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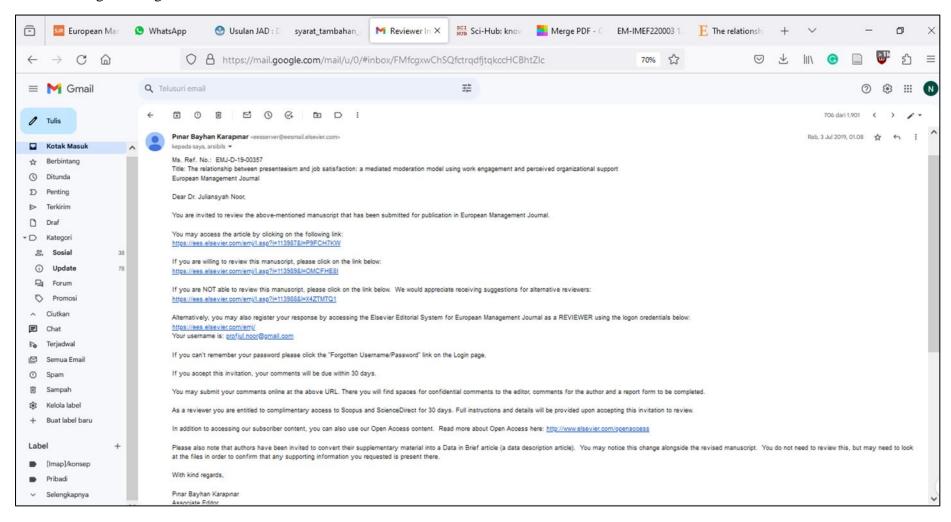
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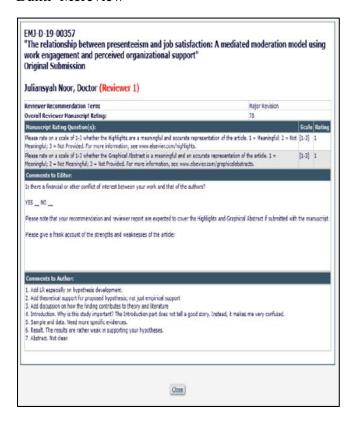
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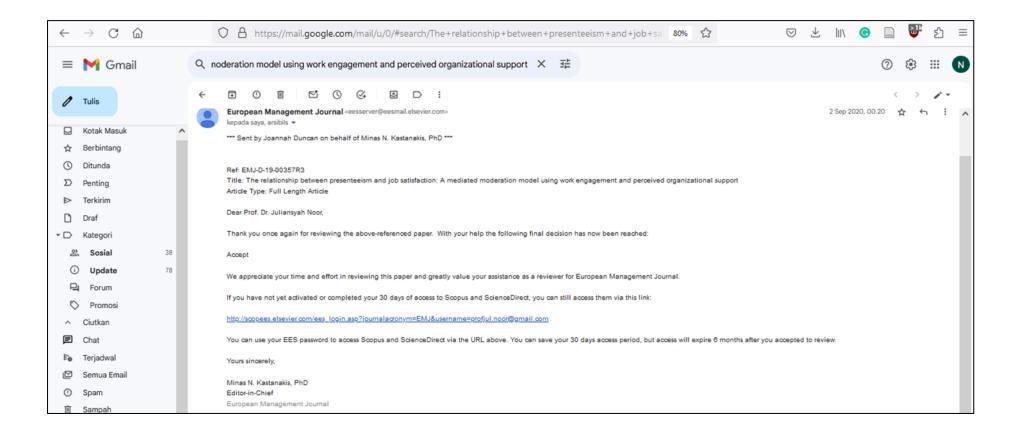
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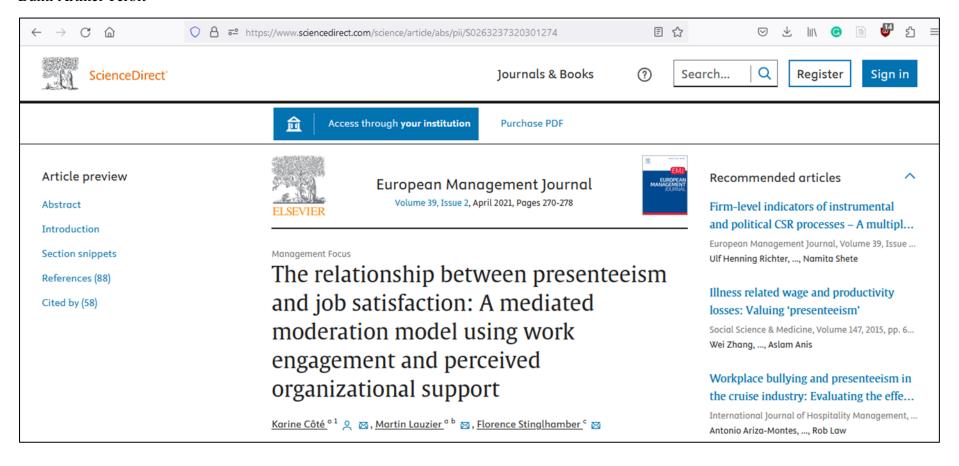
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Management Focus

The relationship between presenteeism and job satisfaction: A mediated moderation model using work engagement and perceived organizational support

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ABSTRACT

Research on presenteeism has largely focused on its prevalence, determinants and consequences on the health of both employees and organizations. To date, few studies have examined the influence of presenteeism on workers' attitudinal and motivational responses. Based on the Effort—Recovery Theory, this study evaluates the mediating effect of work engagement in the relationship between presenteeism and job satisfaction. Building on previous work, this study also proposes to consider perceived organizational support as a moderator of the work engagement—job satisfaction relationship. Presented in the form of a mediated moderation model, the results of bootstrapped regression analyses show three main results. First, presenteeism is negatively associated with work engagement and job satisfaction. Secondly, work engagement is one of the factors through which presenteeism influences job satisfaction. Thirdly, perceived organizational support moderates the association between work engagement and job satisfaction so that, at a low level of work engagement, feeling supported by the organization makes a difference on job satisfaction. Overall, this research is part of the limited number of studies that have focused on the interplay existing between presenteeism and its consequences in terms of job attitudes.

1. Introduction

Presenteeism can be defined as going to work while being sick (Johns, 2010). In recent years, research has examined the prevalence of presenteeism, revealing that this attendance behavior is widespread among workers. Indeed, in various European samples, more than 60% of employees report having worked while their health was not optimal (Aronsson, Gustafsson, & Dallner, 2000; de Vroome, 2006; Hansen & Andersen, 2008; Leineweber et al., 2011). Given this important prevalence, numerous studies have contributed to the identification of its determinants, such as compromised

https://doi.org/10.1016/j.emj.2020.09.001 0263-2373/© 2020 Elsevier Ltd. All rights reserved. health (Allen, Hines, Pazdernik, Konecny, & Breitenbach, 2018; Lauzier, Melançon, & Côté, 2017; Miraglia & Johns, 2016), absenteeism and attendance management policies (Arnold, 2016; Baker-McClearn, Greasley, Dale, & Griffith, 2010; Johns, 2011), and limited access to personal and professional resources (Mach et al., 2018; Miraglia & Johns, 2016).

With regard to its consequences, studies have shown that presenteeism has a significant influence on organization's health and productivity (Cooper & Dewe, 2008; Fernando, Caputi, & Ashbury, 2017; Goetzel et al., 2004; Zhang, Sun, Woodcock, & Anis, 2015). Foremost, this attendance behavior represents a risk factor for the development of health conditions (Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009), as it can put others at risk by contributing to the transmission of infectious diseases (Widera, Chang, & Chen, 2010), and is associated with the exacerbation of symptoms (physical and/or psychological) as well with delays in the recovery process (Demerouti et al., 2009), leading to more absences (Johns, 2011). Additionally, by reducing employees' efficiency, presenteeism also generates producti-vity losses for organizations, which are estimated to be greater than those generated by absenteeism

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(Goetzel et al., 2004; Pauly, Nicholson, Polsky, Berger, & Sharda, 2008; Zhang et al., 2015). For example, Goetzel et al. (2004) estimate that presenteeism costs, on average, 255\$ annually per employee of a single organization. Hemp (2004), for his part, believes that presenteeism productivity losses can cost between 150 and 180 billion dollars per year. Given the impacts and costs related to presenteeism, it seems imperative to expand our understanding of this behavior and its consequences.

Although past and current studies voice the effects of presenteeism on employees' health and productivity, few have sought to identify the factors that may explain why and how working while ill affects their attitudinal and motivational responses towards their work (Cooper & Lu, 2016; Karanika-Murray, Pontes, Griffiths, & Biron, 2015; Lohaus & Habermann, 2019). Filling this gap, this study has three main objectives. First, by considering the Effort—Recovery Theory (Meijman & Mulder, 1998), the study aims to better understand the deleterious effects of presenteeism on employee job attitudes. More specifically, it attempts to determine the consequences of such behavior on workers' levels of work engagement and job satisfaction. Second, it examines the mediating role of work engagement in the presenteeism job satisfaction relationship. This goal is based on the notion that work engagement, when conceived as an internal motivational state, can influence the recovery process and then help explain why working while sick can lead to psychological disengagement. Thirdly, this study also expands on previous work (e.g. Karanika-Murray et al., 2015) by testing the moderating role of perceived organizational support (POS) on these relationships. As a positive and supportive work environment (Karanika-Murray & Biron, 2019), the present study considers POS as an important organizational resource that could help workers facing work situations while ill, which subsequently could impede their satisfaction with their work.

1.1. Influence of presenteeism on motivational and attitudinal responses

The Effort-Recovery Theory proposed by Meijman and Mulder (1998) can help explain the deleterious effects of presenteeism on employees' job attitudes. More precisely, this theory states that the efforts spent at work can lead to physical, behavioral and subjective load reactions (e.g. fatigue, negative affect), leading to a need for recovery. In a state of deficit in levels of energy and motivation, recovery efforts are needed to restore homeostasis in psychological well-being and performance abilities (van Hooff, Flaxman, Söderberg, Stride, & Geurts, 2018). The process of showing up to work and completing one's day of work triggers a natural recovery response, which pushes individuals to look for internal and external resources (e.g. emotion regulation, social support) or activities (e.g. relaxation, detachment from work) that could help recovering. Under normal conditions, recovery occurs when employees are no longer confronted with work demands, as well as when fatigue and stress are reduced (Geurts & Sonnentag, 2006). However, when the exposure to high workload is long and limits the recovery process, load reactions accumulate and can provoke health problems and impairments in well-being (van Hooff et al., 2018). This effect is potentially stronger for workers who are present at work while their health is suboptimal (i.e. presenteeism). Failing to fully recover while still going to work, workers may suffer the cumulative effects of their health impairments; in turn, emotional responses towards their work in general may be lessened or become negative. Furthermore, it is proposed that although physically present, workers who are at work while being ill may not be mentally present, which can in turn limit their ability to achieve expected outcomes (Karanika-Murray et al., 2015). Thus, as workers cannot perform to the best of their physical and psychological capacities, this can have an influence on emotional and attitudinal responses (Admasachew & Dawson, 2011; Baker-McClearn et al., 2010), including work engagement and job satisfaction (Karanika-Murray et al., 2015).

Although Miraglia and Johns (2016) meta-analysis has revealed a positive association between job satisfaction and presenteeism, se-veral studies have reported the opposite (Baker-McClearn et al., 2010: Cho. Park. Lee. Min. & Baek. 2016: Karanika-Murray et al., 2015; Lu, Lin, & Cooper, 2013). Even if being engaged and satisfied with their job can motivate workers to practice good attendance (Miraglia & Johns, 2016), it has been shown that going to work when health is suboptimal can have a negative influence on job attitudes. Indeed, some studies have found a negative association between presenteeism and work engagement (Admasachew & Dawson, 2011; de Beer, 2014), which is defined as a positive emotional state characterized by vigor, dedication and absorption (Bakker & Demerouti, 2008). Notably, de Beer (2014) found significant differences between employees with and without presenteeism-related health conditions. In fact, workers who went to work and reported suffering from a health condition (or reported being present while ill) also tended to report a lower level of work engagement. On the contrary, those who did not attend work while ill tended to report a higher level of work engagement. Moreover, several studies have found a negative association between presenteeism and job satisfaction (Baker-McClearn et al., 2010; Karanika-Murray et al., 2015; Lu et al., 2013), which refers to employees' positive and pleasant feelings and attitudes towards work (Zhu, 2013), For example, Baker-McClearn et al. (2010) indicated that employees reporting presenteeism tend to describe their job as a stressful and unsatisfactory environment. As for Lu et al. (2013) longitudinal study, presenteeism was shown to be negatively related to job satisfaction due to a lack of sufficient recovery opportunities. Thus, it appears that positive job attitudes represent a predictor of the likelihood of attending work while being ill, but doing so can provoke various negative consequences, such as decreased job satisfaction and work engagement.

H1. Presenteeism will be negatively linked to work engagement (H1a) and job satisfaction (H1b).

1.2. Role of work engagement in the relationship between presenteeism and job satisfaction

From an emotional standpoint, employees who are highly engaged in their work also seem to experience positive emotions and cognitions because they experience a feeling of meaningfulness towards the work they accomplish, identify greatly with the position they occupy within the organization (Bakker & Demerouti, 2008), and find tasks interesting and motivating (Siu et al., 2010). These emotional states lead them to invest resources and skills to accomplish their work.

Several studies recognize that work engagement and job satisfaction are two distinct constructs, yet positively associated with one another (Alarcon & Lyons, 2011; Giallonardo, Wong, & Iwasiw, 2010; Tejpal, 2016). In fact, engaged employees also tend to be more satisfied with their job (Bakker, 2011). From the perspective of the Effort—Recovery Theory (Meijman & Mulder, 1998), going to work while ill can limit the recovery process and cause psychological disengagement, requiring more efforts from workers to meet the daily work demands, which influences their job attitudes. Hence, because being present at work while health is not optimal limits the positive psychological pre-sence at work, it seems plausible that the negative effect of presenteeism on work engagement would then carry over to job satisfaction.

H2. Work engagement will mediate the negative relationship

K. Côté et al. / European Management Journal xxx (xxxx) xxx

between presenteeism and job satisfaction, so that a high level of presenteeism would reduce job satisfaction through its negative effects on work engagement.

1.3. Role of perceived organizational support on the relationship between work engagement and job satisfaction

According to the Organizational Support Theory, individuals tend to personify their organization by viewing it as having a personality with benevolent or malevolent intentions towards them (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Rhoades & Eisenberger, 2002). This personification process is a pre-requisite to the development of POS, which refers to the individuals' perception of the extent to which the organization values their contributions and cares about their well-being (Eisenberger et al., 1986). Many studies recognize the beneficial effects of POS on employees' subjective well-being, as well as on their job attitudes and behaviors (Eisenberger & Stinglhamber, 2011), including their level of engagement (Attridge, 2009; Bakker & Demerouti, 2008; Caesens & Stinglhamber, 2014; Caesens, Stinglhamber, & Luypaert, 2014; Duke, Goodman, Treadway, & Breland, 2009; Murthy, 2017; Riggle, Edmondson, & Hansen, 2009) and their job satisfaction (Duke et al., 2009; Miao, 2011; Riggle et al., 2009).

Two main mechanisms explain the positive effects of POS on outcomes that are beneficial for both employees and organizations. On the one hand, based on the norm of reciprocity (Gouldner, 1960), the Social Exchange Theory (Blau, 1964) posits that employees who feel supported by their organization will repay their debt and reciprocate the organization's caring. As a result, supported employees feel obligated to help their supportive organization reach its goals and contribute to the development and general efficiency of the organization by demonstrating positive attitudes and behaviors towards it. On the other hand, the Organizational Support Theory has suggested that self-enhancement processes are also at stake to the extent that POS helps to fulfill employees' socio-emotional needs (e.g. need for esteem or for affiliation; Eisenberger et al., 1986). Because POS meet employees' fundamental human needs in the workplace, the ones who feel supported by their organization should then present better indicators, particularly in terms of well-being (Eisenberger & Stinglhamber, 2011).

While numerous studies have examined the direct and beneficial effects of POS on several outcomes, some studies have also investigated the moderating effect of POS in the development of attitudinal and behavioral outcomes, such as organizational commitment (Butts, Vandenberg, DeJoy, Schaffer, & Wilson, 2009), organizational citizenship behaviors (Alfes, Shantz, Truss, & Soane, 2013), and job performance (Duke et al., 2009; Erdogan & Enders, 2007). In line with the second mechanism explaining the effects of POS, the literature suggests that POS should strengthen employees' need for emotional support by suggesting that support and understanding will be provided to deal with stressful situations at work (e.g. Armeli, Eisenberger, Fasolo, & Lynch, 1998; Viswesvaran, Sanchez, & Fisher, 1999). POS indeed indicates that material and emotional resources will be available when needed to help the employee to carry out his/her job more effectively (Eisenberger & Stinglhamber, 2011). In a work environment characterized by increasing demands and pressures, feeling supported by one's organization can therefore become a significant organizational resource that helps the employee to cope with his/her job and finally to maintain positive attitudes towards it. Supporting this view, empirical findings reported by Duke et al. (2009) showed that POS contributes to attenuate the negative effects of emotional labor on job satisfaction. Similarly, the study of Erdogan and Enders (2007) indicated that the association between leader-member

exchange and job satisfaction is stronger when supervisors report high POS.

Consistent with the theoretical arguments and empirical evidence discussed, the present research suggests that employees who feel engaged in their work are more likely to be satisfied with their work, but that this is even stronger if they also feel supported by their organization. Their positive evaluation of their job resulting from their work engagement should indeed be reinforced by the signal that support is available when needed as conveyed by a high POS.

H3. POS will moderate the positive relationship between work engagement and job satisfaction, so that this relationship will become stronger as POS increases.

This third hypothesis (H3) suggests that POS will condition the strength of the association between presenteeism and job satisfaction (through work engagement). This advocates for the presence of a mediated moderation model, suggesting that the mediating effect of work engagement (H2) will be more strongly associated to job satisfaction when POS is high (H3).

H4. POS will moderate the indirect relationship between presenteeism and job satisfaction through work engagement, so that when POS is high, this indirect relationship will become stronger.

2. Method

2.1. Procedures and participants

An online survey including all the variables under study was distributed to the employees of a Belgian medical clinic. A convenience sampling approach was used. In total, 289 employees providing clinical care or holding administrative positions participated voluntarily in this research. The sample includes 228 (79%) women and 58 (21%) men, aged between 20 and 65 (average age ranges between 35 and 39). Such gender representation is not surprising and seem fairly representative of the Belgian healthcare work force (Service public fédéral, 2018). The majority of participants reported working full time (159; 55%) and working under a permanent contract (268; 94%). The average number of days participants reported to work while being ill over the last 12 months is 4.60 days (SD = 8.64). Considering these few characteristics, it is possible to attest that presenteeism does not differ according to participants' work schedule (t [285] = -.28; n. s.) or their employment contract (t [283] = .94; n. s.), but does differ according to their gender (t [284] = -2.53; p < .05). This observation reflects what is reported in other studies, showing that overall, women tend to go to work while ill more than men (Aronsson et al., 2000; Gustafsson, Schenck-Gustafsson, & Fridner, 2016; Miraglia & Johns,

At the time of the study, the authors were not informed of any change initiatives or other endeavors in progress within the organization (e.g. collective agreement renewals) that could have influenced workers' attendance patterns. Nor were the authors aware of any specific attendance management policy that could have unduly influenced employee attendance at work. However, the Belgian hospital context is known to be not particularly positive for their employees (Van Bogaert, Clarke, Willems, & Mondelaers, 2012; Vandenbroeck, Van Gerven, De Witte, Vanhaecht, & Godderis, 2017). Different studies assessing nursing staff and physicians' experiences established a link between work and organizational elements (such as job-related stress, workload, hospital management, and lack of organizational support) and satisfaction at work, intention to quit, burnout, sickness absenteeism and presenteeism (Trybou, Gemmel, Vaerenbergh, & Annemans, 2014; Van

4

Bogaert, Clarke, Roelant, Meulemans, & Van de Heyning, 2010; Van Bogaert et al., 2012; Vandenbroeck et al., 2017). Therefore, contextual elements relevant to the Belgian health care system may have influenced participants' attendance behaviors.

2.2. Measures

Presenteeism was measured using a single item that aims to calculate its frequency: "In the last 12 months, how many times did you report to work despite feeling that you should have stayed home because of your health condition?". Participants answered this question by indicating how often they came to work when they were sick. This measure is used in several studies (Aronsson et al., 2000; Johns, 2011) and Demerouti et al. (2009) reported a test—retest reliability of .58 or higher for 6—12 months intervals, indicating that answers to this question are relatively stable over time.

Work engagement was measured using the short version of the Utrecht Work Engagement Scale (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002; for example: "I am passionate about my work"). This scale includes 9 items and uses a seven-point response scale (1 = Never - 7 = Always). A high score for this scale means a higher level of work engagement ($\alpha = .86$; 95% CI: [.84-.89]).

Job satisfaction was measured using 4 items (Eisenberger, Cummings, Armeli, & Lynch, 1997; for example: "Overall, I am very satisfied with my current job") and uses a seven-point response scale (1 = Strongly disagree -7 = Strongly agree). A high score for this scale means a higher level of job satisfaction (α = .90; 95% CI: [.88–.92]).

Perceived organizational support was measured using the short version of the Survey of Perceived Organizational Support (Eisenberger et al., 1986; for example: "The clinic really cares about my well-being"). This instrument includes 8 items and uses a sevenpoint response scale (1 = Strongly disagree -7 = Strongly agree). A high score for this scale means a higher level of POS (α = .86; 95% CI: [.84–.89]).

3. Results

3.1. Preliminary analyses

Before testing the study's hypotheses, some verifications to ensure compliance with the basic postulates specific to covariance analyses were covered. First, as suggested by Tabachnick and Fidell (2013) and used by various authors (Gosselin, Lemyre, & Corneil, 2013; Johns, 2011), a logarithmic correction was made to adjust the distribution of the frequency of presenteeism. Secondly, the calculation of internal consistency coefficients (Cronbach's alpha) showed satisfactory degrees of homogeneity to justify the use of a single score for each measure in subsequent statistical analyses. Thirdly, the Harman's one factor test consisting of doing a preliminary factor analysis comprising all items included in the questionnaire was performed (Podsakoff & Organ, 1986). A high influence of the error variance can be considered when a single factor emerges from the analyses and/or when the variance explained by the first factor is more than 50%. In this study, 22 factors emerged from the factor analysis and the first factor explained only 41% of the variance. Fourthly, the assessment of variance inflation factors (VIF) calculated using the different regression models found that they were of low amplitude (between 1.09 and 1.40). Lastly, confirmatory factor analyses performed with Mplus 6 (Muthén & Muthén, 2011) show that the tested measurement model composed of four latent factors produced very good adjustment indices (χ^2 78.0003; dl = 41; χ^2 /dl = 1.90; CFI = .98; TLI = .97; RMSEA = .057 [CI 90%: .037–.075]; SRMR = .042), and is significantly better than the fit of more constrained models.

3.2. Test of hypotheses

As previously stated, the first hypothesis suggested that presenteeism would be negatively related to both work engagement (H1a) and job satisfaction (H1b). The associations between presenteeism and job attitudes were verified using correlational and regression analyses performed on IBM SPSS Statistics for Windows version 24 (see Tables 1 and 2). The results show negative and significant regression coefficients, thus confirming H1a and H1b: the more employees show up for work when they are sick, the less they feel engaged and satisfied with their job. These results observed are comparable to those reported in other studies, including Karanika-Murray et al.'s (2015) study.

H2 proposed that work engagement would mediate the relationship between presenteeism and job satisfaction. In order to examine this mediating effect, regression analyses were carried out using the PROCESS macro developed by Hayes (2013). Based on a total of 5000 replications (corrected and accelerated bias), bootstrap analyses presented in Table 2 show a significant partial mediation effect of work engagement. The results indeed indicate that presenteeism is significantly and negatively related to work engagement and that, while controlling for presenteeism, work engagement is positively associated with job satisfaction. Furthermore, the negative influence of presenteeism on job satisfaction remains significant when the influence of work engagement is considered, thus indicating a partial mediation. Finally, the indirect effect of presenteeism on job satisfaction through work engagement is significant. These results confirm H2, and to some extent replicate the evidence previously reported by Karanika-Murray et al. (2015). Overall, these findings reveal that work engagement represents an explanatory mechanism of the negative relationship between presenteeism and job satisfaction, so that presenteeism affects workers' level of work engagement, which in turn affects their level of job satisfaction.

H3 suggested that POS would moderate the relationship between work engagement and job satisfaction. Once again, the analysis was performed using the PROCESS macro developed by Hayes (2013). The results presented in Table 2 show a significant moderating effect of POS, as shown by the addition of the interaction term. However, contrary to our expectations, the interaction term is negative and not positive. Although we expected that, at a high level of POS, the relationship between work engagement and job satisfaction would be stronger (which would be consistent with a positive interaction term), Fig. 1 shows that the relationship between engagement and satisfaction is strengthened among employees reporting low POS (which is consistent with the negative interaction term that was found). Interestingly, this plot of the interaction effect indicates that, when work engagement is high, job satisfaction is high as well, regardless of the level of POS. However, when levels of work engagement are low, feeling supported by the organization or not makes a difference in terms of job

Table 1Mean, standard deviation and correlations (bivariate) between the study's variables.

	М	SD	1	2	3	4
1. Presenteeism	4.60	8.64	_			
2. Work engagement	5.17	.96	16**	(.86)		
3. Job satisfaction	5.37	1.32	24**	.69**	(.90)	
4. POS	3.69	1.19	28**	.49**	.53**	(.86)

Notes. N (listwise) = 289; M = Mean; SD = Standard deviation; POS = Perceived organizational support; The internal consistency coefficients (Cronbach's alpha) are presented in parentheses on the diagonal; **p < .01.

K. Côté et al. / European Management Journal xxx (xxxx) xxx

Table 2Results of mediation and moderation analyses.

	Work engagement		Job satisfaction		
	β	SE	β	SE	
Presenteeism Work engagement POS Work engagement × POS	15** .06 $R^2 = .02 \\ F(1, 287) = 6.04$		$\begin{array}{cccccccccccccccccccccccccccccccccccc$		
Conditional indirect effect (through work engagement) on job satisfaction by three levels of POS ^a	Effect	SE	LL 95% CI	UL 95% CI	
-1 from SD	14	.06	27	03	
Equal to the mean	11	.04	20	03	
+1 from SD	07	.03	14	02	
Index of mediated moderation	.03	.01	.01	.06	

Notes. N = 289; $SE = Standard\ error$; $LL = Lower\ limit$; $UL = Upper\ limit$; $CI = Confidence\ interval$; $POS = Perceived\ organizational\ support$; ***p < .001.

satisfaction. Overall, although these results differ from what was initially assumed, they still suggest that POS has a beneficial effect. A high POS is, however, exclusively beneficial in terms of job satisfaction for those with little engagement in their work.

Finally, considering the mediation and moderation effects, these contentions were also tested in order to reflect the possibility that the testing of H1 and H2 might be contingent on H3, which would suggest a mediated moderation effect (H4). Once again, the PRO-CESS macro and bootstrapping method were used to test this hypothesis (model 14). As shown in Table 2, the index of mediated moderation (.03; SE = .01; 95% CI = [.01-.06]) is significant and the indirect effect of presenteeism on job satisfaction through work engagement is significant at all levels of POS (as evidenced by confidence intervals that exclude zero). This indicates that work engagement conveys the effect of presenteeism on job satisfaction, regardless of the POS levels reported by participants. The effect of presenteeism on job satisfaction through work engagement is however less when POS is high than when POS is low. These findings supported the moderated mediation model but showed once again that, contrary to both H3 and H4, POS does not reinforce the effect of work engagement on job satisfaction.

4. Discussion

The results of the present study support the first two proposed hypotheses, indicating that presenteeism is negatively associated with both work engagement and job satisfaction (H1), and that work engagement mediates the association between presenteeism and job satisfaction (H2). The results also show that POS moderates the relationship between work engagement and job satisfaction (H3) and support a significant mediated moderation effect (H4). However, although the moderating effect was observed, it was not in the anticipated direction. While it was expected that a high POS would have a beneficial effect on the relationship between work engagement and job satisfaction by strengthening this relationship, it was found that this beneficial effect of a high POS was rather evidenced by higher levels of satisfaction only when employees were less engaged in their work. In other words, the current findings indicate that, when work engagement is low, POS has a compensatory effect.

The same pattern of results was found in prior research (e.g.

Hochwarter, Witt, Treadway, & Ferris, 2006; Shantz, Alfes, & Latham, 2016). In particular, Shantz et al. (2016) also reported that POS compensates for relatively low levels of work engagement. Employees who were relatively disengaged were no more likely to report intentions to quit the organization, or to engage in deviant behavior than those who were engaged if they perceived that their organization was supportive. These authors explained their findings by relying on the Conservation of Resources Theory, and the substitution hypothesis in particular (Hobfoll, Freedy, Lane, & Geller, 1990). The latter suggests that resources are substitutable for one another to meet the demands caused by a loss or a threat of a loss of resources. To recover the loss due to the depletion of a resource, employees will compensate with another resource. In line with this hypothesis, employees experiencing a depleted workrelated energy resource (such as work engagement) may draw from another work-related resource (such as POS). In contrast, employees who are already well resourced because they are highly engaged in their work may not require an additional pool of resources to drawn from.

Shantz et al. (2016) further suggested that this compensatory effect of POS is consistent with Caplan's (1974) buffering hypothesis that was proposed to explain the effect of support on the relationships between job stressors or demands and their outcomes. In particular, numerous studies provided empirical evidence for the buffering effect of POS by showing that it attenuates the deleterious effects of several stressors on employee well-being and health while has little or no impact when stressors are low (e.g. Byrne & Hochwarter, 2006; Erdogan & Enders, 2007; Jawahar, Stone, & Kisamore, 2007; Kinnunen, Feldt, & Mäkikangas, 2008; Kwan, Zhang, & Lee, 2018; Reizer & Mey-Raz, 2018). This body of research consistently shows that workers who perceive organizational support are likely to feel that they have sufficient access to organizational resources to facilitate their coping mechanisms against adverse work conditions. In a certain way, these studies also show a compensatory effect of POS.

4.1. Limitations

This study presents some limitations that should be considered when interpreting the results. First, its cross-sectional nature does not allow causal inferences between the variables under study.

^a Bootstrap analyses based on 5000 replications (corrected and accelerated bias).

K. Côté et al. / European Management Journal xxx (xxxx) xxx

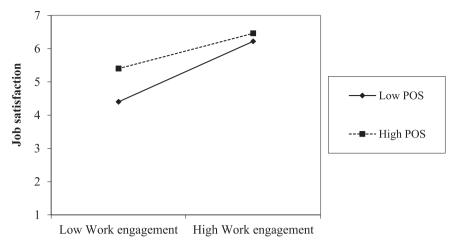


Fig. 1. Moderating effect of perceived organizational support.

However, the fact that the positioning of the different variables within the proposed model is based on the existing literature allows to somewhat puts this limitation into perspective. That being said, the use of a longitudinal design would certainly favor the establishment of more robust causal associations between the variables. Secondly, the generalizabili-ty of the results may be limited, as only one Belgian organization was included in this study. Replicating this study to larger and more diverse samples is thus recommended. Thirdly, the possible influence of common method bias represents another limitation, since all variables were assessed using self-reported measures at a single point in time. This may have artificially inflated the relationships between variables (Podsakoff, MacKensie, & Podsakoff, 2012; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, results to preliminary analyses (Harman's one-factor test revealed 22 factors emerge from the factor analysis and the first factor explains only 41% of the variance) suggest that this influence is somewhat relative and quite similar to what one could expect to find in studies that use similar research designs.

Lastly, a final limitation concerns the use of a single item to measure presenteeism. The use of single-item measures has been criticized in the literature, mainly because they may not adequately assess conceptually complex constructs, and are considered unreliable because internal consistency estimates of reliability cannot be calculated. However, some authors consider that this type of measure remains appropriate to capture a concrete and unidimensional concept, i.e. when the single item can represent the entire definition (Fisher, Matthews, & Gibbons, 2015; Fuchs & Diamantopoulos, 2009). Although the use of single-item measures can be criticized, it should be noted that the literature on presenteeism has made extensive use of a single-item measure to assess presenteeism (Aronsson et al., 2000; Biron, Brun, Ivers, & Cooper, 2006; Deery, Walsh, & Zarzick, 2014; Gosselin et al., 2013; Gustafsson & Marklund, 2011; Johns, 2011; Karanika-Murray et al., 2015).

4.2. Implications and future directions

Although preliminary in nature and their related limitations, the results observed in this study offer both theoretical and practical implications for organizations and their members. First, this study further supports the *Effort—Recovery Theory*, which proposes that when individuals' recovery process is limited, they are more at risk to suffer from cumulative negative effects, affecting their emotional responses and job attitudes towards their presence at work or their

job in general (Meijman & Mulder, 1998). Evidence has already shown that when individuals come to work when their health is not optimal, they tend to report lower levels of engagement (Admasachew & Dawson, 2011; de Beer, 2014) and satisfaction (Baker-McClearn et al., 2010; Karanika-Murray et al., 2015; Lu et al., 2013) towards their job. Such effect seems to be tributary to much required efforts to meet their work demands and personal standards of presence at work. As reported by Karanika-Murray et al. (2015), this evidence suggests that a high level of engagement helps individuals to maintain a positive emotional and motivational state of presence at work, even when they go to work while ill.

The results of this study also allow to concur with key elements of the Organizational Support Theory (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). Indeed, they indicate that individuals who perceive support from their organization also tend to maintain a more positive emotional and cognitive assessment of their work environment, including work engagement and job satisfaction. Overall, this study promotes the idea that a decrease in one's engagement towards work can help explain the deleterious effects of being present while ill on job satis-faction, and the effect of this engagement varies according to the level of organizational support one perceives. More specifically, it was found that when studied in interaction, POS seems to be a significant factor to consider when employees experience a low level of work engagement, as a result of their presenteeism. Our findings highlight how organizational resources as perceived by the employee can constitute an important lever that can help attenuate the negative effects of a low work engagement induced by presenteeism on their job satisfaction.

Secondly, this study underlines the importance of better understanding the consequences of presenteeism and deepen our knowledge of the effects of presenteeism on workers' affective and motivational states. To date, presenteeism research has largely been limited to its prevalence, its determinants and its consequences for organizations' health and productivity. However, few studies have focused on why and how presenteeism can influence individuals' job attitudes (Cooper & Lu, 2016; Karanika-Murray et al., 2015; Lohaus & Habermann, 2019). As Lohaus and Habermann (2019) asserted, an expansion of the current conceptualizations of presenteeism is needed by including both its antecedents and consequences, as well as by integrating individual and contextual elements. Having a more in-depth understanding of these relationships could help support both employees and managers: signals of lower engagement and satisfaction levels may be used as an indicator that their attendance behaviors may need to be modified, or underlie the need to implement resources to rebuild positive job attitudes. As such, this study helps better understand how internal motivational state (i.e. work engagement) and resources found in the workplace (i.e. POS) can influence the dynamics between presenteeism and job satisfaction.

Thirdly, it is recognized that the means to prevent or reduce presenteeism are rather limited, as this behavior is complex to detect (Collins et al., 2005). It is therefore paramount to develop our understanding of the deleterious effects of presenteeism and the factors that can help preventing such attendance behaviors, guide organizational interventions, as well as improve workers' health and maintain organization's productivity. In this particular study, results suggest that presenteeism is associated with a lower job satisfaction. According to Aziri (2011), low levels of job satisfaction have the potential to influence various aspects of organizational life, such as employee's commitment, absenteeism and intention to quit. This points out the benefit of using presenteeism as a potential risk factor for low job satisfaction, and to target individual and organizational components that can help buffer such negative effect. More specifically, implementing flexible attendance policies and granting sufficient time off work to recover from an illness before returning to work could help managers limit presenteeism in the workplace, and therefore maintain higher levels of job satisfaction among their employees.

Fourthly, as a "positive, affective-motivational state of workrelated well-being" (p. 187; Bakker, Schaufeli, Leiter, & Taris, 2008), work engagement seems to represent a notable ingredient that can explain the presenteeism—job satisfaction negative relationship. Therefore, interventions to foster employee work engagement could be beneficial for their organizations. Based on previous studies, these interventions should aim to develop selfefficacy, autonomy and self-esteem in employees, by encouraging a supportive organizational culture, supervisory coaching and performance feedback (Bakker et al., 2008; Salanova, Schaufeli, Xanthopoulou, & Bakker, 2010). Thus, managerial practices that support the professional development of employees, welcome their input and reinforce their proactive initiatives could help foster their work engagement. Overall, these types of interventions could help develop work engagement and maintain a certain level of satisfaction at work, despite coming to work when ill.

Additionally, this study shows that POS can vary the strength of the indirect effect of presenteeism on job satisfaction through work engagement. In particular, the results show that a high POS can reduce the negative influence of a low work engagement on job satisfaction. When employees perceive a high level of organizational support, they feel supported and understood, and therefore believe that their manager and/or work environment in general can be more understanding and mobilized in case of perceived difficulties. Therefore, investing in levers that are known to generate POS, such as immediate supervisor support and colleagues support, could contribute to maintain employees' job attitudes, even when presenteeism behaviors are reported (Krishnan & Mary, 2012; Rhoades & Eisenberger, 2002). For example, by helping employees cope with their workload, orienting new employees to their new role and helping them after a leave of absence, managers can have a direct influence on their subordinates' POS and therefore, limit the negative impacts of presenteeism on motivational and affective

Lastly, expanding the mediated moderation model tested in this study would help further identify how to mitigate the deleterious effects of presenteeism on job attitudes. For example, assessing the effect of other mediators (e.g. impression management and self-efficacy) and moderators (e.g. different types of supervisory support) could help to develop the understanding and prevention of this attendance behavior. In addition, exploring the distinct

influence of various forms of presenteeism (functional, therapeutic, over-achieving and dysfunctional) would make it possible to gain a more nuanced comprehension of such a way of behaving and its effects on workers' health (Karanika-Murray & Biron, 2019). For example, in the case of workers who engage in over-achieving presenteeism (i.e. worker's decision to perform at work at the expense of their recovery from ill-health), examining how work addiction can influence the relationship between their attendance behaviors and their job satisfaction could be beneficial. For those who engage in dysfunctional presenteeism (i.e. worker's unsustainable choice to go to work while being ill and risking to suffer from impaired health in the future), an analysis of the influence of human resource policies and management styles on the dynamic between presenteeism and job satisfaction could be valuable to limit sickness absenteeism. These considerations seem particularly relevant for the Belgian healthcare sector: since the workload is substantial and can be difficult to manage, healthcare providers may consider that absences from work will increase the burden on their colleagues, so that presenteeism might be preferred. In turn, this could eventually lead to a decrease in positive affects towards their work. Therefore, investigating contextual elements and resources is needed to prevent the deleterious effects of presenteeism. In summary, the results to this study contribute to the understanding of the consequences of presenteeism on attitudinal and motivational responses, as well for identifying individual and organizational elements that can explain the effects of presenteeism on those consequences. Future studies are needed to deepen the comprehension of these dynamics and their contributing factors.

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K. Côté et al. / European Management Journal xxx (xxxx) xxx

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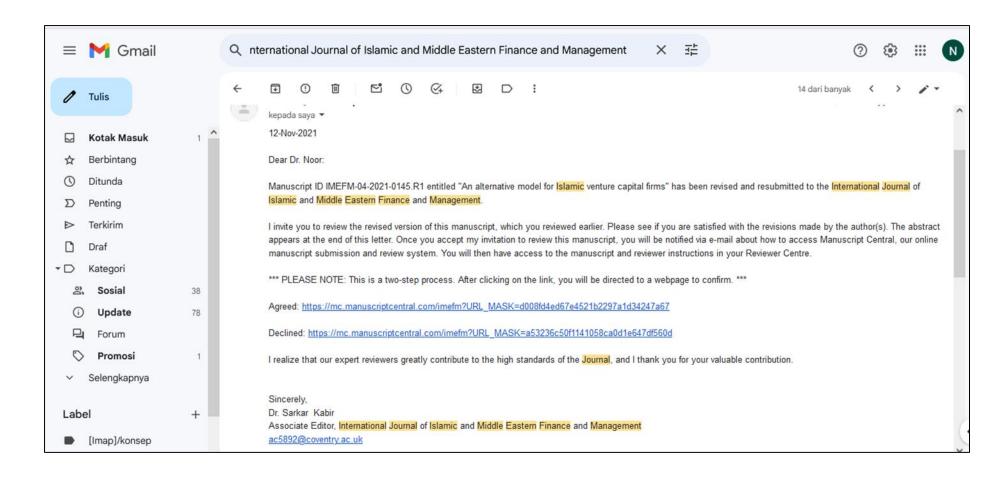
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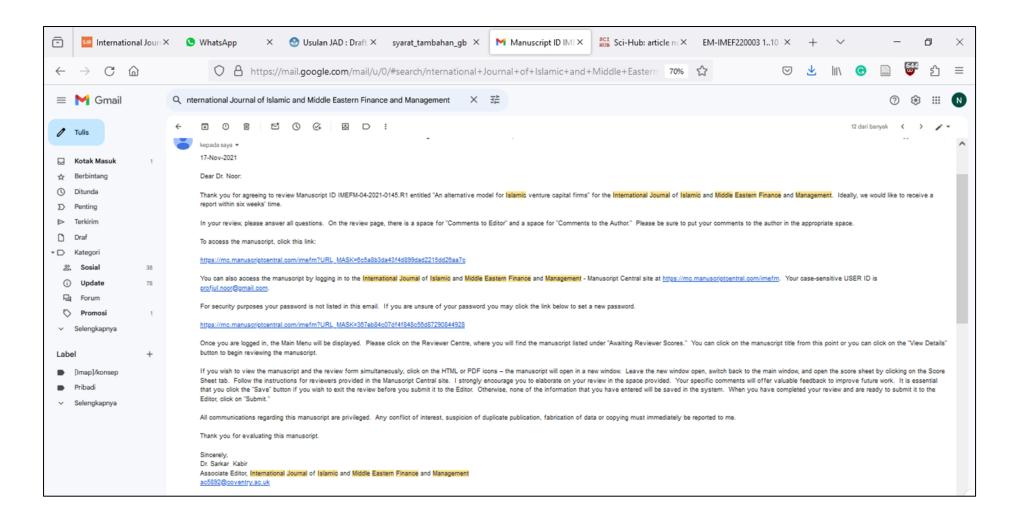
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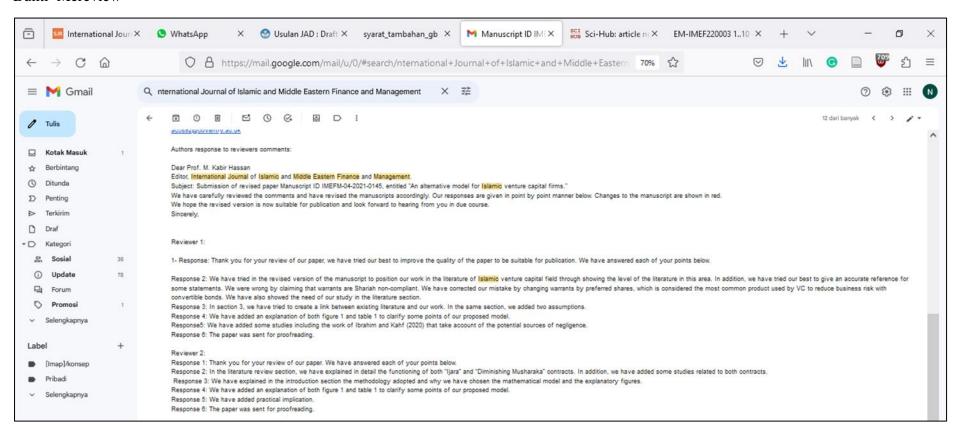
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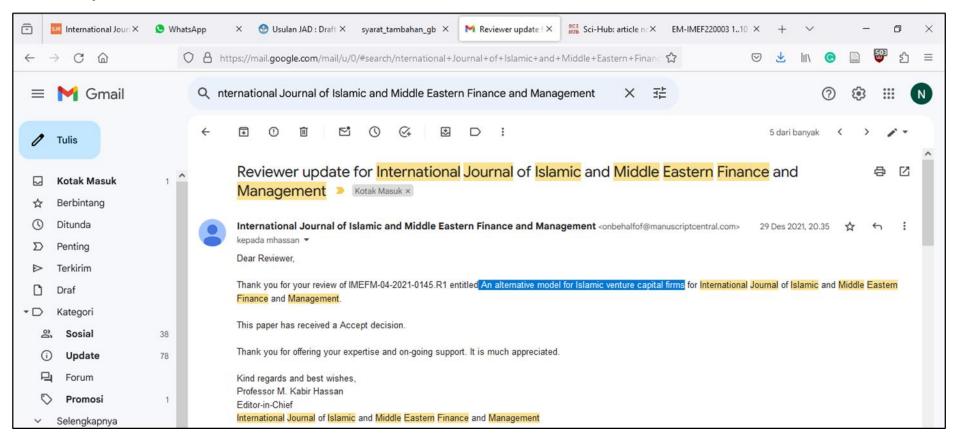




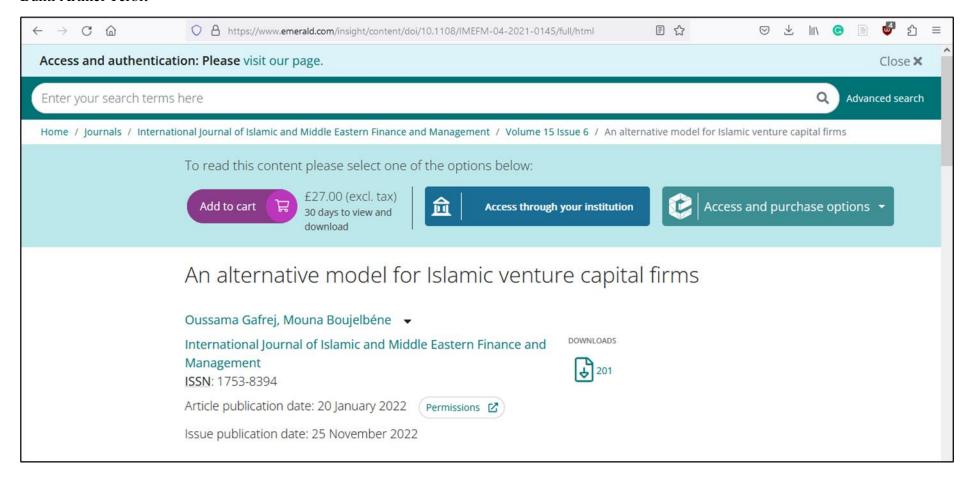
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An alternative model for Islamic venture capital firms

Islamic venture capital firms

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Abstract

Purpose – The purpose of this paper is to propose a financial instrument by combining two main contracts in Islamic finance with the aim to minimize risks involved in Islamic venture capital (IVC) activities.

Design/methodology/approach – A mathematical model and explanatory figures are provided to see how IVC firms can benefit from the combination of "*Ijara*" contract and "Diminishing Musharaka" contract to provide financing for start-up and high-tech companies.

Findings – The proposed instrument could be considered as an alternative solution for IVC firms. It represents a low level of risk with a stable income in the beginning of the project. In addition, it allows benefiting from the possible development of start-up and high-tech companies with a smooth exit from the capital of the financed company without the intervention of another investor. It is also considered as a motivational instrument for the entrepreneurs, because it allows benefiting from a grace period on the one hand and from a lower cost of financing compared to other type of funding on the other hand.

Practical implications – Some studies have concentrated on identifying and understanding the concept, the operation and the challenges of IVC industry. The study is considered among few studies that provide a practical model for IVC firms, which takes account of the different stages of venture capital process. The instrument can promote the development of IVC firms and give alternative financing opportunities to Muslim entrepreneurs.

Originality/value — The current model provides a truly revolutionary solution for young Muslim entrepreneurs who do not accept to be financed by the proposed instruments of venture capital (VC) firms such as convertible bonds and warrants. On the other side, it provides an alternative solution for IVC firms to the already offered products such as "Musharaka", "Mudharaba" and "Wakalah" contracts. An expert in "Figh Al-Muamalat" (Islamic law of transaction) assessed the Sharia compliance of the model.

Keywords Islamic venture capital, Financial risks, "Ijara" contract, "Musharaka" contract

Paper type Research paper

1. Introduction

Venture capital (VC) represents an interested funding source to firms that have a technological aspect and a high development potential (Yang et al., 2016). It provides a financing source dedicated to the stages of creation and post-creation (Rédis, 2009). According to Sincerre et al. (2019), VC is addressed to companies that have placed or nearly places its product or service on the market. In addition, it represents an alternative to bank financing that requires guarantees, which are often lacking for young entrepreneurs (Fathonih et al., 2019). The extant literature shows a significant link between VC industry, economic growth and innovation (Samila and Sorenson, 2011; Kolmakov et al., 2015). The principal role of venture capital firms consists of receiving from their own shareholders (pension funds, banks, insurance companies, industrial groups, independents and sovereign wealth funds) and then reinvesting these funds by taking participations in the capital of companies. The main goal of such financing is to maximize the value of the selected companies to realize additional capital gains for each exit. Similar to any other financial institution, VC firms have been established to fulfill the Islamic finance principles.



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Islamic venture capital (IVC) emerged for two reasons: First, venture capital firms may invest their funds in illicit activities, which led the Islamic financial investors not to invest in such financing. Second, the financial instruments that have been used by VC firms to minimize the risk associated with their investments are considered non-compliant with Islamic finance principles such as preferred shares and convertible bonds. The main objective of this paper is to contribute to the sustainability of the IVC industry through proposing an alternative model of financing by combining "Ijara" and "Diminishing Musharaka" characteristics. A mathematical model and explanatory figures will be developed to understand the stages of implementing the proposed model and to explain its functioning. This methodology will be accompanied by a numerical example to show its benefits for IVC firms and entrepreneurs.

This study is arranged in four sections including the introduction in the first section. Section 2 outlines the literature review of IVC-related studies. A mathematical model explained through practical example and figures to show the benefits of the instrument for both entrepreneurs and IVC firms as well as to investigate its feasibility is developed in Section 3. The findings of the numerical example are summarized in a table in this section as well. Finally, a conclusion is formed in Section 4 to provide a quickly synthesize this work.

2. Literature review

The current state of literature regarding IVC industry is limited in number compared to its potential contribution to economic growth, innovation and employment in Muslim countries. Omran (2015) shows that IVC industry represents a great opportunity to fill the gap between the financial need of educated young people in Arab countries and investors who seek Sharia-compliant investments. Bint Hasan et al. (2011) have diagnosed the state of IVC in Islamic countries and its stages of development. They have also cited the contracts used by IVC firms, which are "Musharaka", "Mudharaba" and "Wakalah" and the Islamic legal maxims relating to those contracts. Ibrahim and Kahf (2020) tried to provide a detailed explanation of Shariah-compliant instruments that can be used in IVC industry including the clauses relating to negligence and supermajority. The study is based on the analysis of the VC process (from fundraising to post exit), proposed by Wright Robbie's (1998). They proposed a variety of instruments that accompanying the IVC team to protect the investments of their limited partners during the investment-holding period. The instruments include "Perpetual Mudharaba", "Diminishing Musharaka", "Musharaka with Qard" and "Musharaka with Murabaha". Alwi et al. (2020) conducted a study in the form of face-to-face interviews with the two managers of the only two parts, covering the operation and the challenges of IVC firms in Malaysia, respectively. According to the study, the most common contract provided by both firms to the target companies is "Musharaka" with a "Wakalah" contract signed between the IVC firm and the investor (limited partner) to act as a fund manager. However, IVC firms in Malaysia have to increase awareness about the presence of such firms and minimize the risk related to the rate of return of "Musharaka" contract.

Anwer et al. (2019) discussed in detail the investments models of IVC. They divided these models into three categories. The first model consists to acquire the majority of shares of a target company and then replace the current management by the fund managers to perform better business strategy. The second model consists to reduce IVC risks by investing in a variety of sectors. This form needs a strong governance to properly assess each business segment. Third, the IVC investment can be made by investing in crowdfunding platforms, which complies with the Islamic finance principles. The authors suggested also that IVC firms should include additional conditions in "Musharaka" and "Mudharaba" contracts such as a compensation to be paid in the case of the breach of the contract. In addition, Athief (2019) proposes to combine both IVC and crowdfunding. The idea lies in having additional

Islamic venture capital firms

income, which comes from the service provided by the IVC firm through publishing the selected company on its website in the form of equity crowdfunding campaign on the one hand. On the other hand, it aims to share risks between different investors. The study proposes also an internal market as an exit strategy for crowdfunding investors. Abdul Rahman and Mohd Nor (2018) tried to investigate the possibility to adopting the strategy of VC firms by Islamic banks through Musharaka financing. The study begins by understanding the main reasons for the non-use of "Musharaka" financing by Islamic banks and ends with asking venture capitalists about the mechanism used to reduce business risk. The reasons are the high degree of risk, the difficulty to select the business partner and the guarantee of capital security. Concerning the strategies adopted by VC companies, the authors highlight four points that could be adopted for "Musharaka" financing, which are, the selection process, the funds disbursement schedule, the continuous monitoring and the skills training. Fathonih et al. (2019) proposed some recommendations for future research in this field, including investigating the benefits of IVC as a type of financing to small business owners and finding other financing alternatives to reduce business failure risk.

According to Rédis (2009), the risks involved in VC industry are classified into three categories: Business risk, which is related to the type of the project. It is composed of three strands. First, the commercial side that involves the inability to commercialize the product, the competitive intensity and the target market complexity. Second, the technological aspects that depend on the stage and the nature of the project and the nature. Third, when referring to the entrepreneurs' management, in particular, the ability of the entrepreneur to manage properly the project development. Financial risks or, in other words, the difficulty to know at the beginning the exact long-term value of the company and the exit modes from the investments. Managerial risk, which is related essentially to the asymmetric information. The latter concept could be explained by two factors the risk of adverse selection and the moral hazard. The adverse selection also called "hidden information" appears essentially when certain precise information about the situation of the entrepreneur and the development of the company are not known with certainty by the VC firm. This type of asymmetric information leads to an inefficient allocation of funds. The adverse selection occurs when the investor is unable to observe the entrepreneur's actions. Varian (1990) defined the moral hazard as follows: Situations where one side of the market can't observe the actions of the other [and] is sometimes [referred to as] a hidden action problem.

The current literature in the IVC industry have tried to show the main challenges. In addition, some authors investigate how to find a suitable model that can handle with different stages of venture financing that can help to ensure the evolution of IVC firms over time. In this context, we try to solve this problem by proposing a model that takes into account the different stages of the financing process through a combination of "Diminishing Musharaka" and "Jiara" contracts.

Our proposed model is based mainly on two different contracts. First, the "*Ijara*" contract in which one person rents an asset to another against rental payments to usufruct the asset (Guéranger, 2009). According to Obaidullah (2020), the functioning of "*Ijara*" contract with the bank is presented as follows: the client chooses an asset and approaches the bank for proposing an "*Ijara*" contract with a promise to lease the asset. After that, the bank acquires the asset from the vendor and leases it to the client. Then, the latter pays the hire of the asset and at the end of the contract, the asset goes back to the bank. Second, the "Diminishing Musharaka" contract which represents an interesting product for Islamic banks. According to Hussain (2010) in "Diminishing Musharaka", one of the partners (typically the bank) agrees to sell progressively its shares to its partner (the client). The bank's proportion will be

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reduced ant the client's shares will be increased at the same time. This type of contract is usually used in house financing (Meera and Razak, 2009).

In the next section, the model will be demonstrated with a numeric example to show its potential implications for IVC industry.

3. The model

The research demonstrated below uses the mechanism of diminishing partnership and the model of house-financing proposed respectively by Smolo and Hasan (2011) and Selim (2020).

In conducting this work, two assumptions were made:

- (1) The combination of "Ijara" and "Diminishing Musharaka" characteristics in IVC industry will provide appropriate protection of investors through maintaining a stable source of revenue as well as a smooth exit strategy.
- (2) The proposed model will ensure for the entrepreneur a lower cost of financing with a full ownership of the company.

After approving the project by venture capital firm, the representative of the latter discuss with the entrepreneur the initial cost of starting a business. They will evaluate the amount of money that the entrepreneur need for the period between the expenses and the first cash inflows. To calculate this amount, it is necessary to quantify the financial requirements during the first few months following the commencement of the company's activity. This gap in the treasury counts a minor part compared to the total of capital needed to launch a project. The entrepreneur himself should finance this amount in our proposal or it may recourse to love money (provided by family or friends). However, the two parties sign an "Ijara" contract. The IVC firm is designed to be the owner of the asset required for the business' activity. The assets will be available for the entrepreneur as a lessee to profit therefrom. In return of the enjoyment of the assets the entrepreneur pays a compensation called "rent". The IVC has to acquire only the assets that are necessary for the business' activity. The other assets will be acquired progressively on a six-monthly or an annual basis as a sequential financing in the light of the achievement of the business objectives. In addition, the IVC firm provides to the entrepreneur a grace period, which depends essentially on the business sector of the target company. The duration of the proposed "Ijara" contract is equal to three years from the date of receipt of the necessary assets. It could be varied on the basis of the period that has already estimated to begin the sales process. At the same time, the entrepreneur makes a partnership promise to the IVC firm (the usefulness of this promise will be understood below).

The entrepreneur pays the monthly rent based on the following three steps: First, we calculate the accumulated amortization value by the following formula:

$$A = (P \times i \times y) \tag{1}$$

where: P is the original price, i is the amortization rate and y is the number of years, which corresponds to three years in our case.

Second, we calculate the earned value of the accumulated amortization based on a margin rate. We can get the following formula:

$$E = \sum A (1+r)^{3-m} \tag{2}$$

where E is the earned value of the accumulated amortization, A is the accumulated amortization, r is the margin rate and m is the number of years, which corresponds to the date of asset acquisition.

Islamic venture capital firms

Third, we calculate the monthly rent, which later will be adjusted progressively according to the successive acquisitions of the additional assets, by the following formula:

At the end of the grace period:

$$R = \frac{E1}{n - d} \tag{3}$$

At the beginning of the second year, assuming that the VC firm will acquire other asset at that date:

$$R = \frac{E1}{n - d} + \frac{E2}{n - n2} \tag{4}$$

where R is the monthly rent, n, d and n2 represent respectively the number of months of *Ijara* contract, the grace period and the period, which corresponds to the difference between the acquisition date and the end of *Iiara* contract.

Suppose an IVC firm plans to finance a project. The total funds required for the project are equal to \$100,000. This includes \$15,000 as a working capital, \$70,000 as necessary assets with an average depreciation rate on a straight-line basis of 10% and \$15,000 as additional assets (\$7,500 per year) with the same depreciation rate. The term of "Ijara" contract will be three years with a margin rate of 20%.

From equation (1), the accumulated amortization of the necessary assets and the additional assets can be calculated as follows:

$$A1 = (70\ 000\$ \times 10\% \times 3) = 21\ 000\$ \tag{5}$$

$$A2 = (7 500\$ \times 10\% \times 2) = 1 500 \$$$
 (6)

$$A3 = (7\ 500\$ \times 10\% \times 1) = 750\ \$ \tag{7}$$

The earned value can be calculated from equation (2) as follows:

$$E = 21\ 000\$.\ (1.2)^3 + 1\ 500\$.\ (1.2)^2 + 750\$.\ (1.2) = 39\ 348\$$$
 (8)

The monthly rent can be calculated from equations (3) and (4) as follows: At the end of the grace period:

$$R = \frac{21\ 000\$.\ (1.2)^3}{36 - 6} = 1\ 210\ \$ \tag{9}$$

At the beginning of the second year:

$$R = 1 \ 210\$ + \frac{1 \ 500\$. \ (1.2)^2}{36 - 12} = 1 \ 300 \ \$$$
 (10) At the beginning of the third year:

$$R = 1 \ 300\$ + \frac{750\$. \ (1.2)}{36 - 24} = 1 \ 375 \ \$$$
 (11)

At the end of the contract, the IVC firm ensures that the depreciation value of the assets is covered with a margin that corresponds to the difference between the earned value and the accumulated amortization. It also receives a monthly rent greater than the amount received in the case of "*Ijara*" contract in its classical form if we take into consideration the duration of the contract following the termination of this contract. Through this contract, the IVC firm observes the managerial behavior of the entrepreneur and it has the right to sign a separate contract "Diminishing Musharaka" according to the partnership promise given by the entrepreneur at the beginning of "*Ijara*" contract. In addition, it will ensure that the assets could be sold, as the duration of the contract can regarded as reasonable to achieve gains on disposal of asset sales.

On the other side, the entrepreneur benefits from a grace period and a reduced cost compared to classical financing modes. In addition, the monthly rent is considered as operating expense deducted from the corporate tax. This contract could motivate the entrepreneur to benefit from the additional assets and to convince the IVC firm to sign the "Diminishing Musharaka" contract.

The terms of the contract are as follows:

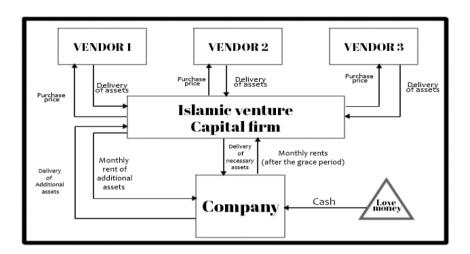
- The object of the lease must be known and agreed by both parties.
- The rental period, the term of payment, the lease amount and the periodicity must be determined and known at the time of the contract's conclusion.
- The IVC firm must designate someone to do a periodic inspection of the current state of the assets and maintenance required.
- The duration of the contract is three years.
- The grace period shall not exceed six months.
- The supplementary investments could be acquired yearly or half-yearly.

The following figure explains the functioning of the "*Ijara*" contract.

Figure 1 shows that the entrepreneur should provide a minor part of the amount of the investment, which corresponds to the amount needed to enable the commencement of the company activity. After that, a contract of "Ijara" will be signed between both parties with a grace period. The IVC firm at the first time acquire only the essential assets for the business activity against the payment of monthly rents. The additional assets will be acquired on a sixmonthly basis as a sequential financing from different vendors. At the same time, the monthly rents will be adjusted to take account of the successive acquisitions of the additional assets.

The IVC firm is facing two choices. First, it could recover its assets and sell them on the market after noticing an element of mismanagement. Second, it could sign with the entrepreneur a "Diminishing Musharaka" contract. In the latter case, an external expert using different methods of valuation determines the enterprise value (EV). The value that represents the proportion of the IVC firm is the market value of the assets at the end of the "Ijara" contract. This proportion is calculated as follows:

$$IVCp = \frac{\sum MV}{EV} \times 100 \tag{12}$$



Islamic venture capital firms

Figure 1.
Overview of the functioning of the proposed "Ijara" contract

On the other hand, the part of the entrepreneur in the capital will be equal to the residue after deducting the investor's part.

$$Eb = 100 - IVCb \tag{13}$$

where: IVCp and Ep are the IVC firm and the entrepreneur value part. respectively, MV and EV are the market value and enterprise value, respectively.

Suppose that the market value of the assets and the enterprise value are equal to \$60,000 and \$200.000 respectively.

From equations (13) and (14), the proportion of both the IVC firm and the entrepreneur can be calculated as follows:

$$IVCp = \frac{60\ 000}{200\ 000} \times 100 = 30\% \tag{14}$$

$$Ep = 100 - 30\% = 70\% \tag{15}$$

Then, the both parties sign a "Diminishing Musharaka" in which the IVC firm will withdraw progressively from the enterprise's capital by selling its shares to the entrepreneur. Consequently, the entrepreneur becomes the sole owner of the company. The pricing is determined at the end of each semester (at the moment of the progressive sale). Profits are distributed between both parties throughout the duration of the contract, according to the proportion of each part. The functioning of this contract is carried out in the following manner: the IVC firm sells 5 or 10% of the shares to the entrepreneur half-yearly and yearly, respectively. At the same time, the profits are distributed according to 70/30 ratio. At the end of the first year, the entrepreneur purchases other shares and consequently reducing the proportion of the profits and the shares of the IVC firm in the company's capital. The process continues in a consistent manner until the end of the contract in which the entrepreneur purchases all the VC firm's shares and he became the sole owner of the company (100 %). The following diagram explains the approach to be followed in this contract (Figure 2).

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Now suppose that the enterprise value will increase by 10% per semester and the amount to be received at the end of the first semester is equal to \$6,000, and it will grow with the same growth rate. IVC's share in the capital, IVC's share in the profit, the amounts to be received by the IVC firm on disposal of shares and related issues are displayed in the following table.

Table 1 shows that IVC firm maintains a stable profit margin throughout the duration of the contract. The reduction in the amount to be received through profit sharing is covered by the amount to be received on the disposal of shares thanks to the growth of the financed company. On the other side, the percentages presented in Table 1 demonstrate how the entrepreneur will become the sole owner of the company in a gradual manner.

This mode of financing is advantageous to an IVC firm. It represents a steady source of income. Also, it provides a progressive exit method. Based on the above method, the IVC firm eliminates the risk of not finding a buyer at the maturity date of the contract. It allows achieving a high performance by investing in startup and high-tech companies.

On the side of the entrepreneur, the cost is based on the achieved outcomes. The financial expenses are paid only if the company makes a profit. In addition, it permits to regain the capital share of the company without the intervention of any other investors.

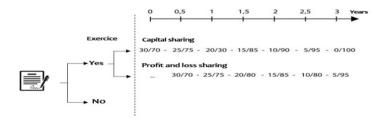
The conditions and clauses associated with this contract are the following:

The distribution of profits should be clearly defined.

IVC's share IVC's share

- The valuation of the company is made on a mid-vear basis.
- Both parties shall define clauses dealing with the control of the firm and the monitoring of the investments.

Figure 2. Overview of the functioning of the proposed "Diminishing Musharaka" contract



	End of in the semester capital (%)		in the profit (%)	The amount to be received on disposal of shares	The amount to be received through profit sharing
	1	25	30	200 000\$. (1.1). 5% = 11 000\$	6000\$
	2	20	25	200 000\$. $(1.1)^2$. 5% = 12 100\$	$\frac{6\ 000\$\ .\ (1.1).\ 25\%}{30\%} = 5\ 500\$$
	3	15	20	200 000\$. $(1.1)^3$. $5\% = 13 310$ \$	$\frac{6\ 000\$\ .\ (1.1)^2.\ 20\%}{30\%} = 4\ 840\$$
Table 1. Payment schedule	4	10	15	200 000\$. $(1.1)^4$. 5% = 14 641\$	30%
and the progressive exit of the proposed	5	5	10	200 000\$. $(1.1)^5$. $5\% = 16 105$ \$	$\frac{6\ 000\$\ .\ (1.1)^4.\ 10\%}{30\%} = 2\ 927\$$
"diminishing musharaka" contract	6	0	5	200 000\$. $(1.1)^6$. $5\% = 17716$ \$	$\frac{6\ 000\$\ .\ (1.1)^5.\ 5\%}{30\%} = 1\ 610\$$

- The entrepreneur should seek the agreement before any important decision is made such as launching a new product, new investments.
- The entrepreneur should organize a specific reporting to the investors through presenting budgets, programs and financial statements on a fixed period basis.

Islamic venture capital firms

4. Conclusion

The development of venture capital activity could be guided directly to economic growth, since it has a significant impact on job creation through financing firms in their start-up stages that have a high potential for growth. This development could be hampered in Muslim countries by the failure to comply with Islamic finance principles. The reasons for which the IVC industry has been established are: The investors often shy away from investing their funds in unlawful activities and the young entrepreneurs do not accept to be financed by the proposed instruments of VC firms such as convertible bonds and warrants. The offered products by IVC firms such as "Musharaka", "Mudharaba" and "Wakalah" contracts could not minimize effectively the risks involved in IVC activities. The main objective of this paper is to propose a financial instrument by combining two main contracts in Islamic finance, which are "Ijara" and "Diminishing Musharaka" contracts.

The demonstration of how the model works and the numerical example fully supports the practical feasibility of the model. It allows the IVC firm to benefit from attractive profits, while minimizing the potential risks of IVC industry. It allows a smooth exit from the capital of the financed company, while avoiding a major problem relating to venture capital industry. In addition, our proposed model provides to the IVC firm a stable income with the high possibility to benefit from accelerated growth in start-up value, Furthermore, our model presents several advantages to the entrepreneur. It benefits from a grace period at the beginning of the project. The monthly rent is less costly compared to classical modes of finance. The entrepreneur will become the sole owner of the company at the end of the project. This paper elaborates a possible model of financing that IVC firms might use to minimize the risks of their operations. The present paper contributes to widening the choice of financing methods that can be adopted to specific projects. The IVC firm has to strengthen its position in the negotiation of "Dimininshing Musharaka" contract, as the entrepreneur might not fulfil his partnership promise. In addition, certain changes could be made to our proposed model to be used by other financial institutions such as Islamic banks and Islamic micro finance firms.

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