Raw Data of Variables

Variables	Full Membership Threshold (0.95)	Average Value (0.50)	Full Membership Lower Limit Threshold (0.05)
NSEP	51308	15069.53571	852
CLM	2497	1379.642857	447
NCS	5	1.032142857	0.1
ABS	230	147.0178571	39.1
ABP	68.3	38.325	9.3
AMS	135.7	73.8	18.3
AS	1860	251.6764286	4.46
FS	6.3	5.007407407	3.5

NSEP: Number of Self-Emloyed People; **CLM:** Cost of Living (Monthly); **NCS:** Number of Coworking Spaces; **ABS:** Average Broadband Speed; **ABP:** Average Broadband Price; **AMS:** Average Mobile Speed; **AS:** Annual Searches; **FS:** Freelance Score

3.3.2. Necessity and Sufficiency Analysis

Configurational comparative methods are a suitable tool for identifying minimally necessary and sufficient conditions (Vis, 2012). In FsQCA, consistency and coverage values provide inferences about whether conditions are sufficient or necessary for the outcome variable in a theoretical and research context. The necessity of causal conditions (presence/absence) for the outcome variable (presence/absence) is determined when the consistency value is above the threshold value of 0.90 (Schneider et al., 2010). Whether the causal conditions are sufficient for the outcome is measured by a coverage value of 0.50 and above (Ragin, 2007).

Table 2. Necessity and Sufficiency Analysis of Causal Conditions for the Outcome Variable

Condition Variables		Consistency	Coverage		Consistency	Coverage
NSEP	Outcome Variable: FS	0.662543	0.856128	Outcome Variable: ~FS	0.444610	0.531084
~NSEP		0.637113	0.553763		0.879554	0.706690
CLM		0.511340	0.550703		0.787361	0.783864
~CLM		0.799313	0.802622		0.548699	0.509317
NCS		0.475601	0.683119		0.598513	0.794669
~NCS		0.857045	0.697818		0.761338	0.573027
ABS		0.715464	0.694000		0.643123	0.576667
~ABS		0.563574	0.630769		0.658736	0.681539
ABP		0.516838	0.541397		0.786617	0.761699
~ABP		0.772509	0.796598		0.526394	0.501772
AMS		0.588316	0.634074		0.692937	0.690370
~AMS		0.712715	0.715172		0.632714	0.586897
AS		0.479725	0.902975		0.298141	0.518758
~AS		0.744330	0.534287		0.944238	0.626542

NSEP: Number of Self-Emloyed People; **CLM:** Cost of Living (Monthly); **NCS:** Number of Coworking Spaces; **ABS:** Average Broadband Speed; **ABP:** Average Broadband Price; **AMS:** Average Mobile Speed; **AS:** Annual Searches; FS: Freelance Score

According to the findings shared in Table 2, it is seen that conditions such as ~NCS, ~CLM and ~ABP may be close to the requirement value for FS, but not all factors are required. On the other hand, the coverage ratio reveals that all conditions may be sufficient for FS. For ~FS, it is determined that ~AS is a necessary causal condition and ~NSEP is close to being necessary. On the other hand, it is determined that all conditions are sufficient for ~FS.

3.3.3. Truth Table Analysis and Logical Minimization

The truth table is an important tool for developing the minimization process invented using numerical methods and adapted by Ragin to social sciences (Duşa, 2019). Various combinations emerge according to the presence or absence of condition variables for the presence or absence of the outcome variable. In Pappas and Woodside's (2021) guideline, all possible combinations are of the form 2^n. In the study, there are 128 possible combinations for FS, 2^7 in total. Similarly, another 128 possible combinations occur for ~FS. Based on the suggestion of Chen and Tian (2022), in order to achieve logical minimization, the number of row widths less than 1 in the algorithm was deleted and the rows were processed to be equal to or greater than 0.8. 18 combinations were obtained for FS and 18 combinations were obtained for ~FS. In Table 3, the first five combinations for the presence and absence of FS are shared as representative.

Table 3. Accuracy Table

NSEP	CLM	NCS	ABS	ABP	AMS	AS	Countries	Raw Consist.	PRI Consist.	SYM Consist.
Outcome Variable: FS										
1	0	0	0	0	0	1	Brazil, Turkey, Colombia, Mexico	0.997727	0.99505	0.99505
1	0	1	1	0	0	1	Spain	0.995868	0.982759	0.982759
0	1	0	1	1	1	1	US	0.988304	0.949367	0.949367
0	1	0	1	0	1	1	France	0.986755	0.955555	0.955556
1	0	0	1	0	0	0	Poland, Chile	0.926	0.837004	0.837005
Outcome Variable: ~FS										
0	1	1	0	1	1	0	Australia	0.981273	0.9375	0.9375
0	0	0	0	1	1	0	Slovenia	0.97955	0.916667	0.916667
0	1	1	0	1	0	0	Belgium, Austria, Ireland	0.979167	0.931973	0.931973
0	1	0	0	0	1	0	Finland	0.970522	0.898438	0.898438
0	0	0	0	0	0	1	Italy	0.903655	0.532258	0.532258

NSEP: Number of Self-Emloyed People; **CLM:** Cost of Living (Monthly); **NCS:** Number of Coworking Spaces; **ABS:** Average Broadband Speed; **ABP:** Average Broadband Price; **AMS:** Average Mobile Speed; **AS:** Annual Searches; **FS:** Freelance Score

The truth table shows that the presence of AS and ABS is the most common reason for the presence of FS in many combinations. In many combinations where NCS is absent, the presence of FS stands out. On the other hand, for ~FS, ~NSEP and ~AS are found to be present in most combinations.

3.3.4. Configuration Findings

When the standard analysis in the FsQCA algorithm is performed in the truth table, various configuration results emerge. Fiss (2011) states that in the configuration analysis, stingy, intermediate and complex solutions are found and that intermediate or stingy solutions share more appropriate findings in order to obtain detailed and general insights. Similarly, the recommendation to apply an intermediate solution for fuzzy set analysis was followed (Ragin & Davey, 2014). Accordingly, Table 4 presents the findings of the intermediate solution to determine the causal conditional effects of FS and ~FS outcome variables in the context of countries. According to the relevant findings, the solution consistency value of 0.75 above the threshold value indicates that the model is well-designed, well-explained and the degree to which the conditional variables are included in a subset of the outcome variable (Sedita et al., 2022). In cases where the solution coverage value is above 0.25, the membership rate of the condition variables in the outcome variable is expressed as appropriate (Ragin, 2009).

Table 4. Configuration Analysis

Frequency Cutoff: 1	**Outcome variable: FS**		
Consistency Cutoff: 0.819578			
Configurations	**Raw Coverage**	**Unique Coverage**	**Consistency**
~CLM*~NCS*ABS*~ABP*~AMS*~AS	0.396564	0.0391752	0.88906
~NSEP*~CLM*~NCS*ABS*~AMS*~AS	0.391065	0	0.85822
~CLM*~NCS*~ABS*~ABP*~AMS*AS	0.316839	0.143643	0.933198
~NSEP*CLM*~NCS*ABS*~ABP*AMS	0.303093	0.0254295	0.836812
~NSEP*CLM*~NCS*ABS*AMS*AS	0.259106	0.0371134	0.989501
NSEP*~CLM*~NCS*~ABS*~ABP*AMS*~AS	0.250172	0.0350515	0.914573
NSEP*~CLM*NCS*ABS*~ABP*~AMS*AS	0.165636	0.00343645	0.995868
NSEP*CLM*NCS*ABS*ABP*AMS*~AS	0.268041	0.0453608	0.862832
Solution Coverage: 0.772509			
Solution Consistency: 0.859327			
Frequency Cutoff: 1	**Outcome variable: ~FS**		
Consistency cutoff: 0.829146			
Configurations	**Raw Coverage**	**Unique Coverage**	**Consistency**
~NSEP*CLM*~NCS*ABS*~ABP*~AS	0.356877	0.0282528	0.848057
~NSEP*CLM*~NCS*~ABP*AMS*~AS	0.35539	0.0104089	0.856631
~NSEP*CLM*NCS*~ABS*ABP*~AS	0.420074	0.0713754	0.982609
CLM*NCS*ABS*ABP*AMS*~AS	0.434201	0.00892192	0.857562
~NSEP*~CLM*~NCS*~ABS*~ABP*~AMS*AS	0.20223	0.0356877	0.903655
~NSEP*~CLM*~NCS*ABS*ABP*~AMS*~AS	0.33606	0.00817847	0.867562
NSEP*~CLM*~NCS*~ABS*~ABP*AMS*~AS	0.245353	0.0133829	0.829146
~NSEP*~CLM*~NCS*~ABS*ABP*AMS*~AS	0.356134	0.0133829	0.97955
~NSEP*CLM*~NCS*ABS*AMS*~AS	0.446097	0	0.860832
~NSEP*CLM*ABS*ABP*AMS*~AS	0.492193	0.00446093	0.873351
Solution Coverage: 0.764312			
Solution Consistency: 0.829032			

NSEP: Number of Self-Emloyed People; **CLM:** Cost of Living (Monthly); **NCS:** Number of Coworking Spaces; **ABS**: Average Broadband Speed; **ABP:** Average Broadband Price; **AMS:** Average Mobile Speed; **AS:** Annual Searches; **FS:** Freelance Score

According to the configuration findings; solution consistency for FS and ~FS is calculated above the appropriate threshold. It means that the conditional variables have appropriate consistency and explanatory power for the outcome variables. Causal conditions were found to be appropriate in terms of the degree to which they were included in the subset of outcome variables. According to the coverage rate, it is seen that 77.25% of the causal conditions cover the FS outcome variable. It was determined that 76.43% of the causal conditions covered the ~FS outcome variable. Finally, it was determined that the predicted causal conditions revealed the presence/absence of the outcome variable at an appropriate-high value.

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Table 5. Configuration Analysis Explanation

Configurations	Outcome variable: FS								Outcome variable: ~FS									
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9	10
NSEP		⊗		⊗	⊗	●	●	●	⊗	⊗	⊗		⊗	⊗	●	⊗	⊗	⊗
CLM	⊗	⊗	⊗	●	●	⊗	⊗	●	●	●	●	●	⊗	⊗	⊗	⊗	●	●
NCS	⊗	⊗	⊗	⊗	⊗	⊗	●	●	⊗	⊗	●	●	⊗	⊗	⊗	⊗	⊗	
ABS	●	●	⊗	●	●	⊗	●	●	●		⊗	●	⊗	●	⊗	⊗	●	●
ABP	⊗		⊗	⊗		⊗	⊗	●	⊗	⊗	●	●	⊗	●	⊗	●		●
AMS	⊗	⊗	⊗	●	●	●	⊗	●		●		●	⊗	⊗	●	●	●	●
AS	⊗	⊗	●		●	⊗	●	⊗	⊗	⊗	⊗	⊗	●	⊗	⊗	⊗	⊗	⊗

"●" that the condition, "⊗" condition does not exist, and the spaces left blank indicate that its presence or absence is not important.

The results show eight configurations for FS and ten configurations for ~FS and several countries. For FS, no more than two neutral variables are present in each configuration. The absence of the ABP condition variable affects FS more intensely than its presence. The presence of ABS affects the outcome variable more dominantly than its absence. Apart from that, the presence and absence of conditional variables vary across country contexts. For ~FS, the absence of NSEP and AS is found to have significantly more impact than its presence. All other condition variables are found to vary across countries.

Table 6. Countries in the Configuration (Subset) for FS

The Freelancer Index							
~CLM*~NCS*ABS*~ABP*~AMS*~AS	**~NSEP*~CLM*~NCS*ABS*~AMS*~AS**	**~CLM*~NCS*~ABS*~ABP*~AMS*AS**	**~NSEP*CLM*~NCS*ABS*~ABP*AMS**	**~NSEP*CLM*~NCS*ABS*AMS*AS**	**NSEP*~CLM*~NCS*~ABS*~ABP*AMS*~AS**	**NSEP*~CLM*NCS*ABS*~ABP*~AMS*AS**	**NSEP*CLM*NCS*ABS*ABP*AMS*~AS**
Chile	Hungary	Brazil	France	France	Greece	Spain	New Zealand
Hungary	Japan	Mexico	Sweden	United States			
Poland		Turkey					
		Colombia					
		Italy					

NSEP: Number of Self-Emloyed People; **CLM:** Cost of Living (Monthly); **NCS:** Number of Coworking Spaces; **ABS:** Average Broadband Speed; **ABP:** Average Broadband Price; **AMS:** Average Mobile Speed; **AS:** Annual Searches; **FS:** Freelance Score

Table 7. Countries in the Configuration (Subset) for ~FS

~The Freelancer Index									
~NSEP*CLM*~NCS*ABS*~ABP*~AS	**~NSEP*CLM*~NCS*~ABP*AMS*~AS**	**~NSEP*CLM*NCS*~ABS*~ABP*~AS**	**CLM*NCS*ABS*ABP*AMS*~AS**	**~NSEP*~CLM*~NCS*~ABS*~ABP*~AMS*AS**	**~NSEP*~CLM*~NCS*ABS*ABP*~AMS*~AS**	**NSEP*~CLM*~NCS*~ABS*~ABP*AMS*~AS**	**~NSEP*~CLM*~NCS*~ABS*ABP*AMS*~AS**	**~NSEP*CLM*~NCS*ABS*AMS*~AS**	**~NSEP*CLM*ABS*ABP*AMS*~AS**
Israel	Finland	Austria	Luxembourg	Italy	Japan	Greece	Slovenia	Denmark	Denmark
Sweden	Sweden	Australia	Switzerland					Sweden	Luxembourg
		Ireland	Canada						Canada
		Belgium	New Zealand						Switzerland

NSEP: Number of Self-Emloyed People; **CLM:** Cost of Living (Monthly); **NCS:** Number of Coworking Spaces; **ABS:** Average Broadband Speed; **ABP:** Average Broadband Price; **AMS:** Average Mobile Speed; **AS:** Annual Searches; **FS:** Freelance Score

According to the FsQCA findings in the context of OECD countries, the results regarding the presence or absence of the Freelancer Score vary. This situation allows local inferences to be made about countries beyond generalizing freelancers. Accordingly, according to the results of Table 6, although the number of freelancers is low, the number

of co-working spaces is low, the average mobile speed is low and the annual employee demand/search is low in Chile, Hungary and Poland, the freelancing score is high due to the high average broadband speed and low average broadband prices. In Hungary and Japan, despite the low number of self-employed people, low number of co-working spaces, low average mobile speed and low demand/search for freelancers, the freelancing score is high due to the low cost of living and high average broadband speed. In countries such as Brazil, Mexico, Turkey, Colombia and Italy, the freelancing score is high due to the low cost of living, low average broadband price and high demand/search for freelancers, despite the low number of co-working spaces, low average broadband speed and low average mobile speed. In France and Sweden, despite the low number of self-employed people, the high cost of living and the low number of co-working spaces, the freelancing score is also high due to the high average broadband speed, low average broadband price and high average mobile speed. In France and the United States, although the proportion of freelancers is low, the cost of living is high, and the number of coworking spaces is low, the freelance score is high due to the high average broadband speed and mobile speed and the high demand for freelancers. In Greece, despite the low number of co-working spaces, low average broadband speed and low demand for freelancers, the freelance score is high due to the high proportion of self-employed, low cost of living, low average broadband price and high average mobile speed. In Spain, although the average mobile speed is low, the freelancing score is high due to the high number of self-employed people, low cost of living, high number of co-working spaces, high average broadband speed and low price, and high demand for freelancers. Finally, although the cost of living is high, the average broadband price is high and the demand for freelancers is low in New Zealand, the freelancing score is high due to the high density of freelancing, the high number of coworking spaces, the high average broadband speed, and the high average mobile speed.

In Table 7, the findings of the configuration and the countries in which the freelancer score is absent/low are presented. Although the average broadband speed is high and the price is low in Israel and Sweden, the freelancing score is low due to the low number of freelancers, high cost of living, low number of co-working spaces and low demand for freelancers. In Finland and Sweden, although the average broadband price is low and the average mobile speed is high, the freelance score is low due to the low density of self-employed people, the high cost of living, the low number of co-working spaces and the low demand for freelancers. In Austria, Australia, Ireland and Belgium, although the number of co-working spaces is high and the average broadband price is low, the freelance score is low due to the low number of self-employed workers, high cost of living, low average broadband speed and low demand for freelancers. In Luxemburg, Switzerland, Canada and New Zealand, despite the high number of co-working spaces, high average broadband speed and high average mobile speed, the freelancing score is low due to the high cost of living, high average broadband price and low demand for freelancers. In Italy, despite the low cost of living, low average broadband price and high demand for freelancers, the freelancing score is low due to the low number of freelancers, low number of co-working spaces, low average broadband speed and low average mobile speed. In Japan, despite the low cost of living and high average broadband speed, the freelancing score is low due to the low number of freelancers, low number of co-working spaces, high average broadband price and low demand for freelancers. In Greece, although the number of freelancers is high, the cost of living is low, the average broadband price is low, and the average mobile speed is high, the freelancing score is low due to the low number of co-working spaces, low average broadband speed, and low demand for freelancers. In Slovenia, although the cost of living is low and the average mobile speed is high, the freelancing score is quite low due to the low number of freelancers, insufficient number of co-working spaces, low average broadband speed and high price, and low demand for freelancers. Although the average broadband and mobile speed is high in Sweden and Denmark, the freelancing score is low due to the low number of freelancers, high cost of living, insufficient number of co-working spaces and low demand for freelancers. Although the average broadband and mobile speeds are high in Denmark, Luxembourg, Canada and Switzerland, the freelancing score is also low due to the low number of self-employed workers, high cost of living, high average broadband price and low demand for freelancers.

4. CONCLUSION AND DISCUSSION

Using FsQCA, we find that the ratio of the presence/absence of causal conditions explaining the presence/absence of the outcome variable is above the threshold value. We have proved that the conditional variables are at a well-explained level in the outcome variable. In the cluster theoretical context, combinations of conditions that are effective in creating favorable conditions for freelancing are revealed separately for the cases/countries. In addition to the global perspective on the effects of technology on the freelancing market, the suggestion that regional and local research is important was taken into consideration (Kovalainen 2017). Accordingly, in Table 6 and Table 7,

a wide range of performance of the predicted conditions for suitability for freelancing in each configuration has emerged.

In the cluster theoretical sense, the coverage value of NSEP for FS is determined quite high. In the asymmetric context, ~NSEP for ~FS is quite close to the requirement. All other NSEP conditions are determined as sufficient for FS. In the configuration findings, it was determined that ~NSEP was absolute in all but one configuration (the other one was neutral) for ~FS (Table 7). When the cases were evaluated, it was determined that NSEP for FS was included in different performance according to the cases (Table 6 and Table 7). Especially in recent years, the increase in the number of self-employment in developed countries has had a steady effect on the increase in the number of freelance workers (van der Zwan et al., 2020). In most advanced economies, the number of freelancers has increased, and firms have taken advantage of new business and labor models by employing freelancers (Burke & Cowling, 2020). These cases confirm the positive impact of the NSEP on FS. In terms of employees, positive conditions within self-employment, especially a lot of freedom and autonomy, can have a positive impact on freelancers' career choices (Van Stel & de Vries, 2015). Many individuals want to switch to freelancing in their career planning due to its many beneficial effects such as autonomy, flexibility and innovation (Binder & Blankenberg, 2020). In Bögenhold's study (2018), career planning intentions in self-employment and related freelancing were evaluated and it was emphasized that the existence of various socio-economic conditions was ignored. According to the results of my study, economic variability was not ignored for NSEP, on the contrary, it was revealed as the variable with the highest impact.

In the cluster theoretical sense, it is seen that every condition of CLM is a sufficient variable in every condition of FS. In the configuration analysis, it is determined that CLM for FS is in different performance according to the cases. According to the SWOT analysis conducted on freelance workers, one of the important advantages of being in the freelance market is the opportunity to earn income above the region of residence, while the negative situation is the low level of social protection and security at the stage of high cost of living (Лимар & Дем'янова, 2020). In this case, freelancing conditions can become unfavorable. Since freelancers already bear the overall cost of running a business (Enriquez, 2020, p. 2), the cost of living has become more precarious for them. In the research conducted on Upwork in Finland, it is stated that providing the cost of living in favorable conditions is an important factor for the accommodation, sustainability and stability of freelancers (Heikkilä, 2021).

In the cluster theoretical context, it is determined that all conditions of NCS are sufficient for all conditions of FS. In the configuration analysis, it was also determined that NCS for FS is in different performance according to the cases. For the last decade, coworking spaces have been promoting freelancing, entrepreneurship and freelancing through shared communities, but the impact of the phenomenon needs to be explored (for policy makers, firms, employees) (Howell, 2022). In recent times, when service firms employ workers in exploitative schemes with low salaries, employees seek refuge in freelancing, freelance work and, consequently, co-working spaces (Moriset, 2013). According to the results of the study conducted by Bueno et al. (2018); the intensity of coworking spaces, social interaction increases productivity and encourages freelancing.

In all conditions of FS, all conditions of ABS were determined as sufficient variables. In the configuration analysis, it is seen that ABS is absolute for FS in all but two configurations. Broadband internet speed is an important incentive for those who work/will work in online jobs as it reflects the digital infrastructure (Liu et al., 2023). Similar to our research, Das et al. (2018) found that 56.5% of the respondents of the survey need to have access to broadband speed above average in absolute terms in order for freelancers to communicate and maintain their business activities. Access to the global internet and the availability of broadband speeds can have an impact on the way freelancers work, putting regions around the world in a leading position (Tabassum, 2014). According to the Pakistan Telecommunications Authority, there are more than 47 million broadband users in the country, accelerating the spread of freelancing (Nawaz et al., 2020).

The cluster is theoretically sufficient for FS in all conditions. In the configuration analysis ~ABP is available for FS in most combinations. Low broadband prices prove to be important for FS. On the other hand, it was included in different combinations according to cases/countries. Demand for freelance work, such as telecommuting and on-demand work, has increased in the mid-nineties when access to broadband internet was low-cost (Thabassum, 2013).

In the cluster theoretical context, all conditions of AMS are sufficient for all conditions of FS. In the configuration analysis, it was also found that AMS for FS performs differently according to the cases. The speed of mobile

network access used in business processes can increase business efficiency by bringing together those who supply and demand work (Vääätäjä, 2012). The widespread use of mobile applications with high availability and fast access opens up freelancing opportunities and income streams (Ma & Yang, 2018). Freelancers often have the opportunity to change careers throughout their lives depending on the circumstances that suit them (Waitt & Gibson, 2009).

In the cluster theoretical context, every condition of AS is sufficient for every condition of FS. However, it was observed that ~AS is absolutely necessary for ~FS as the only necessity factor. In other words, when there are no annual calls/demands for freelance workers, there is no suitable condition for freelancing. If only symmetric analysis had been conducted, the relationship between ~AS for ~FS as the only requirement condition would not have been determined. Thus, this gap was revealed by cluster theoretical analysis and the necessity of asymmetric analysis was proven. When the configuration analysis was analyzed, it was determined that while there was diversity for FS, AS was not included in all but one combination for ~FS. In Brinkley's report (2016), it is stated that in order to determine the high number of employees for the Hamilton Project at the Brookings Institution, a predictive method was applied by looking at Uber searches on Google. As the search data determines the number of freelance workers, it is seen that a large mass is mentioned and the mass is attracted to the freelance market. Supply and demand come together with the search for employees who mediate short-term and voluntary freelancing (Shevchuk & Strebkov, 2021).

5. LIMITATIONS AND GUIDELINES

The research is analyzed for OECD countries. As a result of FSQCA, each configuration includes a hypothetical model that is ready to be tested country-specifically. Future research should test the country-specific studies revealed in the cluster theoretical sense, and some research should expand the scope of OECD countries. In future studies, discussions and evaluations can be made with the unique situations of cases/countries/regions/globally by taking into account the configuration results. In addition, although there are many types of workers (blue-white-gold collar, etc.) in the freelancer study, The Freelancer Index considers these types as a whole. For future data providers and researchers, conducting separate analyses for specific types of employees will allow for findings from local results.

DECLARATION OF THE AUTHOR

Declaration of Contribution Rate: The author contributes the study on his own.

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