

**The Moderating Role of “Off-the- Job Embeddedness” in the relationship between “On-the-Job Embeddedness” And Procrastination at Work among Public University Employees: an analytical study.**

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**Abstract:**

The purpose of this research is to investigate the moderating role of “off-the-job embeddedness” in the relationship between “on-the-job embeddedness” and procrastination at work. Based on a survey of 451 employees who work in administrative departments across 14 public universities in the KRG. To evaluate the research model and test its hypotheses, a two-step structural equation modeling (SEM) approach was utilized after entering the study data into SPSS 25 for initial analysis. The measurement model, which aimed to measure the theoretical aspects of on-the-job embeddedness, procrastination at work, and off-the-job embeddedness, was estimated through the use of covariance-based SEM software, namely AMOS 25. The results of this paper revealed that on-the-job embeddedness is negatively related to procrastination among public university employees, and off-the-job embeddedness moderated the negative relationship between the variables. It is suggested that managers and HR professionals should consider procrastination among employees seriously and try to reduce it through encouraging employee (on-the-job, links, fit, and sacrifice). This can be achieved through encouraging a positive work environment, job security and stability, and work-life balance which makes employees less concerned about searching for another job outside their organization, and less distressed about family caring. This will result in employees to be less distracted by community factors and more engaged within their organization consequently less procrastination at work.

**Key words:** On-the-job embeddedness, off-the-job embeddedness, procrastination at work, public universities, Kurdistan Region of Iraq (KRG).

### الملخص:

الغرض من هذا البحث هو التحقيق في الدور المعدل لـ "التضمين خارج الوظيفة" في العلاقة بين "التضمين في العمل" و"التسويق في العمل". بناءً على دراسة استقصائية شملت 451 موظفًا يعملون في الأقسام الإدارية في 14 جامعة حكومية في حكومة إقليم كردستان. تم إدخال بيانات الدراسة في SPSS 25 للتحليل الأولي. ثم تم استخدام نهج نمذجة المعادلات الهيكلية (SEM) المكون من خطوتين لتقييم نموذج البحث واختبار الفرضيات ذات الصلة. تم تقدير نموذج القياس باستخدام برنامج SEM القائم على التباين، AMOS 25 لقياس الأبعاد النظرية للتضمين أثناء العمل، والتسويق في العمل، والتضمين خارج العمل. كشفت نتائج هذه الورقة البحثية أن التضمين أثناء العمل يرتبط سلبًا بالتسويق بين موظفي الجامعات الحكومية، وأن التضمين خارج العمل خفف من العلاقة السلبية بين المتغيرات. يُقترح أنه يجب على المديرين وخبراء الموارد البشرية التفكير في التسويق بين الموظفين بجدية ومحاولة تقليله من خلال تشجيع الموظف (أثناء العمل، والروابط، والملاءمة، والتوضيح). يمكن تحقيق ذلك من خلال تشجيع بيئة عمل إيجابية، والأمن الوظيفي والاستقرار، والتوازن بين العمل والحياة، مما يجعل الموظفين أقل اهتمامًا بالبحث عن وظيفة أخرى خارج مؤسساتهم، وأقل قلقًا بشأن رعاية الأسرة. سيؤدي هذا إلى جعل الموظفين أقل تشتتًا بسبب عوامل المجتمع وأكثر انخراطًا داخل مؤسساتهم وبالتالي تقليل التسويق في العمل.

**الكلمات المفتاحية:** التضمين في العمل ، التضمين خارج العمل ، التسويق في العمل ، الجامعات الحكومية ، إقليم كردستان العراق.

## یوخته

نامانجی ئەم توێژینهوه بریتیه له لیکۆلینهوه له پڕۆلی "وابسته‌بەبوون له درمەوی کار" له پەیمۆندی نێوان "وابسته‌بەبوون له شۆینی کار" و "دواخستنی کاردا". بە پشت‌بەستن بە راپرسییهک که له ۴۵۱ فەرمانبەر پیکهاتوه کەله بەشە کارگیریهکان کار دەکەن له ۱۴ زانکۆی حکومی له ههریمی کوردستان. داتاکانی توێژینهوه که له SPSS 25 داخڵ کران بۆ شیکاری سهرمهتایی. پاشان مۆدیلکردنی هاوکیشه پیکهاتیهیهکان (SEM) به‌کارهێنرا بۆ ههڵسهنگاندنی مۆدیلی توێژینهوه که و تاقیکردنهوهی گریمانه پیمۆهندیدار مکانی توێژینهوه که. مۆدیلی پێوانه‌کردن به به‌کارهێنایی SEM له‌سهر بنه‌مای AMOS 25 بۆ پێوانه‌کردنی ره‌هه‌نده تیۆریه‌کانی وابسته‌بەبوون له شۆینی کار، دواخستنی کار و وابسته‌بەبوون له درمەوی کار خه‌ملێندرا. ئەنجامه‌کانی ئەم توێژینهوه یه دهریانخست که وابسته‌بەبوون له شۆینی کار پیمۆندییه‌کی نهرینی به دواخستنی کار مه‌یه له نێوان کارمەندانی زانکۆ حکومیه‌کان، و وابسته‌بەبوون له درمەوی کار پیمۆندی نهرینی نێوان گۆراوه‌کانی توێژینهوه که مامناوه‌ند کردوه. پێشنیار دهرکێت که به‌رپۆمه‌ران و پێشه‌یه‌یه‌کانی HR به جددی بپروانه‌بهرتی دواخستنی کار له ناو کارمەندان و هه‌ڵبەدن که‌می بکه‌نه‌وه له رێگه‌ی به‌هێزکردنی (پیمۆندی، گونجان و قوربانیان- له شۆینی کار)، ئەمه‌ش دهموانرێت له رێگه‌ی هاندانی ژینگه‌یه‌کی نهرینی کارکردن، ئاسایش و سه‌قامگیری کار، و هاوسه‌نگی له‌نیوان ژیان و کاره به‌ده‌سته‌بهرنریت که وا ده‌کات کارمەندان که‌متر خه‌می گه‌ران به‌دوای کاریکی تر دا له درمەوی رێکخراوه‌کیان هه‌بێت، و که‌متر نیگه‌ران بن له چاودێریکردنی خیزان. ئەمه‌ش ده‌بێت هه‌ی ئه‌وه‌ی که کارمەندان که‌متر سه‌رقاڵ بن به‌هه‌ی هه‌وکاره کۆمه‌لایه‌تییه‌که‌نه‌وه و زیاتر له ناو رێکخراوه‌که‌یانه‌دا سه‌رقاڵ بن و له ئەنجامدا که‌متر ره‌فتاری دواخستنی کار مه‌کانیان ده‌بێت.

**کلیله وشه:** وایسته‌مبون له شوینی کار، وایسته‌مبون له دهر موهی کار، دواختنی کار، زانکو حکومییه‌کان، ههریمی کور دستان.

## 1.1. Introduction

Procrastination is becoming a more widespread issue as a consequence of the fast advancement of social development and information technology. Using the internet significantly affects procrastination because work is now more technologically oriented than ever before (Pearlman-Avni & Zibenberg, 2018). According to the Ottawa Citizen (2008), procrastination as a result of technology has increased 20% over the past few years. Steel (2007) explored that procrastination anticipates in negative consequences at work, such as reducing performance (Klingsieck, 2013). Additionally, procrastination can increase an organization's operating expenses, decrease staff productivity and general well-being (see for example, Rozental et al., 2018). Thus, managers are demonstrating a greater interest in attempting to determine how to reduce employees' procrastination.

Harris et al. (2011) have investigated job embeddedness as a mechanism of promoting positive workplace outcomes. Essentially, job embeddedness refers to the level of connection an employee feels towards their job or organization. Prior research has shown that job embeddedness is linked to important organizational outcomes such as voluntary and actual turnover, work attitudes, and job performance (Holtom & Inderrieden, 2006; Lee et al., 2004; Mitchell et al., 2001). Moreover, a recent study by Goliroshan et al. (2021) has suggested that low job embeddedness can result in employee burnout. As such, managers are advised to design effective intervention strategies aimed at improving job embeddedness as a way of reducing negative workplace outcomes.

## 1.2. Research problem

Working in an academic environment is challenging due to the trifocal role that staff members must follow. This role includes community outreach, research, and education. When there is this much work to be done, people eventually begin to procrastinate (Asio, 2021). When employees procrastinate, organizational processes are hampered, along with the provision of basic resources and services. Academic organisations play a significant role in shaping the future of the next generation of adults. Therefore, in order to fulfil their daily workload requirements, the academic staff or employees must produce the output for the day. Procrastination costs organizations a lot; one employee can cost up to \$10,000 per year (D'Abate & Eddy, 2007). In light of this, the research problems can be summarized as follows:

- 1- While previous research has extensively studied academic procrastination with student samples, there is a significant dearth of studies investigating work procrastination in a workplace context. Only a handful of studies have investigated this phenomenon. Researchers have called for an expansion of the range of procrastination in the workplace, and the present study aims to focus on employees and identify ways to reduce procrastination.
- 2- According to Lee et al.'s (2014) review of job embeddedness research from 2001 to 2014, the majority of studies have focused on the work-related aspects of job embeddedness, with only a few taking into account the community-related aspects. This approach has limited our understanding of how both on-the-job and off-the-job aspects of job embeddedness relate to different work constructs in various samples, as pointed out by Amankwaa et al. (2022). To address this gap, this study will investigate both on- and off-the-job embeddedness factors that can affect workplace procrastination

3-There is currently a considerable body of research that recognizes procrastination's prevalence and offers solutions for dealing with it. A review of the literature reveals, however, that procrastination at work is a topic that has received little attention. In addition, studies on job embeddedness as a mechanism to reduce procrastination up to this moment are absent.

### 1.3. The aim of the Research:

This study is focused on examining the relationship between on-the-job embeddedness and workplace procrastination, with a particular focus on the moderating role of off-the-job embeddedness. It is important to examine whether this finding is applicable in other cultural contexts, such as developing countries, where social norms and values may differ. Further research is needed to explore the relationship between embeddedness and deviant behaviours in diverse cultural settings as suggested by Holtom et al. (2012).

### 1.4. Research questions:

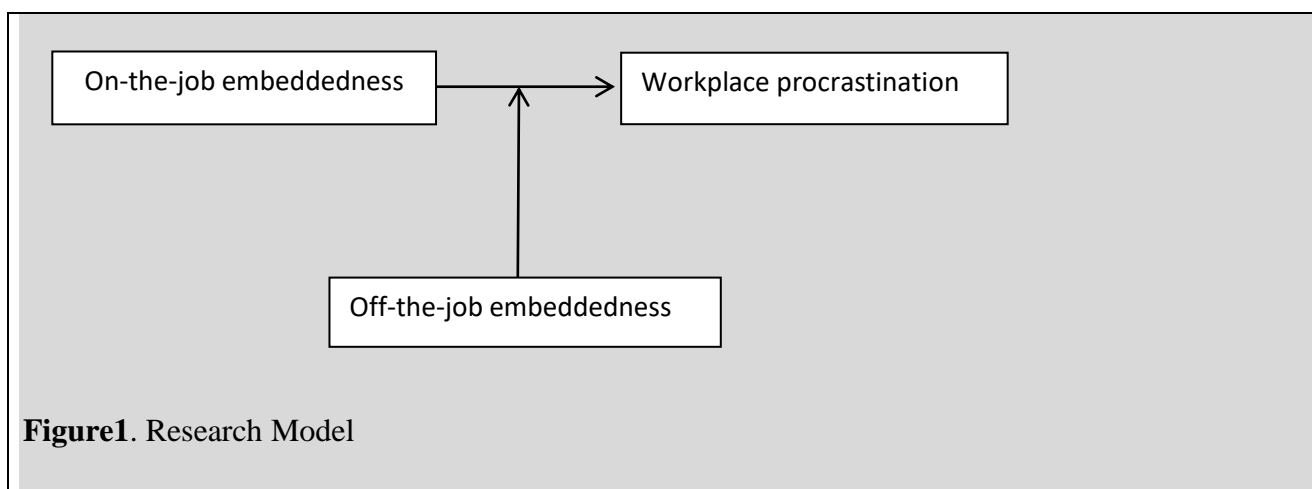
the main research question for the current study is “Does off-the-job embeddedness moderate the relationship between on-the-job embeddedness and workplace procrastination among public university employees in the KRG? To answer the main question the following two sub questions are formulated which are **related to the study variables**:

RQ1: What is the relationship between the on-the-job embeddedness of employees and their procrastination behavior at the public universities in the KRG?

RQ2: What is the moderating role of off-the-job embeddedness between on-the-job embeddedness and procrastination at work among public university employees at the KRG?

### 1.5: Research Model:

the figure bellow shows the impact of the independent variable (On-the-job Embeddedness) on the dependent variable (Workplace procrastination) in the presence of the moderating variable (Off-the-job Embeddedness).



**Figure1.** Research Model

### 1.5. Research hypotheses:

Consistent with the objectives of the study and in line with its model, the following two main hypotheses are formulated that will serve as solutions being tested by different methods and means to find out if they are supported or rejected:

**Hypothesis 1:** On-the-job embeddedness negatively associates with procrastination at work among public university employees.

**Hypothesis 2:** Off-the-job embeddedness moderates the negative relationship between on-the-job embeddedness and procrastination at work, such that the negative relationship is weaker when off-the-job embeddedness is higher.

### 1.6. The significance of the research

By investigating the nature of the relationship and impact between on-the-job embeddedness and workplace procrastination with the presence of off-the-job embeddedness as a moderator, this research will have significant importance, including;

1. This study seeks to address an area of research that has received little theoretical or empirical attention by examining the relationship between job embeddedness and procrastination at work. Through examining this under-researched issue in a relatively untested national context (the KRG) and among a specific group of individuals (employees from public universities).
2. This study aims to provide a more nuanced understanding of the relationship between embeddedness and procrastination behavior.
3. This study aims to fill a gap in research on job embeddedness and workplace procrastination in public universities by providing empirical evidence that can guide managers and leaders in reducing employee procrastination through job embeddedness.

## 2-Literature review

### 2.1 Job Embeddedness (JE)

The theory of Job Embeddedness (JE) was initially developed by Terrence Mitchell, Brooks Holtom, and their colleagues in 2001 to understand the reasons behind employees staying in their jobs. Job embeddedness refers to the connections that employees have with their organization and community, which can be categorized into on-the-job and off-the-job embeddedness. It is a network that motivates people to stay with the organization, as defined by Maska and Riyanto (2020). Singh et al. (2021) define it as the complete immersion of employees in their work environment and connections with different networks within the organization, making it challenging for them to leave and reintegrate elsewhere. Job embeddedness aims to encourage a sense of work engagement within the organization. From different perspectives provided by various researchers, it can be conceptualized as a set of internal and external forces that keep employees attached to their organization, ultimately resulting in positive impacts on their performance.

## **2.2 Dimensions of Job Embeddedness**

According to Mitchell et al. (2001), JE is composed of two aspects: (a) on-the-job embeddedness, which pertains to the organization, and (b) off-the-job embeddedness, which pertains to the community. Both dimensions are often combined by researchers when examining overall JE, but they can also be studied separately to determine how each aspect influences JE. Each aspect consists of three elements: link, fit, and sacrifice. A thorough understanding of these elements related to both the organization and community would provide a complete understanding of the factors that contribute to employees' attachment to the organization

### **2.2.1 On-the-job embeddedness (Organizational Embeddedness):**

This concept essentially refers to workplace elements that influence employees' decision to remain in their positions. These elements include coworker relationships, organisational and supervisory support, pay and benefit plans, training and development opportunities, and clearly defined roles (Kiazad et al., 2015). The components are thoroughly explained below:

#### **2.2.1.1 On-the-job Links**

This term pertains to the relationships, whether formal or informal, that an individual has with other members of the organization, such as colleagues, managers, and subordinates. The more connections an employee has at work, the stronger their attachment to the organization becomes (Mitchell et al., 2001).

#### **2.2.1.2 On-the-job Fit**

This refers to the sense of compatibility or alignment between an employee and the company's values, goals, and culture. When an employee's beliefs and aspirations are in harmony with the company's culture, they experience a sense of fit.

#### **2.2.1.3 On-the-job Sacrifice**

This involves the perceived cost of tangible or intangible benefits that an employee might lose by leaving the organization, such as interesting projects, attractive health insurance or retirement plans, and a comfortable workspace.

### **2.2.2 Off-the-job embeddedness**

This is justified by the factors that keep a person at their job that are community-based or present outside of the workplace. These are a person's immediate surroundings, such as their home, workplace, local transportation options, and social and support networks. Work can take a back seat in an employee's life if they have connections to local groups, churches, and friends outside of work. Although it may sound counterproductive, having a strong off-the-job embeddedness can aid someone in managing and coping with work stress (Fasbender et al., 2019). Additionally, a worker's off-the-job embeddedness goes beyond just their own volunteer work. When an employee tries to avoid upsetting their family, factors in their own family, such as teenagers in school, a spouse who owns a local business, or a spouse who works locally, can help embed them in the community (Feldman, Ng, & Vogel, 2012 ; Zhang et al., 2012).



### **2.2.2.1 Off-the-job links**

This element refers to the personal relationships and connections an employee has with their community outside of work, such as friends, family, and community organizations. The more ties an employee has, the stronger their attachment to the organization (Ghosh and Gurnathan, 2015).

### **2.2.2.2 Off-the-job fit**

It refers to how well an employee's personal values and preferences align with the characteristics of their community outside of work (Kiazad et al., 2015).

### **2.2.2.3 Off-the-job sacrifice**

This element reflects the cost an employee may perceive in leaving their current job in terms of the benefits they will lose outside of work, such as established community ties, access to quality education, and living in a safe neighborhood (Ghosh and Gurnathan, 2015).

Multiple results from several studies have shown a weaker connection between off-the-job JE and attitudes and behaviours in the workplace, thus some JE studies have eliminated including that variable (see for example, Jia et al, 2020). Nonetheless, Ng and Feldman (2014) provided evidence for the importance of and connection between community and workplace embeddedness. The study of COR revealed a correlation between changes in organisational and community embeddedness over time. They also discovered that feeling a part of one's community was important in predicting one's level of motivation and identification at work. Furthermore, according to Ng and Feldman (2012), JE in one domain can have impact and exacerbate JE in another. This study employs both dimensions to determine their dependability and validity in the Iraqi context, drawing on research that has shown that off-the-job embeddedness has an effect on workplace behaviour (Ng and Feldman, 2014; Feldman et al., 2012).

## **2.3 Procrastination at work/workplace procrastination**

Previous studies on procrastination mainly focused on academic procrastination and student samples, with more than 70% of students reportedly procrastinating, and over 50% experiencing problematic procrastination (Steel & Ferrari, 2013; Svartdal et al., 2020). However, there is a lack of research on procrastination in the workplace. Gupta et al. (2012) define procrastination as a voluntary delay in starting or finishing a task until the last minute or beyond the deadline or postponing it indefinitely. Procrastination is considered a voluntary behavior, implying that individuals choose to prioritize one task over others. Procrastinators are often unable to manage their time, priorities, goals, and responsibilities, leading to missed deadlines and errors (Abbasi and Alghamdi, 2015; Metin et al., 2018). The belief that procrastinators work better under pressure is a myth. In fact, procrastination can lead to negative outcomes, such as poor performance, unemployment, underemployment, negative health outcomes, and reduced well-being (Nguyen et al., 2013; Sirois, 2016; Rozental et al., 2018). Procrastinators also tend to spend more time on unrelated activities, resulting in rushed and erroneous work, decreased concentration, and increased fatigue (Ahmad et al., 2021).

Thus, based on the above arguments on procrastination, it can be defined as a bunch of counterproductive behaviors where individuals behaviorally and cognitively engage in postponing a

work related actions whereby hinders the effectiveness of delivering resources and services in turn affects organizational performance.

## **2.4. Dimensions of workplace procrastination**

### **2.4.1. Soldiering**

The term "soldiering" was first introduced by Taylor (1911), this first dimension is referred to as the limitation of output by individuals. In addition, Paulsen (2013) recently defined "soldiering" as the deliberate avoidance of work-related tasks for longer than one hour per day without intending to cause harm to others or delegate tasks to coworkers. Paulsen claims that soldiering occurs when an employee has a poor relationship with their job in terms of ethics or identity, and when the demands of the job are less than what is reasonably expected of them. Soldiering includes activities like daydreaming, taking extended coffee breaks, and doing something enjoyable instead of working. Moreover, Metin et al. (2016, p 256) define procrastination at work as "*the delay of work-related action by intentionally engaging (behaviourally or cognitively) in nonwork-related actions, with no intention of harming the employer, employee, workplace or client*". Examples of soldiering include taking extended coffee breaks, gossiping, and other similar activities. According to studies, this kind of behavior is primarily linked to unfavorable outcomes.

### **2.4.2. Cyber-slacking**

With the widespread use of (mobile) technology at work, a second type of procrastination at work emerged that is known as "cyberclacking" and is thought to be a relatively new and extremely common concept (Batabyal & Bhal, 2020). Cyberslacking was defined by O'Neill et al (2014) as "a phenomenon in which employees are distracted by non-work Internet browsing when they should be accomplishing work tasks" (p. 152). Additionally, Lim (2002) conceptualized "cyberslacking" as the practice of using the internet service provided by the business for personal or non-work-related purposes during working hours. Li & Lin (2019) argued while using smartphones, personal mobile devices, and the internet has increased efficiency and convenience in many aspects including opening up channels of communication at work, it has also added layers of complexity. It is also associated with new challenges, like using the Internet for private purposes (Tandon et al., 2022). Employees frequently utilize the Internet negatively and engage in activities unrelated to their jobs as they may appear to be working on their computers while actually playing games, browsing social networking sites, shopping online, or instant messaging. Due to employee engagement in counterproductive activities.

## **2.5 The relationship between on-the-Job embeddedness and workplace procrastination in higher education sector of Iraqi Kurdistan.**

According to a number of studies Job embeddedness has been linked to increasing the productive behaviours in the workplace such as work engagement, OCB, job performance, however, a reduction in workplace deviation behaviours (Kapil & Rastogi, 2017; Mishra et al., 2022). Accordingly, highly embedded employees are less likely to flout organizational rules out of loyalty to the organization or to prevent the possibility of facing retaliation from the organization Goliroshan et al., 2021; Kiazad et al., 2015). To justify this, It's vital to consider the integration of both the JD-R model and COR theory to understand how job embeddedness would reduce the procrastination behavior in the



workplace. According to the JD-R model, under demanding working conditions, employees who possess high levels of resources (leader support) have access to more resources and are therefore better able to meet these demands. They consequently experience less exhaustion (Bakker et al., 2005). Additionally, the Conservation of Resources (COR) Theory emphasises that people should work to both protect and accumulate these resources. Resources often lead to the creation of additional resources, or "resource caravans," which can lead to favourable outcomes like improved fit and well-being. We find some areas of agreement between the JD-R model and the COR theory after taking into account the aforementioned presumptions. For instance, both theories presuppose that resources moderate the relationship between threats/demands and unfavourable outcomes. We would also anticipate that the availability of job resources would result in the accumulation of resources and, ultimately, more favourable outcomes.

Employees are more likely to follow organizational rules if sufficient job resources are offered. In these circumstances, they will act appropriately as a practical expression of their satisfaction with the ideal working environment. This situation might lead to the prevention of deviance work behaviours like procrastination, which would encourage workers to conserve resources for the organization by completing their tasks on time. Accordingly, the following hypotheses can be formulated:

**Hypothesis 1:** On- the- job embeddedness negatively associates with procrastination at work among public university employees in kurdistan region.

## **2.6.Off-the-job embeddedness as a moderator in the relationship between on-the-job embeddedness and workplace procrastination**

In light of the findings by Feldman et al. (2012) and his coworkers where they argue that while person's level of embeddedness in their community (off-the-job) might not always have an immediate impact on their work outcomes, it can bolster or weaken the connection between their level of embeddedness within their organisation (on-the-job) and other work outcomes). Similarly, it is argued that the concept of embeddedness outside of work should be reconsidered as a moderator between on-the-job embeddedness and other constructs in the workplace. This study agrees with this line of thinking, arguing that the extent to which followers' on-the-job embeddedness is related to their workplace procrastination depends on their level of off-the-job or community embeddedness. Employees' desire to obtain and protect resources is what makes them embedded, as pointed out by Kiazad et al. (2015). That's why we figure people who have lots of friends and enjoy similar privileges in their neighbourhood are more likely to be strongly embedded (Feldman et al., 2012). Those who have ties to the community in the form of relatives and friends, as well as those whose children attend local schools, might be considered highly embedded, while those who lack these "resources" might be categorised as moderately or poorly embedded. This suggests that people who have a solid sense of community may be in the best mental state to respond positively and productively to organisational initiatives (Amankwaa et al., 2022). People who are only somewhat or not at all rooted in the community might not be in the best mindset to respond positively to their organization's efforts (either because of a lack of support from family or distractions from friends in the community). As a result, we believe that the inverse correlation between on-the-

job embeddedness and procrastination at work will be moderated by the employee's level of off-the-job embeddedness. The following hypothesis can be derived from this argument:

**Hypothesis 2:** Off-the-job embeddedness will moderate the negative relationship between on-the-job embeddedness and procrastination at work among public university employees in the KRG, such that the relationship is weaker when off-the-job embeddedness is higher.

### 3. Research Method

#### 3.1. Sample and procedure

14 public universities in Iraqi Kurdistan have been chosen to provide the data for this study. Due to the research data collection being quicker, easier, more accessible, and less expensive, an online questionnaire method was chosen. A total of 451 online surveys were gathered. Most of the people who filled out the survey were in the 35-44 age range. The majority of participants (69%) have bachelor's degrees in terms of educational level. Regarding work experience, 36% of respondents had between 11 and 15 years, while 30% had between 5 and 10 years. Males made up 71% of the respondents. In terms of marital status, the majority of participants—representing 83.4% of the sample population—were married, while the rest were single.

#### 3.2. Measures

As a measurement tool, a five-point likert scale from 1 (strongly disagree) to 5 (strongly agree) was used. Use of previously validated scales ensured that all variables were measured accurately. All questions were initially in English at first, but the surveys were given to employees in their native language (Kurdish). In accordance with Ahmad and Liu (2020), the survey was localised into Kurdish.

#### 3.3. Control Variables

the control variables for the current study were employee's working place, gender, age, experience, marital status, and educational level.

#### 3.4. Job embeddedness

A shortened version proven by Holtom et al. (2006) is used to create an eleven-item measure of on-the-job embeddedness, which is adapted from scales from earlier studies by Mitchell et al. (2001). The off-the-job embeddedness measurement, on the other hand, is created to determine how connections to the community or outside world (such as closeness to family, participation in professional organisations, and access to public facilities) affect employee procrastination at work. It uses a ten-item measure that was modified from Holtom and Inderrieden (2006) and Mitchell et al. (2001). A five-point Likert scale was used, ranging from 1 (strongly disagree) to 5 (strongly agree). The scale's reliability has been established with Cronbach's alpha (0.912 and 0.910).

### 3.5. Workplace procrastination

The variable was assessed using 12 items from a study by Metin et al. (2016) that focuses on procrastination behaviours in the modern workplace. Eight items assess **soldiering**, such as "when I have too much work, I avoid planning my tasks and end up doing something completely irrelevant," and four items assess **cyber-slacking** such as "I do online shopping during working hours". The reliability of the scale has been established with Cronbach's alpha (0.916).

## 4. Data analysis and interpretation of research results

The data was initially entered into the statistical programme SPSS for preliminary analysis. Then, to assess the research model and test the hypotheses, a two-step structural equation modelling (SEM) approach was used. The measurement model was estimated using AMOS 25, a covariance-based SEM programme, to measure the theoretical dimensions of on-the-job embeddedness, procrastination at work, and off-the-job embeddedness. Consequently, this section discusses the evaluation of the participants' responses and opinions in relation to the study's variables.

### 4.1. Validity and reliability test of the questionnaire (Cronbach's Alpha test):

In order to measure the reliability of the questionnaire the Cronbach's alpha was used, and the values of (Cronbach's alpha) are considered statistically acceptable when these values are equal to or greater than (0.60) in questionnaire research.

**Table (1):** Cronbach's alpha coefficient to measure the reliability of the questionnaire

Variables	Number of Items	Cronbach's alpha	validity coefficient
On-the- job embeddedness	11	0.912	0.955
Off-the-job embeddedness	10	0.910	0.954
Procrastination	12	0.916	0.957
The value of the coefficient of Cronbach's alpha for overall questionnaire		0.818	0.904

Table (1) shows the value of the reliability coefficient (Cronbach's alpha) and the validity coefficient. It is clear from the table that the value of the Cronbach's alpha coefficient was high for all variables, which is ranged between (0.910, 0.916), as well as the value of the coefficient of Cronbach's alpha for overall questionnaire is (0.818), and this means that the reliability coefficient of the questionnaire is high and is considered acceptable at a very good level from the statistical perspectives, as well as the value of validity was high for each of the variable of the questionnaire Separately, which is ranged between (0.954, 0.957), as well as the validity value of the overall questionnaire variable is (0.904), which means that the validity coefficient of the questionnaire is high and is considered acceptable at a high level.

## 4.2. Presentation, analysis, and discussion of information related to the sections of the questionnaire

The study sample's frequencies and percentages were calculated to evaluate each section's strength and importance. The weighted mean showed the items' direction, and the standard deviation showed the study sample's responses to each item. Relative importance and weighted mean determine interpretation. Positive items have relative importance greater than 60% and weighted means greater than 3. Negative items have a relative importance less than 60%, and weighted means less than 3. Thus, the following sections discuss the questioner's research.

### 4.2.1 Presentation, analysis, and discussion of the results related to the items of the variable (On-the- job embeddedness) which is represented by (X2-On) in table (2)

**Table (2) Means, SD and RI for On-the- job embeddedness**

Items	M	SD	CV	RI
X2.1-On	3.46	1.00	28.91	69.27
X2.2-On	3.13	1.19	38.10	62.53
X2.3-On	3.39	1.12	32.95	67.85
X2.4-On	2.55	1.22	47.81	50.91
X2.5-On	2.62	1.30	49.60	52.42
X2.6-On	2.48	1.24	50.18	49.53
X2.7-On	2.71	1.27	46.87	54.24
X2.8-On	3.65	1.35	36.98	73.04

X2.9-On	2.11	1.14	53.95	42.17
X2.10-On	2.44	1.19	48.92	48.82
X2.11-On	2.41	1.18	48.93	48.29
<b>Total</b>	<b>2.81</b>	<b>0.88</b>	<b>31.27</b>	<b>56.28</b>
<b>M: is Weighted Mean, SD: is Standard Deviation, CV: is Coefficient of Variance, RI: is Relative Importance</b> <b>Means description: (1 – 1.8 very low, 1.81 – 2.6 low, 2.61 – 3.40 moderate, 3.41 – 4.20 high, and 4.21 – 5 very high)</b>				

Table (2) shows weighted mean and standard deviation of each item of the independent variable (On-the- job embeddedness). The overall weighted mean for this variable is equal to (2.81) with standard deviation is equal to (0.88), the general direction of this variable toward to disagreement. In addition, the overall weighted mean of this variable is less than the theoretical mean (3), which indicates that the respondents of the current study disagree with the items of the questioner about their level of On-the- job embeddedness. The summary of the results regarding this section is as follows: The eighth item (X2.8-On) “I would sacrifice a lot if I left this job “ has a highest weighted mean among the statements being rated by the study sample, which is equal to (3.65), and that is greater than the theoretical mean (3), with standard deviation is equal to (1.35). However, the item (X2. 9. On) “I believes the prospects for continuing employment with my organization are excellent ” has the lowest weighted mean which is equal to (2.11) that is less than the theoretical mean (3) with standard deviation (1.14)



#### 4.2.2. Analyzing the items of Off-the-job embeddedness which is represented by (X2-Off) in Table (3)

**Table (3) Means, SD and MI for Off-the-job embeddedness**

Items	M	SD	CV	RI
X2.1-Off	3.94	0.78	19.92	78.71
X2.2-Off	2.87	1.22	42.65	57.38
X2.3-Off	3.58	1.09	30.48	71.53
X2.4-Off	2.89	1.27	44.00	57.87
X2.5-Off	3.22	1.24	38.63	64.35
X2.6-Off	2.41	1.15	47.43	48.29
X2.7-Off	3.56	1.00	28.13	71.13
X2.8-Off	3.17	1.17	36.91	63.46
X2.9-Off	3.23	1.16	35.84	64.52
X2.10-Off	3.18	1.17	36.72	63.50
Total	3.20	0.84	26.22	64.08

**M: is Weighted Mean, SD: is Standard Deviation, CV: is Coefficient of Variance, RI: is Relative Importance**

**Means description: (1 – 1.8 very low, 1.81 – 2.6 low, 2.61 – 3.40 moderate, 3.41 – 4.20 high, and 4.21 – 5 very high)**

Table (3) shows weighted mean and standard deviation of each item of the moderating variable (Off-the-job embeddedness), the overall weighted mean for this variable is (3.20) with standard deviation (0.84), the general direction of this variable is toward agreement. In addition, the overall weighted mean of this variable is more than the theoretical mean (3), which indicates that the respondents of the current study agree with the items of the questioner regarding their level of Off-the-job embeddedness. Examples for some of the items can be summarized as follows: The first item (X2.1.Off) “My family roots are in this community. “ has a highest weighted mean among the statements being rated by the study sample, which is equal to (3.94), and that is greater than the theoretical mean (3), with standard deviation is equal to (0.78). However, the sixth item (X2.6.Off)

“The area where I live offers the leisure activities that I like ( sports , outdoor activities , cultural events & arts “ has a lowest weighted mean that is equal to (2.47) which is less than the theoretical mean (3) with standard deviation (1.00).

#### 4.2.3. Analyzing the items of Procrastination at work which is represented by (X3) in Table (4):

**Table (4)** Means, SD and MI for **Procrastination at work**

Items	M	SD	CV	RI
X3. 1	3.49	1.20	34.32	69.89
X3. 2	2.96	1.13	38.34	59.11
X3. 3	3.51	1.32	37.58	70.11
X3. 4	3.88	1.23	31.60	77.65
X3. 5	3.86	1.28	33.24	77.25
X3. 6	3.06	1.30	42.56	61.29
X3. 7	2.22	0.78	35.20	44.39
X3.8	3.91	1.32	33.84	78.14
X3. 9	3.71	1.18	31.86	74.24
X3. 10	3.86	1.27	32.97	77.25
X3. 11	3.88	1.23	31.84	77.52
X3. 12	2.20	0.87	39.48	43.99
Total	3.38	0.86	25.46	67.57

**M: is Weighted Mean, SD: is Standard Deviation, CV: is Coefficient of Variance, RI: is Relative Importance**

**Means description: (1 – 1.8 very low, 1.81 – 2.6 low, 2.61 – 3.40 moderate, 3.41 – 4.20 high, and 4.21 – 5 very high)**

Table (4) shows weighted mean and standard deviation of each item of the dependent variable (Procrastination at work), the overall weighted mean for this variable is (3.38) which is greater than the theoretical mean (3) with standard deviation (0.86), this indicates that the general direction of this variable is toward agreement. Examples for some of the items can be summarized as follows: The item (X3. 8) "I delay some of my tasks just because I do not enjoy doing them" has a highest weighted mean among the statements being rated by the study sample, which is equal to (3.91), and that is greater than the theoretical mean (3), with standard deviation is equal to (1.32). However, the item (X3.12) "I do online shopping during working hours" has a lowest weighted mean after item that is equal to (2.20) which is less than the theoretical mean (3) with standard deviation (0.87).

#### **4.3. Confirmatory Factor Analysis**

To confirm the factor loadings and factor structures of the observed variables, confirmatory factor analysis (CFA) is used. The results of the evaluation of the composite reliability (CR) are also shown in table 3.4. The results of the HTMT analysis are used to evaluate discriminant validity, and they are also displayed in table 3.4.

**Table (3.4): Scale items and their sources and confirmatory factor analysis results.**

Scale Items	Factor loading
<b>On-the- job embeddedness</b>	
<b>(AVE = .504, CR = .914, <math>\alpha</math> = .96, Skew. = .273, Kurt.= -0.707)</b>	
X2.1_On	0.504
X2.2_On	0.679
X2.3_On	0.559
X2.4_On	0.818
X2.5_On	0.851
X2.6_On	0.840
X2.7_On	0.727
X2.8_On	0.360
X2.9_On	0.668
X2.10_On	0.795
X2.11_On	0.826
<b>Off-the-job embeddedness</b>	
<b>(AVE = .501, CR = .907, <math>\alpha</math> = .96, Skew. = -0.394, Kurt.= -0.443)</b>	
X2.1_Off	0.437
X2.2_Off	0.558
X2.3_Off	0.631
X2.4_Off	0.700
X2.5_Off	0.707
X2.6_Off	0.601
X2.7_Off	0.660
X2.8_Off	0.882
X2.9_Off	0.906
X2.10_Off	0.868
<b>Procrastination at work</b>	
<b>(AVE = .50, CR = .915, <math>\alpha</math> = .97, Skew. = -1.081, Kurt.= .243)</b>	
X3.1	0.800
X3.2	0.576
X3.3	0.790
X3.4	0.824
X3.5	0.802
X3.6	0.617
X3.7	0.375
X3.8	0.806
X3.9	0.678
X3.10	0.782
X3.11	0.707
X3.12	0.384

All of the loadings were more than 0.50 and statistically significant. This means that the indicators are strongly related to the constructs they are supposed to measure (Hair et al., 2011). These results showed that there was convergence, and the AVE was also more than 0.50. The AVE values between the variables (On, Off-the-job embeddedness, and Procrastination at work) were higher than the squared correlation between the relevant latent constructs to ensure discriminant validity using

Fornell and Larcker's (1981) method (2013). Hair et al. (2011) assume that one way to use CFA to evaluate discriminant validity is to compare the average variance-extracted (AVE) values. If your test passes, you can be sure that it has discriminant validity (Hair et al., 2011). For the convergent validity of a CFA result to be accepted, the reliability of items(a), the reliability of the constructs, the variance extracted, and the average variance extracted must all be in good standing (Hair et al., 2011). All of the factor loadings are statistically important, as shown by the results (p 0.001). Estimates of construct reliability ranged from 0.907% to 0.915%, which is well above the 0.7 threshold suggested by Hair et al. (2011) and (Sekaran & Bougie, 2013), showing adequate reliability. All of the measures confirmed high accuracy with composite reliability (>0.60) and coefficient alpha (>0.70) (Hair et al., 2011). Findings for reliability scores of measures are shown in Table 3.4, while statistical results and correlations of observed variables are shown in Table 3.5.

**Table (3.5): Summary statistics and correlations of observed variables.**

	X2-On	X2-Off	X3
X2-On	1	.668**	-.521**
X2-Off	.668**	1	-.315**
X3	-.521**	-.315**	1

**Table (3.6): HTMT Analysis**

	X2-On	X2-Off	X3
X2-On			
X2-Off	<b>0.734</b>		
X3	<b>0.562</b>	<b>0.335</b>	

The HTMT values are less than 0.85, as can be seen in Table (3.6). Kline (2011) asserts that discriminant validity between the reflective constructs is established by HTMT values lower than 0.85. Therefore, Regarding the overlap between the items from the perception of the participants of the affected variable, there was no issue with multicollinearity Figure 2. shows the final best-fitting model, which was chosen based on the results of Tables 3.5 and 3.6.



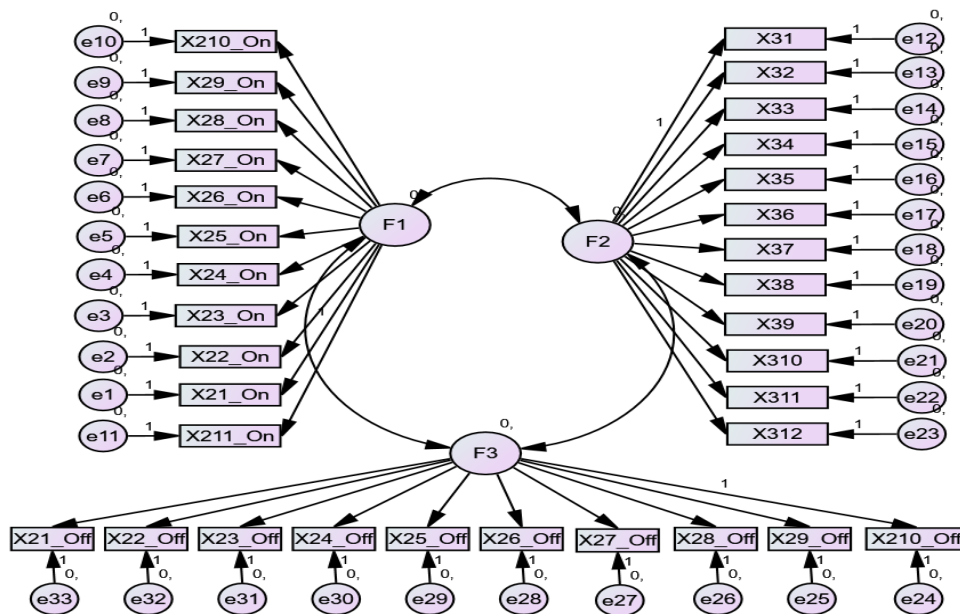


Figure 2. Final best fitting CFA model

#### 4.5. Hypothesis Constructions and testing

As can be seen in Figure 3. structural equation modeling (SEM) is used to test the research's main hypotheses. Below is a presentation of the findings.

The research hypotheses are:

**Hypothesis 1:** On-the-job embeddedness negatively associates with procrastination at work among public university employees.

**Hypothesis 2:** Off-the-job embeddedness moderates the negative relationship between on-the-job embeddedness and procrastination at work, such that the negative relationship is weaker when off-the-job embeddedness is higher.

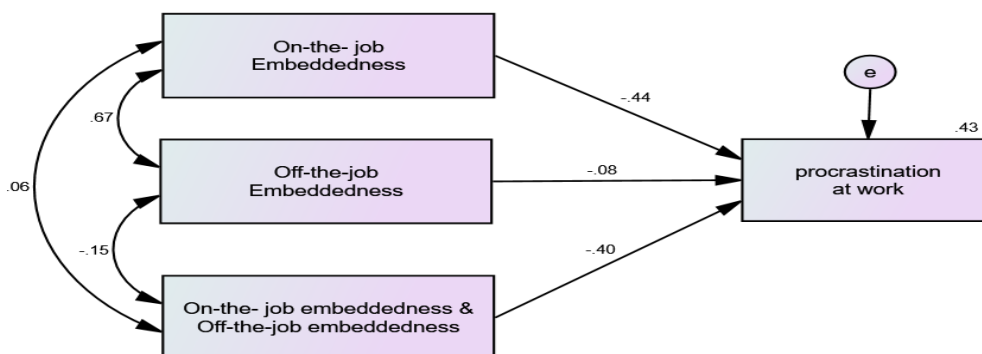


Figure 3. The SEM Model for the hypotheses

## 4.6. Testing the Hypotheses

### 4.6.1. Testing the first Hypothesis

The first hypothesis was tested by using correlation coefficient as reported in the Table (3.5), the first hypothesis state that the “On-the- job embeddedness negatively associates with procrastination at work”, it is noticed that correlation value between On-the- job embeddedness and procrastination at work is equal to (-0.521) with the smaller p-value which is less than the acceptable statistically significant level (Alpha) that is equal to ( $\alpha = 0.05$ ), that is mean can be accept the first hypothesis which is indicated to negative and strong relationship between On-the- job embeddedness and procrastination at work.

### 4.6.2 Testing the second Hypothesis

The second hypothesis was tested which is state that the “Off-the-job embeddedness will moderate the relationship between on-the -job embeddedness and procrastination at work”, the results were shown in the table (3.8):

**Table (3.8)** Structural Equation Modelling Regression weights

			Estimate	S.E.	C.R.	P	R <sup>2</sup>
procrastination	<---	Off the job	-.081	.050	-1.599	.110	
procrastination	<---	On the job	-.432	.048	-8.999	***	0.43
procrastination	<---	On the job * Off the job	-.427	.039	-10.937	***	

**Note:** S.E. = Standard errors of the regression weights, C.R. = Critical Ratio, P = p-value

As can be seen in Table (3.8), the study evaluated the moderating role of off-the-job embeddedness on the relationship between on-the-job embeddedness and work-related procrastination and found that it significantly reduced the strength of the relationship, since the critical ratio value of moderator and on-the -job embeddedness are greater than 2 and the p-values are (\*\*\*) which are less than 0.05. As can be seen in Table 3.5, there is a negative and highly significant relationship between on-the-job embeddedness and procrastination on the job. The value of the individual correlation is 0.521. In accordance with this, the study's hypotheses are accepted, suggesting that "off-the-job embeddedness will moderate the negative relationship between on-the-job embeddedness and procrastination at work," with a weaker negative relationship (-.005) when off-the-job embeddedness is higher. According to the criteria listed in Table 3.8, the measurement model was supported by the overall model fit. Both moderator and on-the-job embeddedness have relatively small effects (0.427 and - 0.432, respectively). However, they are only able to account for 43% of the variance in workplace procrastination ( $R^2 = 0.43$ ).

## 5- Discussion and conclusion

The purpose of this study was to investigate the moderating role of “off-the-job embeddedness” in the relationship between “on-the-job embeddedness” and workplace procrastination. The results of the empirical testing demonstrated that public universities can adopt on-the-job embeddedness as a mechanism to reduce employee procrastination. As the results indicated that generally the answers for the questions of on-the-job embeddedness were toward disagreement simultaneously procrastination was prevalent among employees, the higher education sector particularly public university administrators have not sufficiently considered job embeddedness as a mechanism to reduce procrastination behaviour. For instance, both on-the-job links and fit were low among employees, which means that the social and work relationship among employees and their surrounding is poor. In addition the fit dimension shows that employees feel that there is a low fit between their goal and the job they are enrolled in. These results seem to be in line with the findings by authors (Lee et al., 2004; Ng & Feldman, 2014; Kiazad et al., 2015), which they concluded that on-the-job links and fit can lead to increasing employee engagement, commitment, in turn higher productivity while lack of links and fits can result in employees poor performance. In particular regarding the KRG context lack of fit and links resulted in employee procrastination at work.

However, the results for sacrifice was controversial, as employees showed that they prefer staying in their current job despite the low benefits that they gain from continuing doing this job. This might be due to the reason that in public sector organizations there is a perception of “no firing”, where even though they are not satisfied with the work conditions they still want to stay in their job for the sake of future pension.

In terms of the workplace procrastination, the results indicated that procrastination is prevalent among employees and it will cost public universities a lot. Majority of the respondents indicated that they procrastinate during working hours and the two main reasons behind procrastination were employees do not enjoy the task they are doing (one of the dimensions of soldiering) and highly using internet at work for personal use (one of the dimensions of cyber-slacking). For example, employees use social media for other purposes than their job. This finding is in accordance with the results of (Li & Lin, 2019; Tandon et al., 2022; Paulsen 2013), where they focused on the side effects of using internet at work for personal use at it costs the organizations significantly.

The relationship between on-the-job embeddedness and workplace procrastination was significantly negative (-.521) which means that low on-the-job embeddedness can lead to higher procrastination among employees. However, regarding the factors outside the job links, fits, and sacrifice to the community (off-the-job embeddedness), the employees answer were moderately toward agreement. By other means the employees links, fit, and sacrifice within their community was higher comparing the links, fit, and sacrifice within their organization. The results of the research as its explained in table (3.5) indicated that despite the fact that off-the-job embeddedness moderates the negative relationship between on-the-job embeddedness and workplace procrastination, the off-the-job embeddedness variable itself impacts workplace procrastination too, however, with a weaker negative relationship (-.315).

## 6. Recommendations

As the pervasiveness of workplace procrastination negatively influences the performance, it can significantly cost organizations. This research provides some recommendations for managers and HR professionals in the public universities at the KRG, for enabling them with approaches to reduce it. Below are some of these recommendations:

- 1-procrastination among employees must be considered seriously, managers and HR professionals have to track employees' performance regularly to tackle any signs of procrastination.
- 2- Limiting the use of internet at work for personal use, as using technology is found to be one of the main reasons for procrastination. To achieve these goal public universities can take several steps, including: firstly, establishing clear policies regarding acceptable technology use during work hours, such as limiting personal device and social media usage. Secondly, providing training on how to use technology effectively and responsibly, including time management and prioritization skills. Thirdly, monitoring employee technology usage to ensure it aligns with company policies, such as using software to track internet usage and productivity. Last but not least, encouraging employees to take regular breaks throughout the workday to avoid the temptation to procrastinate using technology. Lastly, offering alternative activities for employees during downtime, such as team-building exercises, wellness programs, or professional development opportunities.
3. Managers and HR professionals have to encourage increasing employee on-the-job embeddedness as one of the strategies to reduce procrastinations. From the research findings it is indicated that employee embeddendess within their job was low. Therefore, some approaches to foster employee on-the- job embeddedness are: firstly, By encouraging open communication, expressing gratitude to staff, and offering opportunities for professional development and growth, employers can foster a positive workplace culture that will make staff feel more fit for their roles and more connected to their surroundings. Secondly, providing opportunities for meaningful work and enroll employees with the job they enjoy doing. This will make employees perceive that their job is meaningful and make them more engaged within their work resulting in less procrastination. Thirdly, offer job security and stability which can increase employee commitment and attachment to their job. In the special context of the KRG this stability can be achieved through providing sufficient resources at work including, salaries on time, rewards and benefits. Lastly, promoting work-life balance by providing flexible work arrangements, like telecommuting and flexible scheduling, to assist employees in managing their professional and personal commitments. All the mentioned recommendations can increase on-the- job sacrifice such that employees will not show willingness to procrastinate and do their best to stay committed with their organization.
- 4-Off-the-job embeddedness by some means can decrease employee on-the job embeddeness. Thus, by providing positive work environment, job stability and security, supporting the balance between employees work and life, public universities can increase on-the-job embeddedness which makes employees less concerned about doing another job outside their organization, and less concerned about family caring. This will result in employees to be less distracted by community factors and more engaged consequently less procrastination at work.

5- In the KRG, delay in salary receiving is a common issue among public sector employees, where salary is considered as one of the most important financial resources to keep employees embedded and avoid procrastination according to the job demand-resource theory. Therefore, the government should highly take into account the solution for this problem in order to avoid employees become procrastinators. Otherwise, it will cost public universities a lot from being inefficient.

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