

Relational Social Capital Dimension and Entrepreneurial Intentions in Online Environments

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Abstract

Entrepreneurial intention (EI) is a key element for understanding the process of new-firm creation. Once established the models that explain the development of this intention, it's interesting to add variables that allow deepening the knowledge of this key element. Among these variables social capital (SC) gains relevance. Thus, our main goal is to explore the way in which relational SC dimension is integrated in the explanatory model of the development of the EI. To analyze the relationship among the model constructs we use Structural Equation Modelling (SEM) being the Partial Least Squares (PLS) the technique applied. Data is obtained from an online sample of students. The results obtained from a sample of 307 students, show that the three components of the relational SC dimension exert a different influence on the antecedents of Theory of Planned Behavior (TPB) but all of them indirectly influence on EI. This paper contributes to the literature on entrepreneurship because it analyzes the effect of relational SC dimension on EI of the students enrolled in the online university.

Keywords:

Entrepreneurship, Entrepreneurial Intentions, Online universities, Social capital, Relational dimension

1. Introduction

Attention to entrepreneurs is widespread due to its impact on employment, economic growth, productivity, innovation and social cohesion (Audretsch & Keilbach, 2004). The studies on the birth of entrepreneurs focus their attention on the university students because tend to show more propensity towards entrepreneurship and because university environment plays a key role, motivating, discovering opportunities and helping individuals to create business based on knowledge and technology (Turker et al., 2009)

As the entrepreneur does not arise just for the market opportunity but also by the capacity and intention of the individual to exploit it (Fayolle & Liñán, 2013), our analysis is focused in the study of the factors which influence individual's intentions. Intention is considered key for understanding the entrepreneurial process or the best single predictor of entrepreneurship (Kautonen et al., 2015). Despite the extensive studies on EI, we have not found any study analysing the impact of SC and TPB model in online university students, aspect supported by Fayolle and Liñán (2013). This justifies why our study focus on the effect of SC in EI as a facilitator of the entrepreneurship process and also, because lately studies associate SC with the formation of EI (De Carolis et al., 2009)

We cover the gap mentioned, considering that in 2019, 50% of the higher education will be done by 100% online methodology (Santamans, 2014). Therefore, the main aim of this research is to analyse the link between SC and EI (Davidsson & Honig, 2003; Liñán & Santos, 2007) in the online environment. Our study develops and integrate intention-based framework and analyze the impact of the main constructs of the TPB and SC on EI of the online students.

The paper is structured as follows: in section 2, a literature review presenting the theoretical framework is exposed to underpin the model and hypothesis included in section 3. Section 4 details the methodology, summarizing the sample and the measures employed. The results are presented in section 5 and discussed in section 6. Conclusions are presented in section 7, highlighting the main contributions, implications and paths for future research.

2. Theoretical Background

2.1. Entrepreneurship, Entrepreneurial Intention and the Theory of Planned Behavior

Entrepreneurship is a framework of study with its origins in the eighteen centuries. Our work is focus in a stage

called *entrepreneurial economy* (Audretsch & Thurik, 2004), based on the ability to attract or generate entrepreneurial activity or what is also called “business capital” which reflects the number of legal, institutional and social factors that help in the process of generating entrepreneurial activity.

Entrepreneurship represents a planned behavior, influenced by the intentions of the individual, that at the same time are influenced by attitudes and beliefs, those attitudes and intentions are learned and necessary vary across both individuals and situations (Krueger & Brazeal, 1994). Thus, individuals will be more or less enterprising depending on the external and internal influences with effect on the EI. That’s why, higher education has a role to play nurturing and shaping EI and can effectively equip graduates with necessary entrepreneurial skills and capabilities (Nabi et al., 2010).

EI defined as a “*self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future*” (Thompson, 2009: 687), is considered the most powerful predictor of entrepreneurial behavior (Krueger et al., 2000), being the TPB (Ajzen, 1991) the most widely used model when studying EI (Nabi & Liñán, 2013), as it is considered one of the most robust models for its study (Krueger et al., 2000; Schlaegel & Koenig, 2014). TPB states that three are the attitudes that predict intentions: Attitude towards the behavior (ATB), perceived behavior control (PBC) and subjective norms (SN).

Despite the robustness of the TPB to predict intentions (Kautonen et al., 2015), the inclusion of others constructs representing the social relationships of the individual, will enrich the explanatory capacity of the intentions models (Liñán & Santos, 2007). Thus, we include SC as an antecedent to the cognitive factors, given that intention models assume that external variables do not directly affect the EI of an individual (Boyd & Vozikis, 1994).

2.2. Social Capital and entrepreneur’s environment

SC is a part of an entrepreneur’s environment, and entrepreneurial activities are the results of social interaction and the interplay among environments (De Carolis & Saporito, 2006). SC facilitates entrepreneurship and the formation of start-up companies. Scholars have extensively examined the importance of social networks, embeddedness and SC in the creation and formulating EI (De Carolis et al., 2009).

The tenet of Social Capital Theory is that social relationships among people can be productive resources (Coleman, 1988). The concept of SC varies depending on where the focus is on. In our work, we follow the neutral definition where SC is defined as “*the sum of the actual or potential resources embedded within, available through, and derived from network of relationships possessed by an individual or social unit. SC thus comprises both the network and the assets that may be mobilised through that network*” (Nahapiet & Ghoshal, 1998: 243). According to Nahapiet and Ghoshal (1998), relationships are an important element of SC and more specifically the strength or the weakness of the linkages in these relationships (Granovetter, 1973). Nahapiet and Ghoshal (1998) established three dimensions to analyse SC: *Structural, relational and cognitive*. In our proposal model we use the relational dimension which describes the nature of relationships that people have developed with each other through a history of interactions as manifested in strong versus weak ties (Granovetter, 1973; Nahapiet & Ghoshal, 1998).

3. Model and Hypothesis

3.1. Social Capital Dimensions

Three are the dimensions of SC: structural, involves the pattern of relationships between the network actors (Inkpen & Tsang, 2005), cognitive, implicate common goals, shared culture, languages, and codes (Inkpen & Tsang, 2005), and relational (See 2.2)

Although the structural position of an entrepreneur may be necessary, it is not enough to have an impact on venture creation process (Liao & Welsch, 2005), that’s why relational SC is necessary to capture the extent that an entrepreneur is actually able to receive informational, physical, and emotional support in the venture creation process (Chiu et al., 2006; Nahapiet & Ghoshal, 1998) and that’s why we focus our work in the main components of this dimension.

3.1.1. Relational Dimension

Following Chiu et al. (2006) the key elements are: *trust (TRU), norms of reciprocity (NR) and identification (IDE)* which are described below:

TRU, plays a key role in the willingness of networks actors to share knowledge (Coleman, 1988; Inkpen & Tsang, 2005). *TRU* is essential in the entrepreneurial context, because most of the entrepreneurial activities required some level of *TRU* (Caliendo et al., 2012). Individuals who are unwilling to rely on others, will be less able to

run a business, while people with a higher level of TRU in people, will develop a more favourable attitude towards entrepreneurship and a higher PBC what will be translated in higher EI. Given that trusting relations will make individuals more confident when making an entrepreneurial decision, as they think the environment around them is trustworthy, the perception of what individual's close circle think about the idea of setting up a business will be greater the higher the level of TRU is. Although trusting someone contains a risk factor, individuals who are willing to accept risks have a more favourable attitude towards running an own business and a higher PBC (Lüthje & Franke, 2003; Nabi & Liñán, 2013). Relationships based on TRU allow better communication, transfer of knowledge and resources and a greater sense of belonging between the individuals, which might encourage them to have a favourable attitude towards an entrepreneurial career and feel more secure on one's capacities base on the TRU and support. Based on this argument, we proposed:

H_{1a}: TRU is directly related to ATB

H_{1b}: TRU is directly related PBC

H_{1c}: TRU is directly related to SN

H_{1d}: TRU is indirectly related to EI

H_{1e}: TRU is directly related to IDE

NR refers to knowledge exchanges that are mutual and perceived by the parties as fair. The operative norm in TRU is what Putnam (1993) calls *generalized reciprocity* which is "...I'll do this for you now, knowing that somewhere down the road you'll do something for me" (Putnam, 1993: 182-183).

For entrepreneurs whose activities are based on exchange of factors and knowledge, NR are one of the key prerequisites to develop networks and social interactions (Caliendo et al., 2012). But, when entrepreneurs fail to reciprocate could lead to reduce trustworthiness (Stewart, 2003), so NR generate a high pressure in individuals to reciprocate the favourable behaviour which would lead individuals to be more committed to a common interest and display a higher ATB. In the same way, if is perceived that this NR exists, individuals would generate a greater PBC as they will feel more secure that someone will come if they need help. Strong ties contain an implicit principle of reciprocal obligation, so when this reciprocity obligations are stronger it is more likely that family and business logic are at odds, and the planned venture's future performance is more likely to be compromised (Sieger & Minola, 2017). Based on literature we proposed:

H_{2a}: NR are directly related to ATB

H_{2b}: NR are directly related to PBC

H_{2c}: NR are directly related to SN

H_{2d}: NR are indirectly related to EI.

H_{2e}: NR are directly related to TRU

IDE is defined as "the process whereby individuals see themselves as one with another person or group of people" (Nahapiet & Ghoshal, 1998: 256). *IDE* refers to an individual's sense of belonging and positive feeling toward a virtual community. Firm creation is considered a social activity and entrepreneurs shape their behavior in relation to how they perceive themselves relative to others (Fauchart & Gruber, 2011). *IDE* is a potentially mediator of entrepreneur's decisions and action (Hoang & Gimeno, 2010), but few studies address social identity in the entrepreneurship context (Sieger & Minola, 2017).

Virtual entrepreneurial context often lacks clear structural mechanism that promote cohesion or identification with a group or organization (Schenkel & Garrison, 2009: 527), therefore in online universities where there is a lack of physical contact, the sense of belonging is particularly desirable because it acts to provide a source of "glue" that promotes group cohesion (Fiol & O'Connor, 2005: 19). Therefore, those individuals that identify themselves as part of a virtual community with a strong sense of belonging to it, will develop greater PBC and ATB and so, a higher EI. Based on the above we propose:

H_{3a}: IDE is directly related to ATB.

H_{3b}: IDE is directly related to PBC

H_{3c}: IDE is indirectly related to EI.

3.1.2. Main constructs of the TPB

ATB refers to the expectations and beliefs about the consequences of developing a certain behavior, *PBC* reflects the perception of an individual's self-perceived capacity to undertake an entrepreneurial venture and *SN* represents the perceived pressure of what important people think about adopting this type of behavior (Ajzen, 1991).

The individual's intention to perform a certain behavior is the central construct of the TPB. The PBC is considered

one of the most influential constructs of this theory on EI (Krueger et al., 2000) with the ATB (Liñán, Nabi, & Krueger, 2013; Lüthje & Franke, 2003). Regarding SN, several studies have tested its influence over EI (Kautonen et al., 2015; Schlaegel & Koenig, 2014) but others stated that the effect of SN maybe indirect via ATB and PBC (Liñán & Chen, 2009; Liñán, et, 2011). Therefore, entrepreneurial activity can be predicted from the influence of these three factors on intentions (Krueger et al., 2000). Base on the above, we propose:

H_{4a}: PBC is direct related to EI

H_{4b}: ATB is direct related to EI

H_{4c}: SN is direct related to EI

H_{4d}: SN is direct related to PBC

H_{4e}: SN is direct related to ATB

The conceptual model is shown in Figure 1, including the expected influence of SC on the TPB model, and on EI.

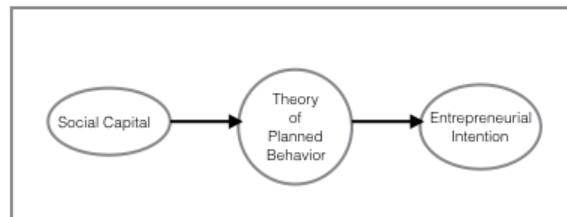


Figure 1: Conceptual Model

4. Method

4.1. Measures

The variables were measured through multi-item scales. The key-constructs were captured through a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7). This research uses the measures employed in Liñán and Chen (2009) to assess ATB, PBC, SN and EI. To measure the relational dimension of SC we employed Chiu et al. (2006). A range of control variables (demographic, human and social contextual factors) were measured as background factors. Demographics include age and gender (female; male). Human capital includes labor market experience (no; yes), and self-employment experience (no; yes). Their parent's professional experience, contextual factors, was coded as employee private sector; official or public employee; Self-employee; Pensioner or retiree; Unemployed; others.

4.2. Sample

The survey was carried out through an online questionnaire given to students enrolled in an online university. Students samples have been widely used examining entrepreneurial intention (Krueger et al., 2000; Liñán et al., 2011). The survey was conducted online from the 15th to the 26th of January 2018. The EI model was tested using SEM. The sample comprised 307 respondents engaging in different degrees and masters (80% university degrees and 20% masters) with a sample error of 5.37% at a confidence level of 95% ($Z=1.96$ $p=q=0.5$) and it was determined toward a finite formula. Regarding the students enrolled on university degrees 18.67% were in their 1st year, 10% on the 2nd, 15.33% on the 3rd and 36% on the last year. Of these respondents, 60.59% were female and 39.41% were male, with an average age of 35 years. Likewise, 95.10% of the respondents have previous working experience and of those 31.25% have previous self-employed experience. Almost 13.36% of their fathers are self-employed while 8.14% of their mothers are, and around 41% of their parents are pensioners or retirees which is consistent with the medium age of the sample.

5. Results

5.1. Analysis of the Measurement Model

The results analysis is based on SEM-PLS as the study objective is to predict the key constructs or its antecedents, our investigation is an extension of an existing theory, the structural model is complex (many constructs and many indicators) and the sample size is relatively small (Hair et al., 2011). Also, SEM-PLS has been widely used in entrepreneurship research (Liñán & Santos, 2007; Liñán et al., 2013).

The analysis was developed in two stages: Assessment of the measurement model (reliability and validity analysis) and study of the structural relationships among the constructs (once the first stage is accomplished).

Reliability analysis was carried out using items loading and to assess the internal consistency of the constructs we have used Composite Reliability (CR) scores and the Average Variance Extracted (AVE). Reliability and consistency is accomplished (See Table 1).

Table 1: Composite reliability and convergent validity

<i>Construct</i>	<i>Item</i>	<i>Loading</i>	<i>AVE</i>	<i>CR</i>
ATB	ATB1	0.858**	0.835	0.962
	ATB2	0.913**		
	ATB3	0.920**		
	ATB4	0.946**		
	ATB5	0.930**		
IDE	IDT1	0.956**	0.876	0.977
	IDT2	0.959**		
	IDT3	0.967**		
	IDT4	0.959**		
EI	EI2	0.893**	0.922	0.979
	EI3	0.949**		
	EI4	0.933**		
	EI5	0.961**		
	EI6	0.916**		
	EI7	0.960**		
	NR	NR1		
NR2		0.977**		
SN	SN1	0.881**	0.818	0.931
	SN2	0.929**		
	SN3	0.903**		
PBC	PBC1	0.806**	0.764	0.951
	PBC2	0.905**		
	PBC3	0.918**		
	PBC4	0.821**		
	PBC5	0.905**		
	PBC6	0.881**		
TRU	TRU1	0.866**	0.854	0.967
	TRU2	0.921**		
	TRU3	0.944**		
	TRU4	0.946**		
	TRU5	0.942**		

Note *p<0.05; **p<0.01; ***p<0.001 based on a one-tailed t-student (499) distribution; t (0.05; 499) = 1.6479; t (0.01;499) =2.3338; t (0.001;499) =3.1066

Discriminant validity has been tested by two criteria's: Fornell and Larcker (1981) and heterotrait-monotrait ratio (HTMT) of correlations (Henseler et al., 2015). Both accomplished (see Table 2).

Table 2: Discriminant Validity criteria's

<i>Construct</i>	<i>ATB</i>	<i>EI</i>	<i>IDE</i>	<i>NR</i>	<i>SN</i>	<i>PBC</i>	<i>TRU</i>
ATB	0.914	0.898	0.285	0.248	0.455	0.622	0.262
EI	0.864	0.936	0.277	0.244	0.435	0.618	0.261

IDE	0.274	0.269	<i>0.960</i>	0.884	0.255	0.292	0.855
NR	0.236	0.235	0.850	<i>0.977</i>	0.293	0.278	0.886
SN	0.417	0.403	0.237	0.270	<i>0.904</i>	0.451	0.268
PBC	0.595	0.596	0.283	0.267	0.422	<i>0.874</i>	0.338
TRU	0.251	0.253	0.826	0.847	0.248	0.323	<i>0.924</i>

Diagonal (italicized values) represent the square root of the AVE

Upper triangle: Ratio HTMT

Lower triangle: correlations between latent variables

5.2. Structural Model Analysis

The second stage, is focus on the structural model. To assess its adequacy two criteria's are used the coefficient of determination (R^2), and the Stone-Geisser's Q^2 , both show that the model explains a high percentage of the variance in EI and its high level of prediction (see Figure 2)

Bootstrapping (5000 samples) has been used to generate standard errors and t-statistics that allow us to verify our hypothesis. Figure 2 presents the results for the sample.

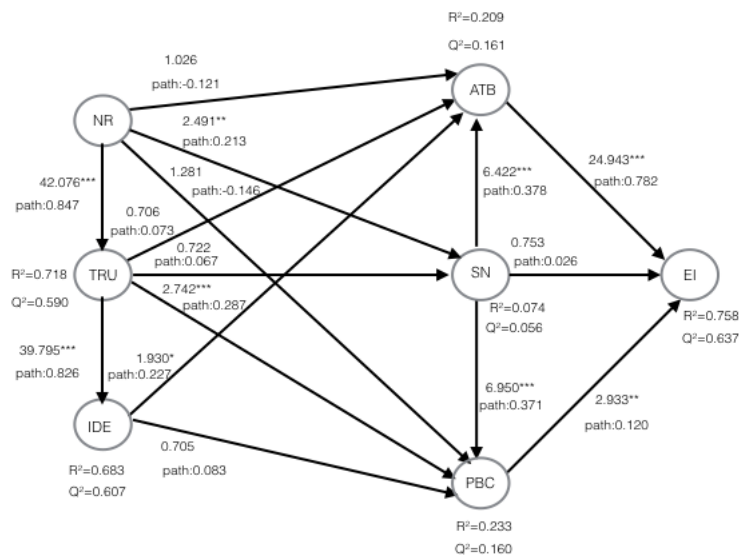


Figure 2: Final structural model results

Figure 2 shows the significant influence of IDE on ATB, but not significant on PBC. NR have not significant effect neither on ATB nor PBC, but a significant influence on SN and TRU. Regarding TRU, it has a significant effect over IDE and PBC but not significant on ATB nor on SN. Concerning TPB constructs we corroborate that ATB and PBC exert a significant influence over EI, however, the direct effect of SN over EI is not significant but it is significant on ATB and PBC. Mediated influences are on Table 3.

Table 3: Structural Model: Total indirect effects

Relationships	Original Sample	Standar error	T-statistics
IDE->EI	0.187	0.101	1.861*
NR->ATB	0.323	0.094	3.438***
NR->EI	0.195	0.054	3.594***
NR->IDE	0.700	0.031	22.431***
NR->SN	0.057	0.079	0.720
NR->PBC	0.401	0.089	4.479***
SN->EI	0.340	0.052	6.513***
TRU->ATB	0.213	0.106	2.013*
TRU->EI	0.271	0.100	2.709**
TRU->PBC	0.093	0.102	0.912

Through the mediated relationships (Table 3), is appreciable the significant effect of IDE on EI and the high significant effect of NR over ATB, EI, IDE and PBC, but not significant on SN. Concerning SN, the study saws its high effect over EI. Finally, TRU exerts a significant effect on ATB and EI, but not significant over PBC.

6. Discussion

Once explored the influence of relational SC on the TPB model we concluded that all of its components exert influence over the antecedents of TPB model, but not over the same ones (Table 4).

Table 4: Summary of hypotheses testing

<i>Hypothesis /Description</i>	<i>Decision</i>
H _{1a} :TRU->ATB	Rejected
H _{1b} :TRU->PBC	Rejected
H _{1c} :TRU->SN	Supported
H _{1d} :TRU->EI	Supported
H _{1e} :TRU->IDE	Supported
H _{2a} :NR->ATB	Rejected
H _{2b} :NR->PBC	Rejected
H _{2c} :NR->SN	Supported
H _{2d} :NR->EI.	Supported
H _{2e} :NR->TRU	Supported
H _{3a} :IDE ->ATB	Supported
H _{3b} :IDE->PBC	Rejected
H _{3c} :DE->EI	Supported
H _{4a} :PBC->EI	Supported
H _{4b} :ATB->EI	Supported
H _{4c} :SN->EI	Rejected
H _{4d} :SN->PBC	Supported
H _{4e} :SN->ATB	Supported

The TRU results, show its influence in the conformation of an EI, through the reinforcement of the PBC. TRU is essential to pursue an entrepreneurial career because entrepreneurial activities require high level of TRU (Caliendo et al., 2012). The higher the TRU is, the greater the PBC as individuals will perceive more security on the resources and knowledge obtained because TRU enhance the quality of resource flows. Despite the difficulty developing IDE in the virtual communities (Fiol & O'Connor, 2005) the generation of TRU will enhance the closure between individuals, creating share norms that will act as a mediator in the conformation of attitudes and EI.

Regarding NR, the results show, that close relations are characterized by high reciprocity (Malebana, 2016), generating a higher pressure to reciprocate (Sieger & Minola, 2017) what it might explains why NR exert an indirect effect on EI through SN and it affect ATB and PBC through SN. Also, the existence of NR generates trustworthiness through the individuals leading to improve the exchange of resources and knowledge as the individuals would feel more secure by reducing the uncertainty thanks to the NR (Malebana, 2016).

Despite that entrepreneurs have been seen traditionally as individuals who are less likely to identify themselves with conventional practices, norms and values and usually do not follow the same mainstream as the rest (Liao & Welsch, 2005), the sense of belonging and identification with others have influence on ATB because individuals developed their behavior towards a certain action, based on the perception they have of others (Fauchart & Gruber, 2011). IDE does not exert influence on PBC, because the sense of belonging does not enhance the perception of the individual on their capacities just for the fact of belonging to a community, but it does have an indirect effect on EI. So, relational SC exerts a direct influence on the antecedents of the TPB and indirectly on EI (Malebana, 2016).

The results for the mains constructs of the TPB model are on line with others studies were ATB and PBC have a high, direct and positive effect over EI and SN exerts a positive influence on EI (Liñán et al., 2011; Liñán et al., 2013; Liñán & Chen, 2009; Lüthje & Franke, 2003), but indirectly through ATB and PBC (Liñán & Chen, 2009; Liñán et al., 2011).

7. Conclusion, Limitation and future lines of research

SC and EI are vital for the development of entrepreneurship. Entrepreneurs can be seen as an engine of the economic and social development. Due to the importance of the figure of entrepreneur is reasonable that researchers focus their attention in the antecedents of EI, that's why we have incorporated the influence of the relational SC dimension on the antecedents of the three main components of TPB. The empirical analysis results show that the propose structural model explains 75.8% of the variance in EI and its capacity to predict EI is 63.7% considered high predictable power.

Our analysis enriches the studying of EI validating the importance of relational SC in the formation of EI in an online environment where lack of physical contact requires higher TRU, NR and IDE. These variables, are important for the development of entrepreneurial activities because starting a business involves assuming that: IDE will enhance the degree of knowledge and sharing contribution easing the discovery of market opportunities, TRU will make individuals engage in social exchange and cooperative interaction increasing their PBC and finally assuming that people give expecting to received something on exchange will increase the pressure to correspond the share of knowledge, resources, ideas and so on, enhancing the possibilities of generating EI.

Institutions involved in the system should be aware of the importance of building TRU through the community system. Institutions shape beliefs, so if they enhance the communication oriented in the legitimation of entrepreneurs with real changes (improvements on the regulatory, and educational system and for example enhancing the access to financial and network support), future entrepreneurs will feel that everything said is not just air but real and this TRU will be translated in more EI. Also, as TRU derives from moral values which have been shaped in the early ages by parents or schools it is essential to build an educational system that considers the elements of relational SC as key. This can be obtained by using a horizontal teaching based on work in groups, do projects together and ask teachers questions, because all these things will improve the social skills and the principal components of relational SC.

It would be interesting to incorporate in the model the other two SC dimensions (relational and cognitive). Likewise, it would be interesting to study if SC instead of an antecedent is a moderator between the EI and its antecedents

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