

# 科技部補助專題研究計畫成果報告 期末報告

## 工作資源豐富性與工作敬業：工作雕琢之中介角色

計畫類別：個別型計畫

計畫編號：MOST 103-2410-H-263-003-

執行期間：103年08月01日至104年07月31日

執行單位：致理學校財團法人致理科技大學行銷與流通管理系

計畫主持人：陳建佑

報告附件：出席國際會議研究心得報告及發表論文

處理方式：

1. 公開資訊：本計畫涉及專利或其他智慧財產權，2年後可公開查詢
2. 「本研究」是否已有嚴重損及公共利益之發現：否
3. 「本報告」是否建議提供政府單位施政參考：否

中華民國 104 年 10 月 15 日

中文摘要：餐旅產業時常存在著工作多資源少的現象。面對資源稀少的嚴峻環境，管理者需要能適應如此環境並且能對工作敬業的員工。然而過去似乎較少研究探討此一議題。本研究欲藉由探討工作資源豐富性與工作敬業之關係，以及解釋工作雕琢與領導部屬交換關係所扮演角色。本研究抽樣370位飯店第一線服務人員。結果發現工作資源豐富性與工作雕琢為正向關係；工作雕琢與工作敬業為正向關係；工作雕琢完全中介工作資源豐富性與工作雕琢關係；領導部屬交換關係干擾工作資源豐富性與工作雕琢之關係。研究貢獻補充個人資源與工作敬業關係之研究缺口。

中文關鍵詞：工作資源豐富性、工作雕琢、領導部屬交換關係、工作敬業

英文摘要：Abstract

“Do more with less” is a common aphorism in the hospitality industry. Under resource-limited work conditions, managers need to identify frontline employees who can adapt to such conditions and remain engaged in their work. However, research on work engagement has disregarded this essential matter. This study fills up this research gap by investigating the relationship between job resourcefulness and work engagement and clarifying the influence of job crafting and leader-member exchange (LMX) on this relationship. Data obtained from 370 frontline hotel employees showed that job resourcefulness was positively associated with job crafting. Job crafting was positively related to work engagement. Job crafting fully mediated the relationship between job resourcefulness and work engagement. The influence of job resourcefulness on job crafting was stronger among employees with high LMX than among those with low LMX. The findings of this study contribute to the theory and practice regarding the relationships between personal resources and work engagement.

英文關鍵詞：job resourcefulness, job crafting, leader-member exchange, work engagement

行政院科技部補助專題研究計畫

期中進度報告  
 期末報告

工作資源豐富性與工作敬業：工作雕琢之中介角色

計畫類別： 個別型計畫  整合型計畫

計畫編號：MOST 103-2410-H-263 -003

執行期間：103 年 8 月 1 日至 104 年 7 月 31 日

執行機構及系所：致理科技大學行銷與流通管理系

計畫主持人：陳建佑

共同主持人：顏昌華、吳壽進

計畫參與人員：

本計畫除繳交成果報告外，另含下列出國報告，共 1 份：

移地研究心得報告

出席國際學術會議心得報告

國際合作研究計畫國外研究報告

處理方式：除列管計畫及下列情形者外，得立即公開查詢

涉及專利或其他智慧財產權， 一年  二年後可公開查詢

中華民國 104 年 10 月 10 日

餐旅產業時常存在著工作多資源少的現象。面對資源稀少的嚴峻環境，管理者需要能適應如此環境並且能對工作敬業的員工。然而過去似乎較少研究探討此一議題。本研究欲藉由探討工作資源豐富性與工作敬業之關係，以及解釋工作雕琢與領導部屬交換關係所扮演角色。本研究抽樣 370 位飯店第一線服務人員。結果發現工作資源豐富性與工作雕琢為正向關係；工作雕琢與工作敬業為正向關係；工作雕琢完全中介工作資源豐富性與工作雕琢關係；領導部屬交換關係干擾工作資源豐富性與工作雕琢之關係。研究貢獻補充個人資源與工作敬業關係之研究缺口。

關鍵字：工作資源豐富性、工作雕琢、領導部屬交換關係、工作敬業

### Abstract

“Do more with less” is a common aphorism in the hospitality industry. Under resource-limited work conditions, managers need to identify frontline employees who can adapt to such conditions and remain engaged in their work. However, research on work engagement has disregarded this essential matter. This study fills up this research gap by investigating the relationship between job resourcefulness and work engagement and clarifying the influence of job crafting and leader-member exchange (LMX) on this relationship. Data obtained from 370 frontline hotel employees showed that job resourcefulness was positively associated with job crafting. Job crafting was positively related to work engagement. Job crafting fully mediated the relationship between job resourcefulness and work engagement. The influence of job resourcefulness on job crafting was stronger among employees with high LMX than among those with low LMX. The findings of this study contribute to the theory and practice regarding the relationships between personal resources and work engagement.

Keywords: job resourcefulness, job crafting, leader-member exchange, work engagement

## **Job resourcefulness, job crafting, leader-member exchange, and work engagement in the hospitality industry**

### **1. Introduction**

Academics and practitioners have focused on the crucial role of frontline employees in work and organizational effectiveness (Gilly and Hansen, 1985; Yeh, 2013) because they play an essential role in maintaining relationships with customers and delivering high-quality services (LaLopa, 1997; Rust et al., 1996). However, frontline employees in the hospitality industry often encounter long work hours, burnout, and extreme emotional demands because of the nature of their boundary-spanning jobs (Karatepe et al., 2014; Mahesh and Kasturi, 2006). Therefore, under such highly demanding work conditions, managers require employees who can engage in their work.

Work engagement is defined as a positive, affective-motivational, work-related state of mind that is characterized by vigor, dedication, and absorption (Bakker and Bal, 2010; Schaufeli and Bakker, 2004). The importance of work engagement has been recognized by scholars and managers (Salanova et al., 2005; Warshawsky et al., 2012; Yeh, 2013). Many researchers have contributed substantially to identifying the antecedents of employee work engagement (Cheng et al., 2013; Hassan and Al Jubari, 2010; Kühnel et al., 2009). A well-known framework for studying work engagement is the job demands-resources (the JD-R) model, which is focused on how job resources and job demands influence work engagement (Bakker et al., 2011). However, organizations that encounter with economic uncertainty may set other priorities (Bakker et al., 2012b). Managers do not capitalize on employee resources fairly (Øgaard et al., 2008). Job demands are negatively associated with work engagement (Prieto et al., 2008; Zacher and Winter, 2011). Therefore, this study concerns personal resources that are pivotal stimuli of work engagement, which are ignored in the literature (Xanthopoulou et al., 2007).

An important personal resource that remains to be investigated is job resourcefulness (Rod and Ashill, 2009), which is defined as “an enduring disposition to garner scarce resources and overcome obstacles in the

pursuit of job-related goals” (Licata et al., 2003, p.257). This is because job resourcefulness is an important factor that frontline employees need to be skilled at handling the quantity and quality of their work in pursuit of the efficiency and effectiveness of operations (Rod and Ashill, 2009). Moreover, past research on job resourcefulness has examined work-related outcomes such as job satisfaction, job performance, and intention to leave (Harris et al., 2006; Licata et al., 2003). However, prior studies have not investigated the relationship between job resourcefulness and work engagement, particularly in the hospitality domain.

Previous studies have investigated the psychological mechanism underlying how job resourcefulness affects work-related attitudes and behaviors (Harris et al., 2013; Karatepe and Aga, 2012). Examining whether job resourcefulness associates with work engagement may be arbitrary without understanding their vital mediator. In this study, we pay attention on job crafting, which is defined as “the physical and cognitive changes individuals makes in the task or relational boundaries of their work” (Wrzesniewski and Dutton, 2001, p.179). We focus on job crafting because past studies have shown that job crafting is a pivotal determinant of work-related attitudes and behaviors (Leana et al., 2009; Petrou et al., 2012). Hence, we consider whether job resourcefulness influences work engagement through job crafting. Previous studies have separately focused on the phenomena of job resourcefulness, job crafting, and work engagement (Harris et al., 2006; Kühnel et al., 2009; Lyons, 2008). However, little academic attention has been paid to investigate the relationships among job resourcefulness, job crafting, and work engagement.

Leader-member exchange (LMX) refers to the relationship quality between supervisors and subordinates (Graen and Scandura, 1987). Employees with higher-quality relationships with their leaders often receive greater career opportunities, increased levels of decision latitude, and higher levels of support (Graen and Scandura, 1987; Kraimer et al., 2001; Liden and Graen, 1980). Therefore, LMX is a key factor in enhancing employee work-related attitudes (Chow et al., 2015; Ilies et al., 2007). In addition, previous studies have investigated the moderating role of LMX (Buch, 2015; Medler-Liraz, 2014; Reynolds, 2002). We consider LMX a moderating factor in the relationships among job resourcefulness, job crafting, and work engagement. Accordingly, this study fills the research gap regarding the relationships between personal resources and work engagement by examining the effect of job resourcefulness on work engagement and by clarifying the roles of job crafting and LMX. The results of this study provide strategic directions for managers to take in human resource management.

## **2. Literature review and research hypotheses**

### *2.1 Job resourcefulness*

“Do more with less” is a common aphorism in the tourism industry (Harris et al., 2006). This management strategy often involves employees working in resource-limited work environments (Licata et al., 2003). Therefore, the construct of job resourcefulness has emerged as a result of these resource-depleted work conditions and has received attention from researchers and practitioners (Karatepe and Aga, 2012). Job resourcefulness can be viewed as an individual-difference concept (Licata et al., 2003), a personal resource (Rod and Ashill, 2009), and employee personality traits (Yavas et al., 2011). When employees possess high job resourcefulness, they can achieve work-related goals in resource-limited environments (Karatepe and Aga, 2012). Thus, job-resourceful employees are expected to be more resistant to work constraints, thereby enabling them to accomplish job-related tasks efficiently (Yavas et al., 2011).

Prior studies have investigated the factors that influence the development of job resourcefulness (Harris et al., 2013). These antecedents include conscientiousness, openness to experience, role ambiguity, and role conflict (Harris et al., 2006). On the other hand, job resourcefulness is positively related to many substantial and meaningful employees’ and organizational outcomes, such as sales performance, customer orientation, job satisfaction, and affective organizational commitment (Harris et al., 2013; Karatepe and Aga, 2012), but it is negatively associated with intention to leave and emotional exhaustion (Harris et al., 2006; Rod and Ashill, 2009).

### *2.2 Job crafting*

Wrzesniewski and Dutton (2001) first defined the construct of job crafting. According to their definition, job crafting entails the physical and cognitive changes employees make in their tasks or relational boundaries of their jobs. Tims et al. (2012) referred to job crafting as the changes employees make to balance their job demands and job resources with their personal abilities and needs. Job crafting behaviors include three types:

increasing job resources, increasing job demands or challenges, and decreasing job demands. Nielsen and Abildgaard (2012) viewed job crafting as a set of proactive behaviors that employees may involve to maximize resources, meet challenging demands, and minimize hindering job demands.

Leana et al. (2009) showed that job crafting behaviors include individual crafting and collaborative crafting. The former involves employees adopting active roles to alter and shape the boundaries of their jobs; the latter entails employees collaborating to adjust the task boundaries toward accomplishing shared work goals (Leana et al., 2009). In this study, we adopt the classification of Leana et al. (2009), because the concepts of individual crafting and collaborative crafting can be used to clarify the work behaviors of frontline service employees (Chen et al., 2014).

Past studies have attempted to identify the antecedents of job crafting (Lyons, 2008; Petrou et al., 2012; Tims and Bakker, 2010). These determinants can be classified into two types: personal and job factors. The former include work orientation, self-image, and readiness to change (Lyons, 2008; Wrzesniewski and Dutton, 2001); the latter include supervisory control, organizational goals, status, and promotion (Leana et al., 2009; Lyons, 2008). Previous studies also have demonstrated that job crafting creates many positive and functional work-related variables (Lyons, 2008). For example, employees who involve in job crafting behaviors can improve their job satisfaction and performances (Tims and Bakker, 2010; Tims et al., 2012). Job crafting is positively associated with in-role performance (Bakker et al., 2012b) and increased person-job fit, which enhances organizational commitment (Kristof-Brown et al., 2005).

### *2.3 Job resourcefulness and job crafting*

Job-resourceful employees are predisposed to complete work-related tasks (Rod and Ashill, 2009). Under resource-constrained conditions, job-resourceful employees can work innovatively and effectively (Harris et al., 2006). Rod and Ashill (2009) reported that frontline employees with high job resourcefulness have the ability to garner the resources and resolve work-related problems. In other words, employees with high job resourcefulness find and obtain alternative job resources necessary for pursuing their work-related goals (Rod and Ashill, 2009; Yavas et al., 2011). Therefore, because frontline employees with high job resourcefulness have an inherent disposition (e.g., achieving work goals), they may be active in adjusting their work environment to work effectively (i.e., individual crafting) or communicate with coworkers to develop alternative methods for achieving work-related goals (i.e., collaborative crafting). In other words, job resourcefulness may have a positive effect on job crafting. Accordingly, we propose the following hypothesis:

H1: Job resourcefulness is positively related to job crafting

### *2.4 Work engagement*

Kahn (1990) is the first author to address the construct of engagement, which is defined as “the harnessing of organizational members’ selves to their work roles” (p.694). Prior studies have shown that work engagement includes three dimensions: vigor, dedication, and absorption (Bakker and Bal, 2010; Xanthopoulou et al., 2009b). Vigor means “high levels of energy and mental resilience while working”; dedication refers to “being strongly involved in one’s work, and experiencing a sense of significance and enthusiasm”; absorption refers to “being fully concentrated and happily engrossed in one’s work” (Bakker et al., 2012a, p.15).

Previous studies have differentiated work engagement from other similar work-related variables, such as job involvement (Hallberg and Schaufeli, 2006; Mauno et al., 2007). Work engagement is broader and more fluctuant than that of job involvement (Kühnel et al, 2009; Mauno et al, 2007). Moreover, work engagement differs from job satisfaction, burnout, and workaholism based on two continua (displeasure to pleasure and low activation to high activation; Bakker et al., 2012a). In their study, work engagement was considered as a construct of pleasantness and high-motivation.

Past studies have investigated the factors that enhance and inhibit the development of work engagement (Karatepe et al., 2014), including personal resources, job resources, and job demands. Personal resources mean positive self-evaluations that are linked to resilience and refer to the ability of employees to control and affect their environment successfully (Hobfoll et al., 2003). Examples of personal resources include self efficacy, trait competitiveness, organizational-based self-esteem, and optimism (Karatepe and Olugbade, 2009; Xanthopoulou et al., 2009a). Job resources are defined as the physical, social, or organizational aspects of the job that fulfill work-related goals and stimulate personal development (Crawford et al., 2010; Xanthopoulou

et al., 2007). Examples of job resources are support from colleague, salary, performance feedback, and career opportunities (Bakker and Bal, 2010; Schaufeli and Bakker, 2004; Xanthopoulou et al., 2009b). Job demands refer to the physical, social, or organizational aspects of jobs that require sustained physical and/or psychological effort and are therefore associated with certain physiological costs (Schaufeli and Bakker, 2004). Examples of job demands are role stress, workload, time pressure, and job responsibility (Crawford et al., 2010; Karatepe et al., 2014; Prieto et al., 2008).

### *2.5 Job crafting and work engagement*

Many studies have examined the relationship between job crafting and work engagement. Employees who craft their challenge jobs may have higher work engagement (Nielsen and Abildgaard, 2012). Tim et al. (2012) indicated that job crafting positively associates with work engagement. Tims and Bakker (2010) also showed that job crafting can enhance work engagement. In addition, some studies have indirectly supported this relationship. For example, Slemp and Vella-Brodrick (2013) determined that job crafting is positively related to work enthusiasm. Crawford et al. (2010) found that challenging job demands is one type of job crafting behavior and positively relates to job engagement. Therefore, according to these empirical studies, the current study reasons that job crafting is positively related to work engagement. When employees adopt job crafting behaviors, they proactively shape their jobs, thus enhancing work engagement. Therefore, we predict that

H2: Job crafting is positively related to work engagement

### *2.6 Mediating role of job crafting*

According to our listed hypotheses, job resourcefulness is expected to increase job crafting, which is expected to promote work engagement. In other words, job crafting can be reasonably anticipated to have a mediating effect on the relationship between job resourcefulness and work engagement. Moreover, many related studies have investigated that job crafting may mediate the relationship between determinants and outcome variables (Lyons, 2008; Tims and Bakker, 2010). Although past studies have found that job resourcefulness is positively associated with work engagement (Karatepe and Aga, 2012), we argue that job crafting may be essential in mediating the relationship between job resourcefulness and work engagement. Accordingly, we propose the following hypothesis:

H3: Job crafting mediates the relationship between job resourcefulness and work engagement

### *2.7 Moderating role of leader–member exchange*

LMX is rooted in social exchange theory (Wayne et al., 1997), which posits that individuals, based on the norm of reciprocity (Gouldner, 1960), tend to feel obligated to repay their exchange partners for the support and benefits they receive (Liden et al., 2003). The quality of LMX is related to the amounts of resources that employees received from their immediate supervisors (Wayne et al., 1997). High-quality LMX represents a mature partnership between a supervisor and a subordinate that is characterized by a high degree of mutual trust and respect (Graen and Uhl-Bien, 1995). Thus, high-quality LMX, referred to as a social exchange relationship, has frequently been shown to be associated with higher job satisfaction, empowerment, and organizational citizenship behaviors (Chow et al., 2015; Gerstner and Day, 1997; Ilies et al., 2007). On the contrary, low-quality LMX, referred to as an economic exchange relationships, may reflect a condition under which supervisors are less likely to encourage and support the developmental practices and promotional opportunities of subordinate (Graen and Uhl-Bien, 1995).

According to the person-situation interactionism paradigm (Christian et al., 2011; Liao et al., 2013), work motivation often results from personal and situational characteristics. In this study, we consider the joint effect of personality (job resourcefulness) and a situational variable (LMX) on work engagement, which is an indicator of work motivation. In other words, LMX can serve as a boundary condition under which job resourcefulness influences their work engagement. High-quality LMX relationships typically involve support of followers' individual needs and social support for employees (Medler-Liraz, 2014). Supervisory support was found to be positively associated with call center employees' experience of positive emotions at work (Wegge et al., 2006). Employees with high-quality LMX tend to enjoy the benefits offered by supervisors. Therefore, employees with high-quality LMX and strong job resourcefulness are apt to show concern about their jobs, which should reinforce that they adjust and craft their jobs actively and effectively, thus further

continuing to engage at their work.

On the other hand, subordinates in low-quality LMX are probably rarely empowered by their immediate supervisors (Buch, 2015). Employees with low-quality LMX receive limited resources and less supports from their leaders than employees with high-quality LMX do (Dunegan et al., 1992), and in turn they should involve little more than what is stipulated in the employment contract (Graen and Uhl-Bien, 1995). Therefore, although low-quality LMX employees possess job resourcefulness, they do not focus on their jobs and are not likely to craft their jobs proactively, thus further impeding their work engagement.

Hence, we infer that the relationships among job resourcefulness, job crafting, and work engagement are stronger when employees have high-quality LMX. That is, LMX may play a contingent role in the job resourcefulness-job crafting-work engagement relationship. Accordingly, we propose the following hypothesis:

H4: LMX moderates the relationships among job resourcefulness, job crafting, and work engagement.

### 3. Research methods

#### 3.1 Sampling and data collection

This study used a cross-sectional research design to examine the relationships among job resourcefulness, job crafting, LMX, and work engagement. Data for the study were obtained from frontline employees in the hotel industry. The research setting was suited to our study because most of the frontline employees worked in resource-constrained environments (Harris et al., 2006).

For our study, researchers contacted with personnel managers of 25 hotels to discuss a suitable time for questionnaire distribution. The questionnaires were distributed to frontline employees by the research team. The participants received a packet containing a cover letter, postage-paid returned envelope, gift, and questionnaire that addressed measures of job resourcefulness, job crafting, LMX, work engagement, and demographic variables. Of the 500 questionnaires distributed, 384 questionnaires were returned. After 16 invalid surveys were removed, 370 usable questionnaires were gathered, representing a response rate of 74%. A total of 57.3% of the respondents were female employees, 46.2% were between 26-35 years old, 65.9% were single, 65.7% were college graduates, and 55.7% of respondents had 1-5 years of organizational tenure.

Non-response bias was analyzed by comparing the responses of late respondents to those of early respondents (Armstrong and Overton, 1977). To evaluate the nonresponse bias in this study, respondents were classified as being early (first 75%) and late (last 25%) respondents. The mean values of all variables did not statistically differ between early and late respondents, implying a low probability of nonresponse bias.

#### 3.2 Measures

Previous established questionnaires were adopted to measure job resourcefulness, job crafting, LMX, and work engagement. According to the suggestions of Van de Vijver and Hambleton (1996), we used back translation to reduce the possibility of translation bias before executing the final questionnaire design. Questionnaire translation was thus completed by the researchers and two native English speakers who worked in the hotels and had lived in Taiwan for more than 10 years. Before distributing formal questionnaires, a pretest was administered to 30 employees from a hotel in Taiwan to ensure the clarity, validity, and reliability of the questionnaire.

Job resourcefulness was measured using four items proposed by Licata et al. (2003). This scale is reliable and has been used in previous studies (Harris et al., 2006). Sample items included “When it comes to completing tasks at my job, I am very clever and enterprising” and “At my job, I think I am a fairly resourceful person.” Employees indicated their agreement with each item on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). A higher score reflected that employees had a higher level of job resourcefulness.

Job crafting was measured using 12 items offered by Leana et al. (2009). Individual and collaborative job crafting were each measured using six items. This scale is reliable and has been used to measure job crafting in the service context (Chen et al., 2014). Sample items included “I introduce new approaches on my own to improve my work” and “I collaborate with my coworkers to introduce new approaches to improve my work.” Employees indicated their agreement with each item using a 5-point Likert scale from 1 (*strongly disagree*) to



5 (*strongly agree*). A higher score reflected that employees perceive a high level of job crafting.

LMX was assessed using seven items provided by Graen and Uhl-Bien (1995). This scale has been widely adopted to measure LMX relationships (Medler-Liraz, 2014). Sample items included “To what extent does your immediate leader understand your job problems and needs?” Employees indicated their agreement with each item on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicated a higher-quality LMX relationship.

Work engagement was measured using nine items proposed by Schaufeli et al. (2006). This scale is reliable and has been used in previous studies (Karatepe et al., 2014; Xanthopoulou et al., 2009b). Sample items included “At my work, I feel full of energy” and “I am enthusiastic about my job.” Employees indicated their agreement with each item using a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). A higher score reflected a higher degree of perceived work engagement among employees.

The reliabilities of the multi-item scales were determined by computing Cronbach’s alphas. The reliabilities of all the scales were greater than the suggested cut-off level of 0.7 (Hair et al., 2010), ranging from .72 to .88.

## 4. Results

### 4.1 Measurement properties

Confirmatory factor analysis (CFA) of job resourcefulness, job crafting, LMX, and work engagement was conducted to measure the scale validity. In general, a measurement model with three indicators per latent construct is ideal, and using up to five indicators does not cause difficulty in estimating the model. When more than five items are used, parceling can be performed to randomly combine items into composites (Bagozzi and Heatherton, 1994). In addition, item parceling reduces random errors, simplifies the model, and maintains the integrity of multiple indicator measurement. Therefore, we used the parceling method to represent the indicators of job crafting, LMX, and work engagement (Coffman and MacCallum, 2005).

Job crafting and work engagement are shown in the literature to be higher order, multidimensional constructs. According to Kishton and Widaman (1994), we adopted the internal-consistency approach, for which the average score of each dimension, called “parcels,” was used as the score of the sub-dimensions. In other words, when job crafting is the latent construct, then the observed variables are the two sub-dimensions of individual job crafting and collaborative job crafting. In addition, when work engagement is the latent construct, then the observed variables are the three sub-dimensions of vigor, dedication, and absorption. Finally, LMX was parceled into three indicators (e.g., enabling weak to strong items to be parceled together). We modeled four correlated first-order factors: a four-item job resourcefulness, a two-item job crafting, a three-item LMX, and a three-item work engagement.

The fit indices of measurement model provided a good fit:  $\chi^2 = 126.10$ ,  $df = 48$ ,  $\chi^2/df = 2.63$ , goodness-of-fit index (GFI) = 0.95, adjusted goodness-of-fit index (AGFI) = 0.92, comparative fit index (CFI) = .96, incremental fit index (IFI) = .96, RMSEA (root mean square error of approximation) = .07, and the root mean square residual (RMR) = .02, which was above the model adaptability standard suggested by Hair et al. (2010) and Hu and Bentler (1999) ( $\chi^2/df < 3$ ,  $GFI \geq 0.90$ ,  $AGFI \geq 0.90$ ,  $CFI \geq .90$ ,  $IFI \geq .90$ ,  $RMSEA \leq .08$ ,  $RMR \leq .08$ ).

Convergent validity and discriminant validity were also measured in this study. The standardized loadings of all observable indicators loaded significantly on their respective latent variables, indicating convergent validity. The average variance explained (AVE) was compared with the squared correlations for all pairs of constructs (Fornell and Larcker, 1981). In each case, the AVE exceeded the squared correlation (Table 1), providing evidence of discriminant validity.

### 4.2 Common method variance checking

Common method variance (CMV) may affect the empirical results of our study because the data of this study were gathered through self-report questionnaires. According to the suggestions of Podsakoff et al. (2012), procedural and statistical techniques were used for CMV. Regarding the procedural technique, we used well-developed instruments with proven psychometric properties, which suggest that they are likely resistant to CMV (Spector, 1987). In addition, the researchers assured the respondents of the confidentiality and anonymity of their responses diminish the social desirability bias. Finally, we separated the items of job resourcefulness from those of employees’ work engagement (i.e. these two sections of items appeared on

different pages of the questionnaire). This yielded a psychological separation effect on the respondents (Podsakoff et al., 2012).

Regarding the statistical technique, CFA was performed (Podsakoff et al., 2012). The empirical results showed that the one-factor model in which all items load on a single factor had relatively poor fits compared with those of the measurement model ( $\chi^2 = 444.57$ ,  $df = 54$ ,  $\chi^2/df = 8.23$ ,  $GFI = .82$ ,  $AGFI = .74$ ,  $CFI = .82$ ,  $IFI = .82$ ,  $RMSEA = .14$ ,  $RMR = .04$ ). The results suggested that CMV was not a major problem in this study (Podsakoff et al., 2012).

#### 4.3 Zero-order correlations

Zero-order correlations among variables in this study were shown in Table 1. Job resourcefulness was positively associated with job crafting ( $r = .65$ ,  $p < .01$ ), LMX ( $r = .55$ ,  $p < .01$ ), and work engagement ( $r = .61$ ,  $p < .01$ ). Job crafting was positively related to LMX ( $r = .49$ ,  $p < .01$ ) and work engagement ( $r = .53$ ,  $p < .01$ ). LMX was positively associated with work engagement ( $r = .47$ ,  $p < .01$ ).

**Table 1. Means, standard deviations and correlations of all variables**

Variable	Mean	SD	AVE	1	2	3	4
1. Job resourcefulness	3.70	0.62	.63	.87			
2. Job crafting	3.69	0.63	.51	.65**	.74		
3. Leader-member change	3.60	0.60	.67	.55**	.49**	.88	
4. Work engagement	3.77	0.72	.46	.61**	.53**	.47**	.72

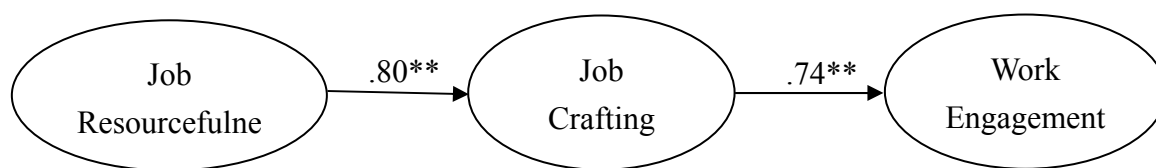
**Notes:**

The values on the diagonal were Cronbach alphas

\*\*  $p < .01$

#### 4.4 Hypotheses testing

In this study, we performed structural equation model by using the maximum likelihood estimation method to test the hypotheses. According to the fit indices, the hypothesized model provided a good fit for the data ( $\chi^2 = 62.94$ ,  $df = 25$ ,  $\chi^2/df = 2.52$ ,  $GFI = .96$ ,  $AGFI = .93$ ,  $CFI = .97$ ,  $IFI = .97$ ,  $RMSEA = .06$ ,  $RMR = .02$ ). Figure 2 shows the standardized path estimates. The path from job resourcefulness to job crafting ( $\beta = 0.80$ ,  $p < .01$ ) was significant, supporting H1. The path from job crafting to work engagement ( $\beta = 0.74$ ,  $p < .01$ ) was also significant, supporting H2.



**Figure 2. Structural Path Estimates Model**

Note:

All path estimates are standardized; \*\* $p < .01$

The hypothesized model was a fully mediated model, suggesting that the job crafting mediated the relationship between job resourcefulness and work engagement. According to the suggestions of Kelloway (1998), we performed a series of nested model comparisons to assess the extent to which an alternative model results in a significant improvement in fit compared with that of the hypothesized model (shown in Table 2). Alternative Model 2 was used to examine whether job resourcefulness had an effect on work engagement independent of job crafting. This alternative model was not supported because the chi-square difference was non-significant ( $\chi^2 = 59.12$ ,  $df = 24$ ,  $\chi^2/df = 2.46$ ). Alternative Model 3 proposed that both job resourcefulness and job crafting have direct effects on work engagement. Compared with Model 1, this alternative model was

not supported because no significant reduction in the chi-square value was found ( $\chi^2 = 275.99$ ,  $df = 25$ ,  $\chi^2/df = 11.04$ ). Therefore, the hypothesized model was superior. We also used the SPSS macros developed by Preacher and Hayes (2004) for this procedure. Consistent with this pattern of results, the Sobel test showed that job crafting was a significant mediator of the relationship between job resourcefulness and work engagement (Sobel = .17,  $Z = 4.19$ ,  $p < .01$ ), supporting H3.

**Table 2. Structural Equation Model Comparisons**

Models	$\chi^2$ (df)	GFI	AGFI	CFI	IFI	RMSEA	RMR	Comparisons
Hypothesized: Model 1	62.94(25)	0.96	0.93	0.97	0.97	0.06	0.02	
Alternative model 2 <sup>a</sup>	59.12(24)	0.96	0.93	0.97	0.97	0.06	0.02	Model 2 compared to model 1
Alternative model 3 <sup>b</sup>	275.99(25)	0.88	0.79	0.83	0.83	0.17	0.13	Model 3 compared to model 1

<sup>a</sup> Direct path from job resourcefulness to work engagement

<sup>b</sup> Direct paths from both job resourcefulness and job crafting to work engagement

#### 4.5 Moderating effect of leader–member exchange

The multi-group strategy of AMOS was employed to test H4 in this study. The following procedures were performed: First, we used quartiles as criteria for dividing all respondents into three groups, namely low LMX, moderate LMX, and high LMX, and the 25th and 75th percentiles of the LMX scores were used as cutting points. The middle (moderate LMX) group was not included in further analysis. Second, the model fit was calculated (e.g., through a chi-square test) using a multiple-group solution in which AMOS estimates parameters in both groups with no across-group constraint. Third, the model fit was calculated using a multiple-group solution in which AMOS estimates parameters in both groups with an across-group constraint imposed to reflect the interaction effect. Finally, we compared the goodness-of-fit statistics for the unconstrained and fully constrained models by using a  $\chi^2$  difference test to obtain evidence for examining our hypotheses.

The degrees of freedom and chi-square value of the fit index for the unconstrained solution were 50 and 94.31, respectively. The model had acceptable fit ( $\chi^2/df = 1.89$ , GFI = .91, CFI = .93, IFI = .94, RMSEA = .06, RMR = .03). The degrees of freedom and chi-square value of the fit index for the constrained solution of the moderating effect of LMX on the relationships among job resourcefulness, job crafting, and work engagement were 53 and 107.24, respectively. The model had acceptable fit ( $\chi^2/df = 2.02$ , GFI = .90, CFI = .92, IFI = .92, RMSEA = .07, RMR = .04). Their difference was 23.17 with 5 degrees of freedom. The significant difference (at the 5% level) indicated the moderating effects.

The beta coefficients for each of the paths linking these variables were compared when the model was examined separately with low LMX and high LMX data. The structural model of the relationships among job resourcefulness, job crafting, and work engagement for low LMX is presented in Table 3. The results showed that the coefficients for the paths from job resourcefulness to job crafting ( $\beta = .76$ ,  $p < .01$ ) and job crafting to work engagement ( $\beta = .72$ ,  $p < .05$ ) were positively significant. For high LMX, results showed that the coefficients for the paths from job resourcefulness to job crafting ( $\beta = .90$ ,  $p < .01$ ), and job crafting to work engagement ( $\beta = .75$ ,  $p < .01$ ) were positively significant.

To test for the various effects for individual path, the  $\chi^2$  difference test was used. The  $\chi^2$  statistics for the unconstrained model and partially constrained model (The target path coefficient is constrained equally for cross-group datasets) were computed. Table 3 shows that the influence of job resourcefulness on job crafting was stronger for high LMX than low LMX. However, the influence of job crafting on work engagement was not moderated by LMX. Consequently, H4 was partially supported.

**Table 3. Comparison of the Path Coefficients in Two Samples**

	Low LMX	High LMX	$\chi^2$	$\chi^2$ difference (test result)
Job resourcefulness→Job crafting	0.76**	0.90**	101.19	6.88*
Job crafting→Work engagement	0.72**	0.75**	95.56	1.25

Note:

The baseline model: unconstrained model ( $\chi^2 = 94.31$ ,  $df = 50$ )

$\chi^2$  critical:  $\Delta df = 51 - 50 = 1$ ;  $\chi^2_{.95, 1} = 3.84$

## 5. Conclusion and discussion

The purpose of this study was to examine the relationship between job resourcefulness and work engagement and clarify the influence of job crafting and LMX on this relationship. Although previous studies have investigated the relationship between job resourcefulness and work engagement among bank employees (Karatepe and Aga, 2012), the mechanism underlying this relationship remains a black box. The empirical findings of this study showed that job resourcefulness was positively associated with job crafting. Job crafting was related to work engagement. Job crafting fully mediated the relationship between job resourcefulness and work engagement. Accordingly, the extent to which employees craft their jobs may be seen as a vital mechanism for explaining how job resourcefulness relates to work engagement. This study also found that the influence of job resourcefulness on job crafting was stronger among employees with high LMX than among those with low LMX. Our findings supplement previous research on work engagement in several ways.

First, past studies have investigated the role of personal resources in fostering work engagement (Karatepe and Olugbade, 2009; Xanthopoulou et al., 2009a). These personal resources (e.g., optimism, and self-efficacy) are “general” ones. However, job resourcefulness is a situation-level personal resource that emerges from resource-depleted work conditions, which are common in hospitality environments. In other words, job resourcefulness is a crucial personal resource that has been neglected by researchers in the work engagement domain. The present study supplements previous work engagement literature by showing that job resourcefulness is positively related to work engagement and extending research to a hospitality industry. Our findings also respond to the call of Harris et al. (2006), who asserted that future study needs to examine the possible outcomes of job resourcefulness.

Second, this study follows calls from Tims et al. (2012), who asserted that future studies needs to investigate job crafting and its possible outcomes. Another pivotal finding of our study, which has not been discussed in previous research, is that job crafting fully mediates the relationship between job resourcefulness and work engagement. Therefore, we suggest that managers should seek and identify employees with high job resourcefulness in resource-limited environments. This kind of individual disposition makes employees craft their jobs (e.g., garner scarce resources and overcome obstacles in the pursuit of job-related goals), thereby increasing their degree of work engagement. In other words, developing job resourcefulness among employees, which results in increased job crafting and work engagement among employees, is crucial for managers in the hospitality industry.

Third, previous studies have investigated the role of job resourcefulness in the service environments, including banks, food services, and call centres (Ashill et al., 2009; Harris et al., 2006; Rod and Ashill, 2009). However, few studies pertaining to job resourcefulness have been conducted in the hospitality industry. Moreover, job crafting is particularly crucial for employees whose jobs are characterized by high work pressure (Bakker et al., 2012a) and poor work conditions (Nielsen and Abildgaard, 2012). Empirical research on work engagement in the hospitality domain is scant (Karatepe and Olugbade, 2009). In other words, no empirical study has assessed the relationship between job resourcefulness, job crafting, and work engagement by using data obtained from frontline employees in the hotel industry. Therefore, this study contributes to previous research by considering job resourcefulness, job crafting, and work engagement within the same framework.

Finally, previous studies have generally regarded LMX as either an antecedent or outcome variable in the

hospitality context (Borchgrevink and Boster, 1997; Li et al., 2012). A pivotal finding of this study is that LMX has a moderating effect on the relationship between job resourcefulness and job crafting. Our results show that a high level of LMX quality is associated with a strong influence of job resourcefulness on job crafting. We extend relevant research (e.g., Ilies et al., 2007; Kim et al., 2010) by emphasizing the crucial contingent role of LMX in the job resourcefulness-job crafting relationship.

### *5.2 Managerial contributions*

Empowerment is positively related to work engagement (Cho et al., 2006). However, the hospitality environment is considered a resource-limited work environment (Harris et al., 2007). Frontline supervisors need to be mindful of low budgets and scarce resources (Loo and Thorpe, 2004). Frontline managers may not possess a sufficient amount of resources to empower every employee. Empowerment thus may not be an appropriate managerial policy for hospitality supervisors to increase employees' work engagement. Our findings suggest that job resourcefulness may be an alternative direction for enhancing employees' work engagement.

Because of the full mediating effect of job crafting, we examined a crucial psychological process of how job resourcefulness influences work engagement. We thus suggest using the level of job crafting to determine how job resourcefulness influences work engagement. For instance, when hospitality supervisors observe that employees do not understand how to adjust their jobs effectively (e.g., low job crafting), they should conduct a personality test to discover the degree of the employees' job resourcefulness. Therefore, employees with high job resourcefulness craft their jobs, thereby increasing their work engagement.

An important contribution of this study is the finding that high-quality LMX enhances the positive job resourcefulness-job crafting relationship. Higher-quality LMX may enable employees who are in resource-limited environments to produce more job crafting behaviors by enabling job- resourceful employees to be more resistant to work constraints, enabling them to accomplish their job-related tasks more effectively. Compared with managers in other occupations, hospitality managers should focus more on the development of the relationships between supervisors and subordinates because frontline employees in the hospitality industry often work in resource-limited work environments. For example, managers can arrange off-work activities to increase supervisor-subordinate interactions, thereby increasing LMX quality.

### *5.3 Limitations and future studies*

Our study has some limitations. First, this study used procedural and statistical techniques to reduce the influence of CMV. However, we measured all the variables in a self-report manner from a single source. According to the suggestions of Podsakoff et al. (2012), future research can implement multiple-source empirical research design to avoid this potential problem. Second, the cross-sectional research design limits the extent to which cause-effect relations can be inferred from our empirical findings. For example, work engagement is positively related to job crafting (Bakker et al., 2012a). Future studies can adopt a longitudinal research design to examine the cause-effect relationship among job resourcefulness, job crafting, and work engagement.

Third, samples for our main survey were obtained from the hotel industry. This might limit the generalizability of our empirical findings to other industries. Finally, our study clarifies the influence of job crafting and LMX on the relationship between job resourcefulness and work engagement. Future research may investigate the influence of other work-environmental variables (e.g., customer orientation and job responsibility) on the job resourcefulness-work engagement relationship.

## **References**

- Armstrong, J.S., Overton, T.S., 1977. Estimating non-response bias in mail surveys. *Journal of Marketing Research* 14 (3), 396-402.
- Ashill, N.J., Rod, M., Thirkell, P., Carruthers, J., 2009. Job resourcefulness, symptoms of burnout and service recovery performance: An examination of call centre frontline employees. *Journal of Services Marketing* 23 (5), 338-350.
- Bagozzi, R.P., Heatherton, T.F., 1994. A general approach to representing multifaceted personality constructs: Application to state self-esteem. *Structural Equation Modeling* 1, 35-67.
- Bakker, A.B., Albrecht, S.L., Leiter, M.P., 2011. Key questions regarding work engagement. *European*

- Journal of Work and Organizational Psychology 20 (1), 4-28.
- Bakker, A.B., Bal, P.M., 2010. Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology* 83, 189-206.
- Bakker, A.B., Demerouti, E., Xanthopoulou, D., 2012a. How do engaged employees stay engaged?. *Ciencia & Trabajo* 14, 15-21.
- Bakker, A.B., Tims, M., Derks, D., 2012b. Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations* 65 (10), 1359-1378.
- Borchgrevink, C.P., Boster, F.J., 1997. Leader-member exchange development: A hospitality antecedent investigation. *International Journal of Hospitality Management* 16 (3), 241-259.
- Buch, R., 2015. Leader-member exchange as a moderator of the relationship between employee-organization exchange and affective commitment. *The International Journal of Human Resource Management* 26 (1), 59-79.
- Chen, C.Y., Yen, C.H., Tsai, F.C., 2014. Job crafting and job engagement: The mediating role of person-job fit. *International Journal of Hospitality Management* 37, 21-28.
- Cheng, J.W., Lu, K.M., Chang, Y.Y., Johnstone, S., 2013. Voice behavior and work engagement: The moderating role of supervisor-attributed motives. *Asia Pacific Journal of Human Resources* 51, 81-102.
- Cho, J., Laschinger, H.K.S., Wong, C., 2006. Workplace empowerment, work engagement and organizational commitment of new graduate nurses. *Nursing Leadership* 19 (3), 43-60.
- Chow, W.C., Lai, Y.M., Loi, R., 2015. Motivation of travel agents' customer service behavior and organizational citizenship behavior: The role of leader-member exchange and internal marketing orientation. *Tourism Management* 48, 362-369.
- Christian, M.S., Garza, A.S., Slaughter, J.E., 2011. Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology* 64, 89-136.
- Coffman, D.L., MacCallum, R.C., 2005. Using parcels to convert path analysis models into latent variables models. *Multivariate Behavioral Research* 40, 235-259.
- Crawford, E.R., LePine, J.A., Rich, B.L., 2010. Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology* 95 (5), 834-848.
- Dunegan, K.J., Duchon, D., Uhl-Bien, M., 1992. Examining the link between leader-member exchange and subordinate performance: The role of task analyzability and variety as moderators. *Journal of Management* 18, 59-76.
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18 (1), 39-50.
- Gerstner, C.R., Day, D.V., 1997. Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology* 82, 827-844.
- Gilly, M.C., Hansen, R.W., 1985. Consumer complaint handling as a strategic marketing tool. *Journal of Consumer Marketing* 2 (4), 5-16.
- Gouldner, A.W., 1960. The norm of reciprocity- A preliminary statement. *American Sociologist Review* 25, 161-178.
- Graen, G.B., Scandura, T.A., 1987. *Toward a psychology of dyadic organizing*. Research in organizational behavior, Greenwich, CT, USA: JAI.
- Graen, G.B., Uhl-Bien, M., 1995. Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-domain perspective. *Leadership Quarterly* 6 (2), 219-247.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., 2010. *Multivariate Data Analysis* (7th ed). Upper Saddle River, NJ: Prentice Hall.
- Hallberg, U., Schaufeli, W.B., 2006. Same same' but different: can work engagement be discriminated from job involvement and organizational commitment?. *European Journal of Psychology* 11, 119-127.
- Harris, E.G., Artis, A.B., Fogliasso, C., Fleming, D.E., 2007. Hospital employee job resourcefulness: An empirical study and implications for health care marketing. *Health Marketing Quarterly* 24 (1/2), 63-75.
- Harris, E.G., Artis, A.B., Walters, J.H., Licata, J.W., 2006. Role stressors, service worker job resourcefulness, and job outcomes: An empirical analysis. *Journal of Business Research* 59, 407-415.
- Harris, E. G., Ladik, D. M., Artis, A. B., Fleming, D. E. (2013). Examining the influence of job resourcefulness on sales performance. *The Journal of Marketing Theory and Practice*, 21(4), 405-414.

- Hassan, A., Al Jubari, I.H.A., 2010. Organizational justice and employee work engagement: LMX as mediator. *Journal for International Business and Entrepreneurship Development* 5 (2), 167-178.
- Hobfoll, S.E., Johnson, R.J., Ennis, N., Jackson, A.P., 2003. Resource loss, resource gain, and emotional outcomes among inner city women. *Journal of Personality & Social Psychology* 84, 632-643.
- Hu, L., Bentler, P.M., 1999. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling* 6 (1), 1-55.
- Ilies, R., Nahrgang, J.D., Morgeson, F.P., 2007. Leader-member exchange and citizenship behaviors: A meta-analysis. *Journal of Applied Psychology* 92 (1), 269-277.
- Kahn, W.A., 1990. Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal* 33 (4), 692-724.
- Karatepe, O.M., Beirami, E., Bouzari, M., Safavi, H. P., 2014. Does work engagement mediate the effects of challenge stressors on job outcomes? Evidence from the hotel industry. *International Journal of Hospitality Management* 36, 14-22.
- Karatepe, O. M., Aga, M., 2012. Work engagement as a mediator of the effects of personality traits on job outcomes: A study of frontline employees. *Services Marketing Quarterly* 33 (4), 343-362.
- Karatepe, O.M., Olugbade, O.A., 2009. The effects of job and personal resources on hotel employees' work engagement. *International Journal of Hospitality Management* 28, 504-512.
- Kelloway, K.E., 1998. Using LISREL for structural equation modelling. Thousand Oaks, CA:Sage.
- Kim, S., O'Neill, J.W., Cho, H.M., 2010. When does an employee not help coworkers? The effect of leader-member exchange on employee envy and organizational citizenship behavior. *International Journal of Hospitality Management* 29 (3), 530-537.
- Kishton, J.M., Widaman, K.F., 1994. Unidimensional versus domain representative parceling of questionnaire items: An empirical example. *Educational and Psychological Measurement* 54, 757-765.
- Kraimer, M.L., Wayne, S.J., Jaworski, R.A., 2001. Sources of support and expatriate performance: The mediating role of expatriate adjustment. *Personnel Psychology* 54 (1), 71-99.
- Kristof-Brown, A.L., Zimmerman, R.D., Johnson, E.C., 2005. Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology* 58 (2), 281-342.
- Kühnel, J., Sonnentag, S., Westman, M., 2009. Does work engagement increase after a short respite? The role of job involvement as a double-edged sword. *Journal of Occupational and Organizational Psychology* 82, 575-594.
- LaLopa, J.M., 1997. Commitment and turnover in resort jobs. *Journal of Hospitality and Tourism Research* 21 (2), 11-16.
- Leana, C., Appelbaum, E., Shevchuk, I., 2009. Work process and quality of care in early childhood education: the role of job crafting. *Academy of Management Journal* 52 (6), 1169-1192.
- Li, X., Sanders, K., Frenkel, S., 2012. How leader-member exchange, work engagement and HRM consistency explain Chinese luxury hotel employees' job performance. *International Journal of Hospitality Management* 31, 1059-1066.
- Liao, F.Y., Yang, L.Q., Wang, M., Drown, D., Shi, J., 2013. Team-member exchange and work engagement: Does personality make a difference?. *Journal of Business and Psychology* 28 (1), 63-77.
- Licata, J.W., Mowen, J.C., Harris, E.G., Brown, T.J., 2003. On the trait antecedents and outcomes of service worker job resourcefulness: A hierarchical model approach. *Journal of the Academy of Marketing Science* 31, 256-271.
- Liden, R.C., Graen, G.B., 1980. Generalizability of the vertical dyad linkage model of leadership. *Academy of Management Journal* 23 (3), 451-465.
- Liden, R.C., Wayne, S.J., Kraimer, M.L., Sparrowe, R.T., 2003. The dual commitments of contingent workers: An examination of contingents' commitment to the agency and the organization. *Journal of Organizational Behavior* 24, 609-625.
- Loo, R., Thorpe, K., 2004. Making female first-line nursing manager more effective: A Delphi study of occupational stress. *Women in Management review* 19 (1/2), 88-97.
- Lyons, P., 2008. The crafting of jobs and individual differences. *Journal of Business and Psychology* 23 (1-2), 25-36.
- Mahesh, V.S., Kasturi, A., 2006. Improving call center agent performance. *International Journal of Service Industry Management* 17 (2), 136-157.

- Mauno, S., Kinnunen, U., Ruokolainen, M., 2007. Job demands and resources as antecedents of work engagement: A longitudinal study. *Journal of Vocational Behavior* 70, 149-171.
- Medler-Liraz, H., 2014. Negative affectivity and tipping: The moderating role of emotional labor strategies and leader-member exchange. *International Journal of Hospitality Management* 36, 63-72.
- Nielsen K., Abildgaard, J.S., 2012. The development and validation of a job crafting measure for use with blue-collar workers. *Work & Stress* 26 (4), 365-384.
- Øgaard, T., Marnburg, E., Larsen, S., 2008. Perceptions of organizational structure in the hospitality industry: consequences for commitment, job satisfaction and perceived performance. *Tourism Management* 29 (4), 661-671.
- Petrou, P., Demerouti, E., Peeters, M.C.W., Schaufeli, W.B., Hetland, J., 2012. Crafting a job on a daily basis: contextual correlates and the link to work engagement. *Journal of Organizational Behavior* 33 (8), 1120-1141.
- Podsakoff, P.M., MacKenzie, S.B., Podsakoff, N.P., 2012. Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology* 63, 539-569.
- Preacher, K.J., Hayes, A.F., 2004. SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers* 36 (4), 717-731.
- Prieto, L.L., Soria, M.S., Martínez, I.M., Schaufeli, W., 2008. Extension of the job demands-resources model in the prediction of burnout and engagement among teachers over time. *Psicothema* 20 (3), 354-360.
- Reynolds, D., 2002. The moderating effect of leader-member exchange in the relationship between self-efficacy and performance. *Journal of Human Resources in Hospitality & Tourism* 3 (1), 77-90.
- Rod, M., Ashill, N.J., 2009. Symptoms of burnout and service recovery performance: The influence of job resourcefulness. *Managing Service Quality* 19 (1), 60-84.
- Rust, R.T., Stewart, G.R., Miller, H., Pielack, D., 1996. The satisfaction and retention of frontline employees: a customer satisfaction measurement approach. *International Journal of Service Industry Management* 7 (5), 62-80.
- Salanova, M., Agut, S., Peiró, J.M., 2005. Linking organizational resources and work engagement to employee performance and customer loyalty: The mediating of service climate. *Journal of Applied Psychology* 90, 1217-1227.
- Schaufeli, W.B., Bakker, A.B., 2004. Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior* 25, 293-315.
- Schaufeli, W.B., Bakker, A.B., Salanova, M., 2006. The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement* 66 (4), 701-716.
- Slemp, G.R., Vella-Brodick, D.A., 2013. The job crafting questionnaire: A new scale to measure the extent to which employees engage in job crafting. *International Journal of Wellbeing* 3 (2), 126-146.
- Spector, P., 1987. Method variance as an artifact in self-reported affect and perceptions at work: Myth or significant problem?. *Journal of Applied Psychology* 72, 438-443.
- Tims, M., Bakker, A.B., Derks, D., 2012. Development and validation of the job crafting scale. *Journal of Vocational Behavior* 80 (1), 173-186.
- Tims, M., Bakker, A.B., 2010. Job crafting: Towards a new model of individual job redesign. *SA Journal of Industrial Psychology* 36 (2), 1-9.
- Van de Vijver F., Hambleton, R., 1996. Translating tests: Some practical guidelines. *European Psychologist* 1, 89-99.
- Warshawsky, N.E., Havens, D.S., Knafl, G., 2012. The influence of interpersonal relationships on nurse managers' work engagement and proactive work behavior. *The Journal of Nursing Administration* 42 (9), 418-428.
- Wayne, S.J., Shore, L.M., Liden, R.C., 1997. Perceived organization support and leader-member exchange: A social exchange perspective. *Academy of Management Journal* 40 (1), 82-111.
- Wegge, J., Van Dick, R., Fisher, G.K., West, M.A., Dawson, J.F., 2006. A test of basic assumptions if affective events theory in call centre work. *British Journal of Management* 17, 237-254.
- Wrzesniewski, A., Dutton, J.E., 2001. Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review* 26 (2), 179-201.
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., Schaufeli, W.B., 2007. The role of personal resources in the job demands-resources model. *International Journal of Stress Management* 14 (2), 121-141.
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., Schaufeli, W.B., 2009a. Work engagement and financial



- returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology* 82, 183-200.
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., Schaufeli, W.B., 2009b. Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior* 74 (3), 235-244.
- Yavas, U., Karatepe, O.M., Babakus, E., 2011. Do customer orientation and job resourcefulness moderate the impact of interrole conflicts on frontline employees' performance? *Tourism and Hospitality Research* 11, 148-159.
- Yeh, C.M., 2013. Tourist involvement, work engagement, and job satisfaction among frontline hotel employees. *Annals of Tourism Research* 42, 214-239.
- Zacher, H., Winter, G., 2011. Eldercare demands, strain, and work engagement: The moderating role of perceived organizational support. *Journal of Vocational Behavior* 79, 667-680.

# 國科會補助專題研究計畫出席國際學術會議心得報告

日期：104年8月31日

計畫編號	MOST 103 - 2410 - H - 263 - 003 -		
計畫名稱	工作資源豐富性與工作敬業:工作雕琢之中介角色		
出國人員姓名	陳建佑	服務機構及職稱	致理科技大學行銷與流通管理系/副教授
會議時間	104年7月22日 至 104年7月24日	會議地點	日本東京
會議名稱	(中文) 第三屆 ICHLST 國際觀光研討會 (英文) 3 <sup>rd</sup> ICHLST (The 3rd International Conference on Hospitality, Leisure, Sports, and Tourism) Conference		
發表題目	(中文)工作資源豐富性、工作雕琢與工作敬業關係之研究：以餐旅業為例 (英文) Job Resourcefulness, Job Crafting, and Work Engagement in the Hospitality Industry		

## 一、參加會議經過

第三屆 ICHLST (The 3rd International Conference on Hospitality, Leisure, Sports, and Tourism)國際觀光研討會，舉辦期間為104年7月22日至7月24日，由早稻田大學、淡江大學及國際學術機構(International Academy Institute)主辦，於日本東京早稻田大學隆重舉行。早稻田大學位於日本東京都新宿區的私立大學，成立於1882年，有許多文化和歷史遺跡，交通方便，吸引許多觀光領域國際學者參加。

大會於7月22日下午15:00舉行Welcome Reception，讓與會者能於會議正式開始前彼此認識所有與會來賓。開幕典禮於同日下午15:30舉行，並頒發表揚Best Paper Awards。接著大會安排一場Keynote Speech，由早稻田大學Hajime Tozaki教授所主講”Japanese transport policy toward 2020: Tokyo Olympic games”，說明日本為了2020年東京奧運競賽，事前如何準備以及相關大眾運輸政策如何因應，對於全球運動產業所帶來的影響，也成為亞洲地區國家發展運動觀光的學習方向，各國更是體悟到運動活動的重要性，

其經驗值得台灣參考，受益良多。

會議舉辦期間也安排多場次觀光、休閒、社會科學、自然科學與運籌相關主題的論文發表，每一篇論文有15分鐘的時間，本場次的主持人為Professor Merle Uchi Ruiz，而今年來自於台灣的論文發表數目也相當多，有多篇文章接受口頭及海報發表，而其他與會學者來自各地，包括：南非、馬來西亞、伊朗、南韓、沙烏地阿拉伯等，各國觀光餐旅之專家學者齊聚一堂，相互交流與切磋，意義非凡。

東京位於日本本州島東部都市，是目前全球規模最大都會區，亦為亞洲最重要的世界級城市，全球第三大金融中心，僅次於紐約及倫敦，是日本具有代表性觀光都市之一。東京匯聚山、海、河流、湖泊、溪谷及許多公園景觀。有人工海灘的台場、受歡迎的能源景點高尾山、全球第二高的晴空塔、瀟灑下町氛圍的隅田川、上野公園的不忍池、和清涼消暑的等等力溪谷。當然這次研討會的主題也是結合日本政府的觀光發展政策，推廣日本具有競爭力的觀光新領域，多元旅遊目的如MICE(會議、展覽、企業獎勵旅遊和大型活動等)觀光、醫療觀光和綠色觀光等。

本次研討會雖然在議程時間安排以及場地設施有瑕疵，不過議題多樣性與學者熱烈討論與投入，讓我吸取寶貴的國際研討會經驗。而在這最後一天的會議期間，大會也安排了東京巡禮，藉此讓與會者充份瞭解東京當地的文化遺跡。由此可知，要舉辦一場國際學術研討會的心思及多樣性，讓與會者留下深刻的印象。

## 二、與會心得

由於個人近三年來有許多相關研究涉及影視觀光的領域，也發表在知名國際學術期刊，包括：Tourism Management、International Journal of Hospitality Management、Journal of Hospitality & Tourism Research等，這次研討會的主題也有部分是這個領域，因此透過國際研討會與世界一流學術研究交流的洗禮，相信能夠提升自己在學術及教學上的國際視野。這次在學術之旅中接觸到許多觀光旅遊與餐旅教育的知名學者。本次與台中科技大學顏昌華教授、鄭瑞昌主任、本校張國謙休管系主任以及國貿系李政雄老師等一同參與研討會，在國際學術會議上，吸取了諸多國際學者寶貴的研究經驗與無私的見解，同時也提供本人未來在相關研究方向與後續研究上極為珍貴的資訊。此外，也與多位學者交換名片，在學術研究與社交活動上更能進一步開拓學術資源網絡，奠定未來在拓展國際學術研究合作的重要基礎。

### 三、發表論文全文或摘要

#### **Job resourcefulness, job crafting, and work engagement in hotel industry**

##### **Abstract**

“Do more with less” is common phenomena in tourism environment. Under resource-limited work conditions, hotel managers need to identify frontline employees who can adapt to such conditions and remain engaged in their work. However, research on work engagement has disregarded this essential matter. This study fills up this gap by investigating the relationship between job resourcefulness and work engagement and clarifying the mediating role of job crafting. Data obtained from 286 frontline hotel employees showed that job resourcefulness is positively associated with work engagement. Job crafting mediates such a relationship. The findings of this study contribute to the theory and practice regarding the relationships between personal resources and work engagement.

Keywords: job resourcefulness, job crafting, work engagement

##### **Introduction**

Academics and practitioners have paid attention to the important role of frontline tourism employees in work and organizational effectiveness (Gilly & Hansen, 1985; Yeh, 2013). This is because they play a crucial role in maintaining relationships with customers and delivering quality services (LaLopa, 1997; Rust, Stewart, Miller, & Pielack, 1996). On the other hand, frontline employees in the tourism industry often encounter with long and anti-social work hours, burnout, and extreme emotional demand because of the nature of boundary-spanning jobs (Karatepe, Beirami, Bouzari, & Safavi, 2014; Mahesh & Kasturi, 2006). Therefore, under such highly demanding work conditions, tourism managers need employees who are able be engaged at their work in the service process.

Work engagement is defined as a positive, affective-motivational, work-related stated mind that is characterized by vigor, dedication, and absorption (Bakker & Bal, 2010; Schaufeli & Bakker, 2004). The

importance of work engagement has been recognized by scholars and managers (Salanova, Agut, & Peiro, 2005; Warshawsky, Havens, & Knafl, 2012; Yeh, 2013). Ample researches have made significant contributions to identify the antecedents of employee work engagement (Cheng, Lu, Chang, & Johnstone, 2013; Hassan & Al Jubari, 2010; Kühnel, Sonnentag, & Westman, 2009). A well-known framework for studying work engagement is the job demands–resources model (the JD-R), which is focused on how job resources and job demands influence work engagement (Bakker, Albrecht, & Leiter, 2011). However, organizations that encounter with economic uncertainty may set other priority (Bakker, Tims, & Derks, 2012b). Hotel managers do not capitalize on employee resources fairly (Øgaard, Marnburg, & Larsen, 2008). Job demands are negatively associated with work engagement (Prieto, Soria, Martínez, & Schaufeli, 2008; Zacher & Winter, 2011). Therefore, this study concerns personal resources that are pivotal stimuli of work engagement have been ignored in the past literature (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).

A review of work engagement literature suggests that personal resources include self efficacy, trait competitiveness, organizational-base self-esteem, and optimism (Karatepe & Olugbade, 2009; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009a). We focus that an important personal resources yet remains to be investigated is job resourcefulness (Rod & Ashill, 2009), which is defined as “an enduring disposition to garner scarce resources and overcome obstacles in the pursuit of job-related goals” (Licata, Mowen, Harris, & Brown, 2003, p.257). This is because job resourcefulness is an important factor that frontline employees need to be skilled at handling the quantity and quality of their work in pursuit of the efficiency and effectiveness of operations (Rod & Ashill, 2009). Moreover, past research on job resourcefulness has devoted to its work-related outcomes such as job satisfaction, job performance, and intention to leave (Harris, Artis, Walters, & Licata, 2006; Licata et al., 2003). However, to date, it seems that prior study lacks to investigate the relationship between job resourcefulness and work engagement, especially in the tourism domain.

Previous study has investigated the psychological mechanism underlying how job resourcefulness affects work-related attitudes and behaviors (Harris, Ladik, Artis, & Fleming, 2013; Karatepe & Aga, 2012). It may be assertive and arbitrary to only examine whether job resourcefulness associates with work engagement without having an understanding of their vital mediator. In this study, we pay attention on job crafting, which is defined as “the physical and cognitive changes individuals makes in the task or relational boundaries of their work” (Wrzesniewski & Dutton, 2001, p.179). This is because past studies have shown that job crafting

is a pivotal determinant of work-related attitudes and behaviors (Leana, Appelbaum, & Shevchuk, 2009; Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012). Hence, we argue whether job resourcefulness may have an influence on work engagement through job crafting. Previous studies have separately focused on the phenomena of job resourcefulness, job crafting, and work engagement (Harris et al., 2006; Kühnel et al., 2009; Lyons, 2008). However, little academic attention has been paid to investigate the relationships between job resourcefulness, job crafting, and work engagement. Therefore, this study fills the gap by examining the effect of job resourcefulness on work engagement and clarifying the role of job crafting.

## **Literature review and research hypotheses**

### *Job resourcefulness*

“do more with less” is a common phenomenon in the service and business setting (Harris et al., 2006). Such management strategy makes employees often be under in a resource-limited work environment (Licata et al., 2003). Therefore, the construct of job resourcefulness has emerged from such a resource-depleted work conditions and receives great attention by researchers and practitioners (Harris et al., 2006; Karatepe & Aga, 2012), which is defined as “an enduring disposition to garner scarce resources and overcome obstacles in the pursuit of job-related goals” (Licata et al., 2003, p.257).

Job resourcefulness can be viewed as an individual-difference concept (Licata et al., 2003), a personal resource (Rod & Ashill, 2009) and employee personality traits (Yavas, Karatepe, & Babakus, 2011). When employees possess high job resourcefulness, they can face the work challenge and achieve their work-related goal in a resource-limited environment (Karatepe & Aga, 2012). Therefore, job resourceful employees are expected to be more resistant to work constraints and enable to accomplish their job-related tasks efficiently (Harris et al., 2013; Yavas et al., 2011).

Past studies have investigated the factors that influence the development of job resourcefulness (Harris et al., 2013). These antecedents include conscientiousness, openness to experience, role ambiguity, and role conflict (Harris et al., 2006, 2013). On the other hand, job resourcefulness is positively related to many substantial and meaningful employees’ and organizational outcomes, such as sale performance, customer orientation, job satisfaction, and affective organizational commitment (Harris et al., 2006, 2013; Karatepe &

Aga, 2012) and negatively associated with intention to leave and emotional exhaustion (Harris et al., 2006; Rod & Ashill, 2009).

### *Work engagement*

Work engagement has been identified as a vital variable that is important for organizational effectiveness. Kahn (1990) is the first author to address the construct of engagement, which is defined as “the harnessing of organizational members’ selves to their work roles” (p.694). According to the statement of Kahn (1990), work engagement refers to a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Bakker & Bal, 2010; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009b). Vigor means “high levels of energy and mental resilience while working” (Bakker, Demerouti, & Xanthopoulou, 2012a, p.15). Dedication refers to “being strongly involved in one’s work, and experiencing a sense of significance and enthusiasm” (Bakker et al., 2012a, p.15). Absorption refers to “being fully concentrated and happily engrossed in one’s work” (Bakker et al., 2012a, p.15).

Previous studies have differentiated work engagement from other similar work-related variables, such as job involvement (Hallberg & Schaufeli, 2006; Mauno, Kinnunen, & Ruokolainen, 2007). Work engagement is broader and more fluctuant than that of job involvement (Kühnel et al, 2009; Mauno et al, 2007). Besides, work engagement differentiates from job satisfaction, burnout, and workaholism based on two continuums (displeasure to pleasure and low activation to high activation; Bakker et al., 2012a). In their study, work engagement is considered as a construct of pleasantness and high-motivation.

Past studies have devoted to investigating the factors that enhance and inhibit the development of work engagement (Karatepe et al., 2014). The JD-R framework has indicated that these factors include job resources, job demands, and personal resources. Job resources are defined as those physical, social, or organizational aspects of the job that are functional in fulfilling work-related goals and stimulating personal development (Crawford, LePine, & Rich, 2010; Xanthopoulou et al., 2007). Examples of job resources are for instance, support from colleague, salary, performance feedback, and career opportunities (Bakker & Bal, 2010; Schaufeli & Bakker, 2004; Xanthopoulou et al., 2009b). Job demands refer to those physical, social, or organizational aspects of the job that require sustained physical and/or psychological effort and are therefore associated with certain physiological costs (Schaufeli & Bakker, 2004). Examples of job demands are such as

role stress, workload, time pressure, and job responsibility (Crawford et al., 2010; Karatepe et al., 2014; Prieto et al., 2008).

Work engagement has been viewed as a management policy adopted by managers to enhance employees' job performance, job satisfaction, proactive behaviors, organizational citizenship behavior and affective organizational commitment (Alfes et al., 2013; Karatepe et al., 2014; Yeh, 2013).

### *Job resourcefulness and work engagement*

Personal resources are positive self-evaluations that are linked to resiliency and refer to individuals' sense of their ability to control and impact upon their environment successfully (Hobfoll, Johnson, Ennis, & Jackson, 2003). Empirical studies have supported that personal resources facilitate work engagement (Bakker, Schaufeli, Leiter, & Taris, 2008; Xanthopoulou et al., 2007, 2009a). For example, Karatepe & Olugbade (2009) have showed that trait competitiveness is positively related to vigor, dedication, and absorption. Xanthopoulou et al. (2007) have indicated that personal resources, including organizational-based self-esteem, optimism, and self-efficacy, are positively associated with work engagement. As mentioned earlier, job resourcefulness is also viewed as a personal resource (Rod & Ashill, 2009; Yavas et al., 2011). Therefore, it may be reasonable to expect that employees possessing high job resourcefulness will have the capability to handle their work effectively and in turn enhance their work engagement. Accordingly, we predict that

H1: Job resourcefulness is positively related to work engagement

### *Job crafting*

Wrzesniewski & Dutton (2001) are the first authors to identify the construct of job crafting. According to their definition, job crafting means the physical and cognitive changes people make in the task or relational boundaries of their jobs. Tims et al. (2012) refer job crafting as the changes employees make to balance their job demands and job resources with their personal abilities and needs. Job crafting behaviors can include three types of behaviors: increasing job resources, increasing job demands or challenges, and decreasing job demands. Nielsen & Abildgaard (2012) also view job crafting as a set of proactive behaviors that employees may involve to maximize resources and challenging demands and minimize hindering job demands.

Leana et al. (2009) show that job crafting behaviors include individual crafting and collaborative crafting.



The former is that an employee involves an active role to alter and shape the boundaries of his/her job. The latter is that employees make a joint effort to adjust the task boundaries to accomplish their shared work goals (Leana et al., 2009). In this study, we adopt the classification of Leana et al. (2009) because individual crafting and collaborative crafting can have a deep understanding of the work behaviors of frontline employees in the service process (Chen, Yen, & Tsai, 2013).

Past studies have devoted an effort of identifying the antecedents of job crafting (Lyons, 2008; Petrou et al., 2012; Tims & Bakker, 2010). These determinants can be classified into two aspects: person and job factors. The former ones are for instance, work orientation, self-image, and readiness to change (Lyons, 2008; Wrzesniewski & Dutton, 2001). The latter ones are such as supervisory control, organizational goals, status, and promotion (Leana et al., 2009; Lyons, 2008).

The importance of job crafting has been recognized by scholars and managers. Previous studies have demonstrated that job crafting causes a host of positive and functional work-related variables (Leana et al., 2009; Lyons, 2008). For example, employees who involve in job crafting behaviors can improve their job satisfaction and job performances (Tims & Bakker, 2010; Tims et al., 2012). Job crafting is positively associated with in-role performance (Bakker et al., 2012b) as well as increases person-job fit and in turn enhances organizational commitment (Kristof-Brown, Zimmerman, & Johnson, 2005).

### *The mediating role of job crafting*

An inherent disposition of job resourceful employees is to complete work-related tasks (Rod & Ashill, 2009). Under condition of little resources, job resourceful employees are able to find innovative ways and work effectively (Harris et al., 2006). Rod & Ashill (2009) report that frontline employees who display high job resourcefulness have the ability to garner the resources and resolve work-related problems. In other words, employee with high job resourcefulness will find and obtain the alternative and necessary job resources in the pursuit of their work-related goals (Rod & Ashill, 2009; Yavas et al., 2011). Therefore, due to the nature of completing work-related tasks, frontline employees with high job resourcefulness may be active in adjusting their work environment to work effectively (i.e., individual crafting) or communicate with other coworkers to seek alternative ways in the accomplishment of their work-related goals (i.e., collaborative crafting). That is, job resourcefulness may have a positive effect on job crafting.

Many studies have examined the relationship between job crafting and work engagement. Employees who craft their challenge jobs may have higher work engagement (Nielsen & Abildgaard, 2012). Tim et al. (2012) indicate that job crafting positively associates with work engagement. Tims & Bakker (2010) also show that job crafting can enhance work engagement. In addition, some studies indirectly support the above relationship. For example, job crafting is positively related to work enthusiasm (Slemp & Vella-Brodrick, 2013). Crawford et al. (2010) find that challenging job demands is one type of job crafting behavior and positively relates to job engagement. Therefore, according to the above empirical studies, this study reasons that job crafting is positively related to work engagement. That is, when employees adopt job crafting behaviors, they will proactively shape their jobs, and in turn enhance the level of work engagement.

Accordingly, job resourcefulness is expected to increase job crafting and job crafting is expected to promote work engagement. That is, it is logical to anticipate that job crafting has a mediating effect on the relationship between job resourcefulness and work engagement. Besides, many related studies have investigated that job crafting may mediate the relationship between determinants and outcome variables (Lyons, 2008; Tims & Bakker, 2010). Although past study has found that job resourcefulness is positively associated with work engagement (Karatepe & Ağa, 2012), we argue that job crafting may play an essential mediating role in explaining the relationship between job resourcefulness and work engagement. Accordingly, we propose that

H2: Job crafting mediates the relationship between job resourcefulness and work engagement

## **Research Method**

### *Sampling and data collection*

This study was conducted a cross-sectional research design to examine the relationships among job resourcefulness, job crafting, and work engagement. Data for the study was obtained from frontline employees in the hotel industry. The research setting was well suited to this study because most of the frontline hotel employees worked in resource-constrained environments (Harris et al., 2006).

The researchers contacted with personnel managers of five hotels to discuss a suitable time for distribution.

Questionnaires were distributed to the frontline employees by the research team. Participants received a packet containing a cover letter, a postage-paid returned envelope, a gift, and a questionnaire that included a measure of job resourcefulness, job crafting, work engagement, and demographic variables. Of the 350 questionnaires distributed, 302 questionnaires were received. After removing 16 invalid surveys, 286 usable questionnaires were gathered, representing a response rate of 82%. A total of 57% of the respondents were female employees, 45.5% were between 26-35 years old, 66.8% were single, 64.0% were college graduates, and 55.6% of respondents had 1-5 years of organizational tenure.

### *Measures*

Prior established questionnaires were adopted to measure job resourcefulness, job crafting, and work engagement. According to the suggestions of Van de Vijver & Hambleton (1996), we used back translation to decrease the possibility of translation bias before executing the final questionnaire design. Therefore, questionnaire translation was completed by the researchers and two other native English speakers who worked in the corporations and had lived in Taiwan for more than ten years to have more understanding of the Chinese culture. Before distributing formal questionnaires, a pre-test with 30 employees from a hotel in Taiwan was carried out to ensure the clarity, validity, and reliability of the questionnaire.

Job resourcefulness was measured using four items proposed by Licata et al. (2003). This scale was reliable and had been used in past studies (Harris et al., 2006; Rod & Ashill, 2009). Sample items included, “When it comes to completing tasks at my job I am very clever and enterprising” and “At my job, I think I am a fairly resourceful person.” Employees indicated their agreement with each item using a five-point scale from 1 (strongly disagree) to 5 (strongly agree). A higher score reflected that employees had a high level of job resourcefulness.

Job crafting was measured using 12 items offered by Leana et al. (2009). Individual job crafting and collaborative job crafting were measured with six items respectively. Sample items included, “I introduce new approaches on my own to improve my work,” and “I collaborate with my coworkers to introduce new approaches to improve my work.” Employees indicated their agreement with each item using a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). A higher score reflected that employees perceive a high level of job crafting.

Work engagement was measured using nine items proposed by Schaufeli, Bakker, & Salanova (2006). This scale was reliable and had been used in previous studies (Karatepe et al., 2014; Xanthopoulou et al., 2009b). Sample items included, “At my work, I feel full of energy” and “I am enthusiastic about my job.” Employees indicated their agreement with each item using a five-point scale from 1 (strongly disagree) to 5 (strongly agree). A higher score reflected a high degree of employees’ perceived work engagement.

Previous studies suggested that gender, age, education, marital status, and organizational tenure affect work engagement (Avery, McKay, & Wilson, 2007; Sonnentag, 2003). Accordingly, these variables were controlled in this study.

## **Results**

### *Measurement properties*

The reliabilities of multi-item scales were determined by computing Cronbach alphas. All scales were greater than the suggested cut-off level of 0.7 (Hair, Anderson, Tatham, & Black, 1998), ranging from .71 to .85.

Confirmatory factor analysis of job resourcefulness, job crafting, and work engagement was conducted to measure the scale validity. According to the CFA results, items were deleted because of low standardized loading ( $< .50$ ). Specifically, one item from individual job crafting and one item from collaborative job crafting were deleted from analysis. The fit indices of measurement model provided a good fit:  $\chi^2 = 411.60$ ,  $df = 222$ ,  $\chi^2/df = 1.85$ , comparative fit index (CFI) = .94, incremental fit index (IFI) = .94, RMSEA (root mean square error of approximation) = .06, the root mean square residual (RMR) = .04, and standardized root-mean-square residual (SRMR) = .05, which was above the model adaptability standard suggested by Hair et al. (2006) and Hu & Bentler (1999) ( $\chi^2/df < 3$ ,  $CFI \geq .90$ ,  $IFI \geq .90$ ,  $RMSEA \leq .08$ ,  $RMR \leq .08$ ,  $SRMR \leq .08$ ).

Convergent validity and discriminant validity were also measured in this study. The standardized loadings of all observable indicators loaded significantly on their respective latent variables, indicating convergent validity. The average variance explained (AVE)s were compared with the squared correlations for all pairs of constructs (Fornell & Larcker, 1981). In each case, the AVE exceeded the squared correlation (Table 1),

providing evidence of discriminant validity.

Common method variance may affect the empirical results because the data of this study were collected through self-report questionnaires. According to the suggestions of Podsakoff, MacKenzie, Lee, & Podsakoff (2003), procedural and statistical techniques were used for common method variance. In procedural technique, we used well-developed instruments with proven psychometric properties, which suggest that they are likely resistant to common method variance (Spector, 1987). In addition, the researchers guaranteed respondents confidentiality and anonymity to diminish the social desirability bias. Finally, we separated the items of job resourcefulness from those of employees' work engagement, i.e. these two sections of items appeared on different pages of the questionnaire. This yielded an effect of psychological separation on the respondents (Podsakoff et al., 2003).

In the statistical technique, the possibility of common method bias was tested, including Harman's one factor test (Podsakoff & Organ, 1986) and confirmatory factor analysis (Podsakoff et al., 2003). As for Harman's one factor test, a principal component factor analysis with varimax rotation was used on the items of job resourcefulness, job crafting, and work engagement. The results revealed that multiple factors with eigenvalues were greater than 1 and one general factor accounted for 41.56%, lower than the cutoff offered by Lin (2007). Also, confirmatory factor analysis showed that the one-factor model in which all items load on a single factor had relatively poor fits than the measurement model ( $\chi^2 = 912.69$ ,  $df = 230$ ,  $\chi^2/df = 3.97$ ,  $CFI = .79$ ,  $IFI = .79$ ,  $RMSEA = .10$ ,  $RMR = .05$ ,  $SRMR = .07$ ). The results suggested that CMV was not a major problem in this study (Podsakoff et al., 2003).

#### *Zero-order correlations*

Zero-order correlations among variables in this study were shown in Table 1. Job resourcefulness was positively associated with job crafting ( $r = .65$ ,  $p < .01$ ) and work engagement ( $r = .61$ ,  $p < .01$ ). Job crafting was positively associated with work engagement ( $r = .57$ ,  $p < .01$ ).

Table 1.

Means, standard deviations and correlations of all variables

Variable	Mean	SD	AVE	1	2	3	4	5	6	7	8
1. Gender	0.57	0.50									
2. Age	1.88	0.78		.00							
3. Education	2.67	0.68		.12*	.06						
4. Marital status	0.67	0.47		-.04	-.65**	.01					
5. Organizational tenure	1.85	0.73		-.04	.51**	.05	-.40**				
6. Job resourcefulness	3.61	0.63	.59	.01	-.04	-.01	-.04	.14*	.85		
7. Job crafting	3.60	0.64	.47	-.03	.08	-.05	-.09	.17**	.65**	.71	
8. Work engagement	3.66	0.70	.58	.01	.04	-.11	-.08	.18**	.61**	.57**	.72

**Notes:**

The values on the diagonal are Cronbach alphas

\*  $p < .05$ ; \*\*  $p < .01$

*Hypotheses testing*

Three-step regression approaches suggested by Baron and Kenny (1986) were adopted to test the mediating effect of job crafting. First, job resourcefulness (the independent variable) should be related to job crafting (the mediator), and  $\beta = .65$ ,  $p < .01$ . Second, job resourcefulness should be significantly related to work engagement (the outcome variable), and  $\beta = .60$ ,  $p < .01$  (Table 2, Model 2), providing support for H1. Third, when both the independent variable and mediator are included in the regression, the relationship between the independent variable and outcome variable should be significantly smaller (partial mediation) or

non-significant (complete mediation). Model 3 in Table 2 shows that the relationship between job resourcefulness and work engagement is significant, but less than that in Model 2 ( $\beta$  is deducted to .42). Job crafting is related to work engagement ( $\beta = .27, p < .01$ ). We used the SPSS macros developed by Preacher and Hayes (2004) for this procedure. Consistent with this pattern of results, the Sobel test showed that job crafting is a significant mediator of the relationship between job resourcefulness and work engagement (Sobel = .21,  $Z = 4.61, p < .01$ ), supporting Hypothesis 2.

**Table 2. Results of Hierarchical Regression Analysis for Work Engagement**

	Model 1	Model 2	Model 3
Gender	.03	.02	.03
Age	-.10	.01	.01
Marital status	-.06	-.01	-.02
Education	-.12*	-.11*	-.10
Organizational tenure	-.22**	.09	.08
Job resourcefulness		.60**	.42**
Job crafting			.27**
$R^2$	.04	.40	.44
$R^2$ change		.36	.04
$F$	3.18**	30.84**	31.30**
$df$	5,280	6,279	7,278
$F$ change		160.08**	20.89**
$df$ change		1,279	1,278

Notes: \*\*  $p < .01$

## Conclusion and discussion

The purpose of this study is to examine the relationship between job resourcefulness and work engagement and clarify the role of job crafting. Although previous study has investigated the relationship job resourcefulness and work engagement among bank employees (Karatepe & Aga, 2012), the mechanism underlying such a relationship remains a black box. The empirical findings show that job resourcefulness is positively associated with work engagement. Job crafting partially mediates the relationship between job resourcefulness and work engagement. Accordingly, the extent that employees craft their jobs may be seen as

a vital mechanism for explaining how job resourcefulness relates to work engagement. Our findings supplement previous research on work engagement in some ways.

First, past studies have paid attention to investigating the role of personal resources in fostering work engagement (Karatepe & Olugbade, 2009; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009a). However, job resourcefulness is viewed as an important personal resource, but be neglected in the work engagement domain. The present study supplements previous work engagement literature by showing that job resourcefulness is positively related to work engagement and extending research to a tourism industry. Our findings also respond to the call of Harris et al. (2006) that future study needs to examine the possible outcomes of job resourcefulness. Therefore, we suggest that hotel managers should seek and be aware of employees with high job resourcefulness, facing the resource-limited environment. This kind of individual disposition makes employees garner scarce resources and overcome obstacles in the pursuit of job-related goals, thereby increasing their degree of work engagement.

Second, this study follows calls from Tim, Bakker, & Derks (2012), which future study needs to investigate the occurrence of job crafting and the possible outcomes of job crafting. Another pivotal finding that is not examined in past research is that job crafting is a mediator of the relationship between job resourcefulness and work engagement. That is, job crafting partially mediates the relationship between job resourcefulness and work engagement. Hence, this study suggests and positions job crafting as a checking point to detect how job resourcefulness has an influence on work engagement. For instance, when hotel supervisors observe that employees don't understand how to adjust their jobs effectively (e.g., low job crafting), they should conduct a personality test to discover the degree of job resourcefulness they have. Therefore, employees with high job resourcefulness will craft their jobs, thereby increasing their work engagement.

Finally, past studies have investigated the role of job resourcefulness in the service environment, including bank, food service, and call centre (Ashill, Rod, Thirkell, & Carruthers, 2009; Harris et al., 2006; Rod & Ashill, 2009). However, little study pertaining to job resourcefulness is conducted in the tourism industry. Besides, job crafting is particularly important for employees whose jobs are characterized by high work pressure (Bakker et al., 2012a) and poor work condition (Nielsen & Abildgaard, 2012). Empirical research regarding work engagement in the tourism domain is scant (Karatepe & Olugbade, 2009). That is, no empirical study has assessed the relationship between job resourcefulness, job crafting, and work engagement



using data obtained from frontline employees in the tourism industry. Therefore, this study contributes to previous research by considering job resourcefulness, job crafting, and work engagement within a framework.

### *Managerial contributions*

Empowerment is positively related to work engagement (Cho, Laschinger, Wong, 2006). However, the hotel environment is viewed as a resource-limited work environment (Harris, Artis, Fogliasso, & Fleming, 2007). Frontline supervisors need to pay attention to the issue of scarce budgets and resources (Loo & Thorpe, 2004). That is, hotel frontline managers may not possess enough resources to empower every employee. In other words, empowerment may not be an appropriate managerial policy for hotel supervisors to increase employees' work engagement. Our findings suggest that job resourcefulness may be an alternative direction for enhancing employees' work engagement.

Furthermore, we suggest that hotel managers should recruit and select employees who have high job resourcefulness and in turn work effectively in resource-depleted work conditions. Past studies have reported that personalities (e.g., conscientiousness, competitiveness) are important positive initiators of job resourcefulness (Harris et al., 2013; Licata et al., 2003). Accordingly, we suggest when hotel supervisors interview with interviewees, they should include some job resourcefulness questions to test whether those candidates have this situation-level personality.

### *Limitations and further studies*

Our study has some limitations. First, this study use procedural and statistical techniques to reduce the influence of common method bias. However, we measure all the variables in a self-report manner from a single source. According to the suggestions of Podsakoff et al. (2003), future research can implement multiple-source empirical research design to avoid such a potential problem. Second, the cross-sectional research design limits the extent to which cause-effect relations can be inferred from our empirical findings. For example, work engagement is positively related to job crafting (Bakker et al., 2012a). Future study can adopt a longitudinal research design to examine the cause-effect relationship between job resourcefulness, job crafting, and work engagement.

Third, samples for the main survey are drawn from the hospital industry. This might limit the generalization

of the empirical findings to other industries. Finally, our study positions job crafting as a mediator in the relationship between job resourcefulness and work engagement. Past studies have investigated the joint effects of personality and work environmental characteristics on work engagement (Liao, Yang, Wang, Drown, & Shi, 2013). Future research may investigate other work environmental moderators (e.g., social exchange relationship, job responsibility) in the job resourcefulness-work engagement relationship.

## References

- Alfes, K., Shantz, A. D., Truss, C., & Soane, E. C. (2013). The link between perceived human resource management practices, engagement and employee behaviour: A moderated mediation model. *The International Journal of Human Resource Management*, 24(2), 330-351.
- Ashill, N. J., Rod, M., Thirkell, P., & Carruthers, J. (2009). Job resourcefulness, symptoms of burnout and service recovery performance: An examination of call centre frontline employees. *Journal of Services Marketing*, 23(5), 338-350.
- Avery, D. R., McKay, P. F., & Wilson, D. C. (2007). Engaging the aging workforce: The relationship between perceived age similarity, satisfaction with coworkers, and employee engagement. *Journal of Applied Psychology*, 92(6), 1542-1556.
- Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology*, 20(1), 4-28.
- Bakker, A. B., & Bal, P. M. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, 83, 189-206.
- Bakker, A. B., Demerouti, E., & Xanthopoulou, D. (2012a). How do engaged employees stay engaged?. *Ciencia & Trabajo*, 14(special issue), 15-21.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, 22(3), 187-200.
- Bakker, A. B., Tims, M., & Derks, D. (2012b). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations*, 65(10), 1359-1378.
- Baron, R., & Kenny, D. (1986). The moderator–mediator variable distinction in social psychological research. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

- Chen, C. Y., Yen, C. H., & Tsai, F. C. (2014). Job crafting and job engagement: The mediating role of person-job fit. *International Journal of Hospitality Management*, *37*, 21-28.
- Cheng, J. W., Lu, K. M., Chang, Y. Y., & Johnstone, S. (2013). Voice behavior and work engagement: The moderating role of supervisor-attributed motives. *Asia Pacific Journal of Human Resources*, *51*, 81-102.
- Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, *95*(5), 834-848.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50.
- Gilly, M. C., & Hansen, R. W. (1985). Consumer complaint handling as a strategic marketing tool. *Journal of Consumer Marketing*, *2*(4), 5-16.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice-Hall Inc.
- Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, *43*, 495-513.
- Hallberg, U., & Schaufeli, W. B. (2006). Same same' but different: can work engagement be discriminated from job involvement and organizational commitment?. *European Journal of Psychology*, *11*, 119-127.
- Harris, E. G., Artis, A. B., Walters, J. H., & Licata, J. W. (2006). Role stressors, service worker job resourcefulness, and job outcomes: An empirical analysis. *Journal of Business Research*, *59*, 407-415.
- Harris, E. G., Ladik, D. M., Artis, A. B., & Fleming, D. E. (2013). Examining the influence of job resourcefulness on sales performance. *The Journal of Marketing Theory and Practice*, *21*(4), 405-414.
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, *87*, 268-279.
- Hassan, A., & Al Jubari, I. H. A. (2010). Organizational justice and employee work engagement: LMX as mediator. *Journal for International Business and Entrepreneurship Development*, *5*(2), 167-178.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, *44*, 513-524.

- Hobfoll, S. E., Johnson, R. J., Ennis, N., & Jackson, A. P. (2003). Resource loss, resource gain, and emotional outcomes among inner city women. *Journal of Personality and Social Psychology*, 84, 632-643.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692-724.
- Karatepe, O. M., Beirami, E., Bouzari, M., & Safavi, H. P. (2014). Does work engagement mediate the effects of challenge stressors on job outcomes? Evidence from the hotel industry. *International Journal of Hospitality Management*, 36, 14-22.
- Karatepe, O. M., & Aga, M. (2012). Work engagement as a mediator of the effects of personality traits on job outcomes: A study of frontline employees. *Services Marketing Quarterly*, 33(4), 343-362.
- Karatepe, O. M., & Olugbade, O. A. (2009). The effects of job and personal resources on hotel employees' work engagement. *International Journal of Hospitality Management*, 28, 504-512.
- Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2), 281-342.
- Kühnel, J., Sonnentag, S., & Westman, M. (2009). Does work engagement increase after a short respite? The role of job involvement as a double-edged sword. *Journal of Occupational and Organizational Psychology*, 82, 575-594.
- LaLopa, J. M. (1997). Commitment and turnover in resort jobs. *Journal of Hospitality and Tourism Research*, 21(2), 11-16.
- Leana, C., Appelbaum, E., & Shevchuk, I. (2009). Work process and quality of care in early childhood education: the role of job crafting. *Academy of Management Journal*, 52(6), 1169-1192.
- Licata, J. W., Mowen, J. C., Harris, E. G., & Brown, T. J. (2003). On the trait antecedents and outcomes of service worker job resourcefulness: A hierarchical model approach. *Journal of the Academy of Marketing Science*, 31, 256-271.
- Lin, C. P. (2007). To share or not to share: modeling knowledge sharing using exchange ideology as a moderator. *Personnel Review*, 36(3), 457-475.

- Lyons, P. (2008). The crafting of jobs and individual differences. *Journal of Business and Psychology*, 23(1-2), 25-36.
- Mahesh, V.S., & Kasturi, A. (2006). Improving call center agent performance. *International Journal of Service Industry Management*, 17(2), 136-157.
- Nielsen K., & Abildgaard, J. S. (2012). The development and validation of a job crafting measure for use with blue-collar workers. *Work & Stress*, 26(4), 365-384.
- Øgaard, T., Marnburg, E., & Larsen, S. (2008). Perceptions of organizational structure in the hospitality industry: consequences for commitment, job satisfaction and perceived performance. *Tourism Management*, 29(4), 661-671.
- Petrou, P., Demerouti, E., Peeters, M. C. W., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: contextual correlates and the link to work engagement. *Journal of Organizational Behavior*, 33(8), 1120-1141.
- Podsakoff, P. M., & Organ, D. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731.
- Prieto, L. L., Soria, M. S., Martínez, I. M., & Schaufeli, W. (2008). Extension of the job demands-resources model in the prediction of burnout and engagement among teachers over time. *Psicothema*, 20(3), 354-360.
- Rod, M., & Ashill, N. J. (2009). Symptoms of burnout and service recovery performance: The influence of job resourcefulness. *Managing Service Quality*, 19(1), 60-84.
- Rust, R. T., Stewart, G. R., Miller, H., & Pielack, D. (1996). The satisfaction and retention of frontline employees: a customer satisfaction measurement approach. *International Journal of Service Industry Management*, 7(5), 62-80.
- Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagement to

- employee performance and customer loyalty: The mediating of service climate. *Journal of Applied Psychology*, 90, 1217-1227.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25, 293-315.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701-716.
- Singh, J. (2000). Performance productivity and quality of frontline employees in service organizations. *Journal of Marketing*, 64(2), 15-34.
- Slemp, G. R., & Vella-Brodrick, D. A. (2013). The job crafting questionnaire: A new scale to measure the extent to which employees engage in job crafting. *International Journal of Wellbeing*, 3(2), 126-146.
- Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between nonwork and work. *Journal of Applied Psychology*, 88, 518-528.
- Spector, P. (1987). Method variance as an artifact in self-reported affect and perceptions at work: Myth or significant problem?. *Journal of Applied Psychology*, 72, 438-443.
- Tim, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior*, 80(1), 173-186.
- Tims, M., & Bakker, A. B. (2010). Job crafting: towards a new model of individual job redesign. *SA Journal of Industrial Psychology* 36(2), 1-9.
- Van de Vijver F., & Hambleton, R. (1996). Translating tests: Some practical guidelines. *European Psychologist*, 1, 89-99.
- Warshawsky, N. E., Havens, D. S., & Knafl, G. (2012). The influence of interpersonal relationships on nurse managers' work engagement and proactive work behavior. *The Journal of Nursing Administration*, 42(9), 418-428.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26(2), 179-201.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W.B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121-141.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009a). Work engagement and financial

returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, 82, 183-200.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009b). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, 74(3), 235-244.

Yavas, U., Karatepe, O. M., & Babakus, E. (2011). Do customer orientation and job resourcefulness moderate the impact of interrole conflicts on frontline employees' performance? *Tourism and Hospitality Research*, 11, 148-159.

Yeh, C. M. (2013). Tourist involvement, work engagement, and job satisfaction among frontline hotel employees. *Annals of Tourism Research*, 42, 214-239.

Zacher, H., & Winter, G. (2011). Eldercare demands, strain, and work engagement: The moderating role of perceived organizational support. *Journal of Vocational Behavior*, 79, 667-680.

#### 四、建議

此次為個人第一次參加國際學術研討會，主要是希望透過研討會，提升自己在學術及教學的國際視野。活動結束之後，獲益良多，獲得許多寶貴的經驗與知識，並且認識了許多國外學者，促進學術交流。但在活動過程中，主辦單位臨時更動原定報告地點，但並未即時通知，只是於網站公告，導致一時找不到發表場合，差點錯過報告時間。另外，有位國外學者記錯報告時間，提早到達會場，並且表達強烈報告意願，只好讓該學者提早報告，後來經由研討會工作人員說明，該學者才發現自己記錯了，發生了一點小插曲。這次研討會經驗提醒我們未來參加研討會，舉辦單位與與會學者事先充分溝通非常重要，以免造成困擾。

#### 五、攜回資料名稱及內容

1. 會議論文資料
2. 會議手冊

#### 六、其他

無

# 科技部補助計畫衍生研發成果推廣資料表

日期:2015/10/15

科技部補助計畫	計畫名稱: 工作資源豐富性與工作敬業:工作雕琢之中介角色
	計畫主持人: 陳建佑
	計畫編號: 103-2410-H-263-003- 學門領域: 休閒遊憩
無研發成果推廣資料	



103年度專題研究計畫研究成果彙整表

計畫主持人：陳建佑		計畫編號：103-2410-H-263-003-					
計畫名稱：工作資源豐富性與工作敬業：工作雕琢之中介角色							
成果項目		量化			單位	備註（質化說明： 如數個計畫共同成果、成果列為該期刊之封面故事...等）	
		實際已達成數（被接受或已發表）	預期總達成數（含實際已達成數）	本計畫實際貢獻百分比			
國內	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	0	0	100%		
		專書	0	0	100%	章/本	
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（本國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
國外	論文著作	期刊論文	0	1	100%	篇	此報告已投稿至 International Journal of Tourism Research
		研究報告/技術報告	0	0	100%		
		研討會論文	1	0	100%		已接受於第三屆 ICHLST (The 3rd International Conference on Hospitality, Leisure, Sports, and Tourism) 國際觀光研討會
		專書	0	0	100%	章/本	
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（外國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		

		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
	其他成果 (無法以量化表達之 成果如辦理學術活動 、獲得獎項、重要國 際合作、研究成果國 際影響力及其他協助 產業技術發展之具體 效益事項等，請以文 字敘述填列。)	無					
	<b>成果項目</b>	<b>量化</b>		<b>名稱或內容性質簡述</b>			
<b>科 教 處 計 畫 加 填 項 目</b>	測驗工具(含質性與量性)	0					
	課程/模組	0					
	電腦及網路系統或工具	0					
	教材	0					
	舉辦之活動/競賽	0					
	研討會/工作坊	0					
	電子報、網站	0					
	計畫成果推廣之參與(閱聽)人數	0					

# 科技部補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

達成目標

未達成目標（請說明，以100字為限）

實驗失敗

因故實驗中斷

其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文： 已發表  未發表之文稿  撰寫中  無

專利： 已獲得  申請中  無

技轉： 已技轉  洽談中  無

其他：（以100字為限）

此報告已投稿至International Journal of Tourism Research

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）（以500字為限）

學者與實務業者已注意餐旅業第一線服務人員在工作效能與組織效能所扮演的重要角色。但餐旅業普遍存在工作多資源少之現象，此工作問題應會影響服務人員的工作敬業程度。

因此，本研究欲探討工作資源豐富性與工作敬業之關係，以及解釋工作雕琢與領導部屬交換關係之角色，期望釐清四者關係以提供學術與實務建議。

貢獻一：工作資源豐富性與工作敬業為正向關係。此研究結果補充了個人資源與工作敬業關係之研究缺口，過去研究認為授權可以增加員工工作敬業程度，但服務業主管並沒有足夠資源公平分配給第一線服務人員，因此，本研究建議可從培養員工具備工作資源豐富性此人格特質著手。

貢獻二：工作雕琢完全中介工作資源豐富性與工作雕琢關係。此研究結果回應Tims et al. (2012)之建議，探討工作雕琢的前置變數與後果變項。本研究建議工作雕琢可當成檢核點，當主管發現員工無法有效調整工作時(低度工作雕琢)，可以從培養工作資源豐富性進行，進而提高員工的工作敬業程度。

貢獻三：領導部屬交換關係(LMX)會干擾工作資源豐富性與工作雕琢之關係。過去研究視LMX為前置或後果變項，本研究則認為LMX具有干擾角色。主管可於下班後安排活動，有助於培養LMX，進而強化工作資源豐富性與工作雕琢之正向關係。