How Does IT Influence Chinese IS/IT Users’ Job Burnout?
Based on Chinese Guanxi Perspective

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ABSTRACT
Organizational utilization of information systems and information technology continues to grow in the 21st century, and job stress has become a worldwide problem; but the emotional expression of people differ in diverse cultural societies, and employees need to use IS/IT (IS/IT users) to do their work. Work exhaustion will also increase with the time. Mainland China (the PRC) and Taiwan share the same language and inherit Chinese culture; thus, this study based on job a burnout model and Chinese Guanxi perspective adopts a qualitative research method to collect IS/IT users’ data from these two areas. This study has explored (1) permeability as a critical factor of the technology characteristics, (2) that technology characteristics and Chinese Guanxi will influence each other, and (3) that Chinese Guanxi will influence emotional job demands, social support, and personal accomplishment of Chinese IS/IT users. Finally, it has a contribution to both the academics and practice of the job burnout issue.

KEYWORDS
Chinese Guanxi Perspective, Job Burnout Theory, Permeability, Work Exhaustion

1. INTRODUCTION
As organizational utilization of (and dependence on) information systems (IS) and technology continue to grow, information technology (IT) pervades work as well as personal lives in the 21st century (Lee et al. 2016). Organizations have gained abundant advantages in the efficiency of their productivity and the effectiveness of their workers through the implementation of IT (Galluch et al., 2015). Due to the speedy development of the Internet, how to develop a robust IS to support the globalization of enterprises was the critical issue from the 2008 financial crisis to the COVID-19 epidemics beginning from 2020 (Chang & Wu, 2022). For this reason, usage of IS/IT to perform work is a necessary ability for most employees. However, these requests for employees, indeed, increased their job burnout and work exhaustion (Lee et al. 2016), in turn, job burnout positively associated with turnover intentions (Tarafdar et al., 2015). Therefore, how an organization can retain valuable employees is likely to become a critical factor in the attainment of their strategic goals.

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Globalization and the fierce competitive nature of business have created lean organizations with cultures that reward people who work exceptionally hard, spend longer hours at work, and are connected to the organization 24/7 via IT (Brooks & Califf, 2017; Sheer & Rice, 2017; Srivastava et al., 2015). The jobs in the business are so diverse for the employees, who have to use IS/IT to finish their job (IS/IT users), and their work exhaustion will be increased.

The technostress is a modern disease caused by one’s inability to cope or deal with information and communication technologies (ICTs) in a healthy manner (Galluch et al., 2015). Thus, people have to spend longer hours at work via IT, this situation will increase their technostress by having higher work exhaustion, lower productivity and job satisfaction to the organization (Beheshtifar & Omidvar, 2013). Although exhaustion can occur in various work environments, the popular press and the research literature suggest that the IS/IT users are more severe concern with work exhaustion (Ayyagari et al., 2011; Moore, 2000). For these reasons, work exhaustion in the IS/IT users is particularly worthy of investigation, and this study may well be contributing to the increased turnover among these users (Galluch et al., 2015).

Maslach and Jackson had developed Maslach Burnout Inventory (MBI) (1981) and the job burnout theory including three components: work exhaustion, cynicism (depersonalization), and professional efficacy (personal accomplishment). Burnout was viewed as a form of job stress, with links to such concepts as job satisfaction, organizational commitment, and turnover (Beheshtifar & Omidvar, 2013; Salvagioni et al., 2017; Wang et al., 2014). Meanwhile, Moore (2000) believed that work exhaustion is determined by perceived workload, role ambiguity (Venkatesh et al., 2020), role conflict (Tong et al., 2015; Venkatesh et al., 2020), job autonomy, and fairness of rewards of IT professionals. In addition, technology characteristics are proposed as antecedents to stressors of the IS/IT users, thus work overload, role ambiguity, work-home conflict (Aazami et al., 2015), invasion of privacy, and job insecurity which, in turn, are predictors of work exhaustion (strain) due to IT (De Caroli & Sagone, 2014; Gaudioso et al., 2017; Huang et al., 2017; Kaiseler et al., 2014; Tarafdar et al., 2015); thus, scholars named IT as technology driven stressor (Chen & Karahanna, 2018).

Moreover, job-related stress seems to have emerged as a significant workplace problem in a number of countries worldwide (Charoensukmongkol, 2022). Meanwhile, national cultures have been shown to have different norms for emotional expressions (Charoensukmongkol, 2022), and vary in their expectations for regulating and expressing these emotions in the workplace (Cooper et al., 2003). Therefore, in a climate of increasing globalization and concomitant increasing competition, there is enormous pressure exerted on such organizations to restructure so as to enable them to compete successfully in a borderless world (Charoensukmongkol, 2022). Prior research partly demonstrated the national cultural impact on work exhaustion (Bozionelos & Kiamou, 2008; Savicki, 2003), and the cross-cultural research concerning this concept was strong, though not yet widely heeded. However, few scholars (Peng, 2015) have studied this issue focused on Eastern societies, especially in Chinese cultural societies.

Mainland China (the PRC), the world’s second-largest economy, is the country of Chinese culture, Taiwan not only shares the same language and culture as mainland China, but also inherits Chinese culture. The huge amount of e-commerce and the convenient IT in both PRC and Taiwan are growing consistently and rapidly, thus many employees rely on IS/IT to complete their tasks assigned by the company. Meanwhile, Chinese employees in these two Chinese societies have a higher commitment to organization due to their culture, thus, they will sacrifice individual well-beings for group harmony, in turn, their higher job burnout level will be induced. Meanwhile, in Chinese society, guanxi is one of the major dynamics where business/individual exchange their benefits (Hwang, 2015). Guanxi captures the relational orientation in Chinese society, it respects social harmony and consensus, perceiving individual initiative and creativity to be less important than the willingness to merge one’s personal identity in the pursuit of long-term relationships and guanxi (Hwang, 2015). In light of this, how and why guanxi are critical for the Chinese IS/IT users to influence their work exhaustion. Thus, this is the first research question to be resolved in this study.
Although many scholars believe that work exhaustion (strain) of employees is due to IT (De Caroli & Sagone, 2014; Gaudioso et al., 2017; Huang et al., 2017; Kaiseler et al., 2014; Tarafdar et al., 2015). The studies of Benlian (2020), and Salo et al. (2020) have found that technostress will induce employees work exhaustion and emotional load. The study of Califf et al. (2020) believed that technostress had “bright side,” and “dark side.” However, they did not combine technology characteristics with guanxi to investigate: how does guanxi and technology characteristics interact with each other, and influence the work exhaustion of the Chinese IS/IT users? In turn, how does work exhaustion influence their job burnout outcomes? Therefore, this is the second research question to be resolved in this study.

With the continuous increase of the COVID-19 epidemics, the vigorous development of IT led many employees to rely on IT to complete remote work, resulting in increased work exhaustion of Chinese IS/IT users. Because IS/IT users in different cultural areas will also respond differently to this situation, the purpose of this study is to further find out why and what some factors will influence Chinese IS/IT users’ work exhaustion, and guanxi plays what role of Chinese IS/IT users’ work exhaustion. Finally, this study based on job burnout theory of Maslach et al. (2001) figure out that technological characteristics, emotional job demands, job resources (social support), and guanxi have different positive and negative effects on Chinese IS/IT users’ work exhaustion, and their work exhaustion influenced job satisfaction, depersonalization, and personal accomplishment. Thus, this study extended the job burnout theory of Maslach et al. (2001), and proposed a suitable research model for Chinese IS/IT users—Job Burnout Model of IS/IT Users in Chinese Societies, which is an important contribution of this research.

2. LITERATURE REVIEW

2.1 Job Burnout Theory

Burnout Research is provided by the study of Maslach et al. (2001), burnout is related to a lack of experienced reciprocity at the organizational level; when individuals feel that they invest more in their organization than they receive in return, they tend to burnout (Leiter & Schaufeli, 1996).

Burnout has three phases since 1970s: (1) The Pioneering Phase: the initial articles appeared in the mid-1970s in the United States. Freudenberger (1975) provided direct accounts of the process by which he and others experienced emotional depletion and a loss of motivation and commitment, and burnout (Peng et al., 2013; Wang et al., 2014). Work exhaustion is an common response to job overload. The second component of cynicism emerged from these interviews, as people described how they tried to cope with the emotional stresses of their work (Wang et al., 2014). (2) The Empirical Phase: in the 1980s, Maslach and Jackson (1981) developed Maslach Burnout Inventory (MBI) for the assessment of burnout which include three components: work exhaustion, cynicism, and professional efficacy. Burnout was viewed as a form of job stress, with links to such concepts as job satisfaction (Beheshtifar & Omidvar, 2013; Lu & Gursoy, 2013; Wang et al., 2014). (3) In the 1990s, the complex relationship among organizational factors and three components of burnout, work exhaustion, cynicism, and professional efficacy in the computer technology era led to the use of structural models in much burnout research. When individuals feel that they invest more in their organization than they receive in return, they tend to burnout (Leiter & Schaufeli, 1996). Job burnout is a prolonged response to chronic emotional and interpersonal stressors on the job (Hu et al., 2016; Jin et al., 2015; Liu & Jia, 2021; Xu et al., 2020; Yang et al., 2019).

Meanwhile, Maslach et al. (2001) used depersonalization to replace cynicism, and depersonalization is similar to the dehumanizing of relationships. A few longitudinal studies began to assess the links between the work environment at one time and the individual’s thoughts and feelings at a later time. This study then introduces three components of burnout in the next sections:
1. **Work exhaustion**: There is the reason to believe that an organization’s “best people” may be the most vulnerable to work exhaustion (Chen & Karahanna, 2018). If they are subjected to an overly demanding work environment in which the negatives overpower the positives for a prolonged period of time, the company risks losing them, and they are often the valuable employees whom the organization does not want to lose (Gaudioso et al., 2017). Moore (2000) believed that work exhaustion is determined by perceived workload, role ambiguity, role conflict, job autonomy, and fairness of rewards of information technology professionals (Venkatesh et al., 2020). Stress arises when an individual appraises the demands placed by the environment as exceeding the individual’s resources, thereby threatening the individual’s well-being (Cooper et al., 2003).

2. **Depersonalization**: Comes from cynicism, due to being in place of depersonalization, reflecting indifference or a distant attitude towards work, as they do not include or exclude references to personal relationships at work (Maslach et al., 2001). Depersonalization is a negative, callous, or excessively detached behavior toward others, which is characterized by a tendency of employees to treat other people as objects. Employees may become cynical toward coworkers and clients, and display a detached and/or an emotional callousness (Maslach et al., 2001). Since employees must frequently interact with other stakeholders, this becomes an important consideration (Guimaraes, & Igbaria, 1992). Meanwhile, depersonalization is a problem in careers that value and mandate personal sensitivity to service recipients, and it was seen as a dysfunctional mode of coping with the emotional demands of service provision by distancing oneself emotionally from the recipients (Leiter & Schaufeli, 1996; Li et al., 2015). Employees develop indifference and depersonalization about their work in order to gain distance from its exhausting demands (Leiter & Schaufeli, 1996; Li et al., 2015), to reduce the energy available for performing work, and to decrease for developing creative solutions to the problems the work presents (Leiter & Schaufeli, 1996). Meanwhile, depersonalization will lead to diminish personal accomplishment of employees (Shih et al., 2013).

3. **Personal Accomplishment (Professional Efficacy)**: Since professional efficacy encompasses both social and non-social aspects of occupational accomplishments (Schaufeli et al., 1996), it is a perception regarding one’s effectiveness and accomplishment at work, and a dimension dealing with one’s accomplishment and successful achievement. It is similar in many ways to personal accomplishment (Leiter & Schaufeli, 1996). Personal accomplishment emphasizes the effectiveness and success in having a beneficial impact on people. Meanwhile, perceived personal accomplishment and achievement would be similar to instrumentality (the performance outcome) (Chen et al., 2015). However, hindrance stressors refer to work demands that do not present the potential for personal growth and rewards and may actually be perceived as barriers that thwart progress toward goal attainment (Benlian, 2020). Thus, this is the center for human service providers, but misses the major areas of activity for other occupational groups (Leiter & Schaufeli, 1996; Li et al., 2015).

2.2 **Technology Characteristics and Work Exhaustion**

On the one hand, IT can help employees solve complex problems in unique ways or help them make connections for seemingly unrelated pieces of information to form new means-ends relationships that result in the generation of novel ideas and solutions (Aral et al., 2012). Using and mastering IT, with their features for a growing share of today’s work tasks, often make the difference in successful task fulfillment (Tarafdar et al., 2019). When employees experience instances in which IT use can significantly increase task performance or even help solve critical work problems (Benlian, 2015), occurrences of technology driven challenge are likely to trigger enthusiasm and positive affect, and add to employees’ personal growth. Meanwhile, information processing timeliness and job control assistant support can increase job satisfaction (Yin et al., 2018).
On the other hand, IT as invader (Butts et al., 2015) through which employees are (more or less) expected to be accessible to anyplace/anytime, can respond to work requests to elicit bad stress. IT act as interrupter that elicits bad stress by breaking task continuity and distracting employees from task fulfillment, thus IT will affect their work exhaustion and performance in afterhours work (Addas & Pinsonneault, 2018; Chen & Karahanna, 2018; Galluch et al., 2015; Tams et al., 2018). Technostress also linked to nurses using intelligent care system, and the care system created “alert fatigue,” and inducing their technology related distress (Khuntia et al., 2015). Moreover, technology related stress will influence IS/IT users’ daily life from work to home (Benlian, 2020), and mobile applications also will induce momentary emotional load of IS/IT users and other negative outcomes (Salo et al., 2020).

When employees, especially the IS/IT users, must grapple with unsolicited interruptions mediated through emails, instant messages, or social media (Addas & Pinsonneault, 2018), and recognize that such incidents slow down work processes and endanger timely task completion, they should be more likely to feel anxious about potential setbacks or performance failures (Galluch et al., 2015). Thus, technology driven stressors may cast a dark shadow over their perceptions, which will fluctuate within IS/IT users during the day, and increased their attention to the short-term nature of technostress (Galluch et al., 2015).

According to above studies, in today’s environment of constantly changing technology, increasing customer demands, and the dogged pursuit of efficiency, managers are likely to have tendency to assign critical projects to the select and highly regarded employees (Moore, 2000). In such situations, the IS/IT users are more likely to become trapped in prolonged situations of high pressure and burnout (Galluch et al., 2015). The usage of IT produced a perpetual urgency and creates expectations that people need, or are obligated, to work faster. IS/IT users have higher stress as they are expected to keep the technologies working and the computer applications functioning around the clock in organizations, and can be on call 24 hours a day, seven days a week (Brooks & Califf, 2017). Thus, technology characteristics are proposed as antecedents to stressors (including work overload, role ambiguity, work-home conflict, invasion of privacy, job insecurity) and work exhaustion, which in turn are predictors of strain due to IT (Ayyagari et al., 2011). However, it is not clear why characteristics of technology are causing this increase in the workload (Ayyagari et al., 2011). To better understand how IT induced stress, it is important to identify the manifestations of the technologies themselves.

Thus, this study combined five antecedent stressors of Ayyagari et al. (2011) into Moore’s (2000) proposed model which provides a theoretical foundation for studying the antecedents (work overload, role ambiguity and conflict, lack of job autonomy, lack of fair rewards) and consequences of IT professionals’ work exhaustion. Figure 1 shows the relations as currently represented in the literature. The antecedents of work exhaustion (organizational factors) are determined by the technology characteristics (including usability, intrusive, and dynamic features). Work exhaustion is determined by the organizational factors (including work overload, role ambiguity, role conflict, job autonomy, fairness of rewards, work-home conflict, invasion of privacy, and job insecurity). Work exhaustion will influence the job satisfaction and depersonalization, and in turn, depersonalization will influence personal accomplishment.

Figure 1. Job Burnout Based Model
A burgeoning literature on technology development implicitly suggests that culture shapes the way that different groups conceive of new technologies, and new technology concepts frame cultural resources, which are then used to construct the problems, and problems can be resolved (Leonardi, 2011). Therefore, technology concepts play a key role in selecting the set of cultural resources that will be used to develop the subsequent artifacts (Leonardi, 2011). Presumably, over time, members who use those technologies are influenced by their constraints and affordances; consequently, the technology shapes cultural practices (Leonardi, 2011).

Meanwhile, the significance of guanxi developing in explaining the variance in socialization outcomes is beyond other dimensions of proactive socialization behavior (Wang & Kim, 2013). Both guanxi developing and general relationship building focus on interpersonal relationships, it targets someone who can be helpful or beneficial to the focal person, whereas relationship building targets a broad scope of people (e.g., department members), and it also must be after work activities (Wang & Kim, 2013). Thus, this study also based on the Chinese guanxi perspective need further to discuss guanxi and work exhaustion in the next section.

2.3 Chinese Guanxi Perspective and Work Exhaustion

Savicki (2003) studied burnout in workers across different cultures, and made significant contributions to culture with burnout. In Chinese society, guanxi is one of the major dynamics where business/individual exchange their benefits, due to guanxi capturing the relational orientation (Hwang, 2015). “Guan” is explained as “gate” or “door lock,” while “xi” is explained as “the link or connection that can be used to pass the gate.” (Taormina & Gao, 2010). Guanxi is developed, based on Confucian social theory, where it is known as a behavior of social networking (Kwon, 2017). Guanxi is about “whom you know,” where it is important to have guanxi in organizations to obtain resources that are available exceptionally for particular individuals (Uhlik, 2011). In Chinese society, socioeconomic background and family origins of individuals are important factors in interpersonal relations, and relationships based on demographic and background factors are captured in the idea of guanxi, the existence of direct particularistic ties between an individual and others (Hwang 2015).

In Chinese context, relationship or connection between people is very crucial among Chinese’s daily life, as well as in workplace relationship, and social networking (Kwon, 2017). Guanxi is a critical Chinese socio-cultural concept, and pervades every aspect of social and organizational life involving guanxi (Zhang et al., 2015). Guanxi is about “whom you know,” where it is important to have guanxi in organizations to obtain resources that are available exceptionally for particular individuals (Uhlik, 2011). In Chinese society, socioeconomic background and family origins of individuals are important factors in interpersonal relations, and relationships based on demographic and background factors are captured in the idea of guanxi, the existence of direct particularistic ties between an individual and others (Hwang 2015).

Organizations with cross-culturally diverse workforces should understand what kinds of behaviors are regarded as proactive among employees from different cultures. Thus, Chinese newcomers may try to proactively develop a guanxi relationship with customers or business traders (Wang & Kim, 2013). Guanxi could be described as the relationships developed after working hours and outside the work domain, and is relevant in workplaces where subordinates are very dependent on their leaders (Zhang et al., 2015), and it affords long-term psychological safety and thus reduces the short-term risk of challenging the status quo (Cai et al., 2019). Investing time and energy in guanxi activities may open doors to opportunities to alleviate resource constraints (Opper et al., 2017); therefore, subordinates will develop a relationship with their Chinese supervisor, which is regarded as an essential social resource that allows them to access the necessary resources to promote their work well-being (Fu & Charoensukmongkol, 2021) and prevents them from experiencing resources loss (Guan & Frenkel,
Guanxi is effective in securing more favorable access to resources and services, and hence enables organizations to gain financial and market benefits (Opper et al., 2017). Workload representing the quantitative job demands might weaken the effect of guanxi support from the supervisor on employees’ emotional exhaustion (Charoensukmongkol & Puyod, 2020). Thus, the higher the employees’ workload, the greater the threat to resource loss, which lowers the benefits of guanxi. When individuals face a significant workload, their resources’ depletion can easily lead to stress (Charoensukmongkol & Puyod, 2020). Emotional exhaustion is an extraordinarily affective and chronic type of work-related strain that frequently happens to employees in multicultural environments (Suthatorn & Charoensukmongkol, 2018). This problem can lead to the deterioration of employees’ well-being and performance (Chan, 2021; Goel & Verma, 2021). Therefore, emotional exhaustion not only leads to the loss of job enthusiasm and absenteeism, but also tends to damage life satisfaction and increase turnover intentions (Chao et al., 2019).

Scholars have studied that some factors increased the job burnout of employees in Chinese cultural societies because of the guanxi. (Hu et al., 2016; Liu & Jia, 2021; Wu, 2019). If the subordinates have a high-level guanxi with supervisors, they will gain many more job resources, feel job security, and improve their job satisfaction and performance (Yu & Frenkel, 2013; Zheng et al., 2014). Thus, guanxi will increase the employees work pressure (Ren & Doren, 2017), and work-family conflict (Wu et al., 2019; Yuan et al., 2019).

Guanxi in workplace relationship should be examined as one of the antecedents of turnover intention, due to the importance of guanxi to turnover intention, the insufficiency of studies that examine the relationship between guanxi and turnover intention should be paid attention (Yang et al., 2019). Although many Scholars’ studies and the rapid development of IS/IT, economic growth, and social change over the past decades in the PRC and Taiwan bring with them a radical change in the working environment of employees, thus potentially increase the risk to their job burnout, work exhaustion, and well-being (Chan, 2021; Goel & Verma, 2021; Hu et al., 2016; Jin et al., 2015; Liu & Jia, 2021; Xu et al., 2020; Yang et al., 2019). However, rare researchers combine with technology characteristics, guanxi with work exhaustion (job burnout) to figure out these factors to explore what relationship among them. Therefore, this study believes that it is necessary to explore the job burnout issue of the Chinese IS/IT users from a Chinese guanxi culture perspective, and combine it with technology characteristics.

3. RESEARCH METHODOLOGY

Rare scholars have studied the relationship between technology characteristics, Chinese cultural perspective, and work exhaustion (job burnout) of Chinese IS/IT users, this study is to redefine theoretical constructs and propositions for Chinese IS/IT users’ job burnout to achieve the main objective, and resolve two research questions of the current study. Therefore, this study conducted a multiple-case study as the research strategy (Yin, 2009). Case study researchers and methodologists have articulated both positivist and interpretivist approaches (Walsham, 1995). This study follows a positivist process while allowing sufficient evidence to suggest additional relationships (Dube & Pare, 2003; Meyer & Herscovitch, 2001). The process and expectations of validity and rigor for this study are derived from the current practice.

3.1. Case Study Design

A central issue in case study design is how many cases are included in the research project. This study focuses on how and why the outcomes might occur, and looks for a literal replication of these expectations on a case-by-case basis. The causal relationships that are the foundation for generalized knowledge should be able to predict patterns of behavior across situations. According to the job
burnout of individual cognition of the IS/IT users, therefore, the individual level of a multiple-case design for this study is selected (Paré, 2004). IS/IT user of each case is satisfied with the selection criterion as follows: who has the experiences of using IS/IT to finish his/her job at least five years, and has the fact of their job burnout. To confirm, disconfirm, or refine the propositions of the study, a theory-based sampling approach was adopted.

The IS/IT users served as the target cases and were selected according to the principle of theoretical sampling. Unlike sampling prepared in quantitative investigations, theoretical sampling cannot be fully planned before embarking on a case study (Botta-Genoulaz & Grabot, 2005). As the specific sampling is decided, and initial data is collected, and then evolved throughout the research process itself. When the main categories are emerging, ‘deep’ coverage of the data is necessary. Subsequently, theoretical sampling requires only collecting data on categories, for the development of properties and propositions. When no additional data are found from the first case, the researcher can begin to develop the properties of the category. Meanwhile, with the similar instances repeated, the researcher becomes empirically confident that a category is saturated, as nothing remains but to go on to new groups for data on other categories, and also attempt to saturate these categories, the majority of useful concepts will have been discovered, and the marginal value of the new data is minimal. The theoretical saturation is therefore achieved. Finally, the criterion for judging when to stop the theoretical sampling is the category’s “theoretical saturation” (Crown, 2007; Dworkin, 2012; Kaur & Singh, 2021).

To have sufficient experience to make judgment of the IS/IT users’ job burnout, the selection criterion of this study not only has at least five-year experience of using IS/IT and felt burnout, but also have been selected from different industries and companies in the PRC and Taiwan. Thus, the researcher may have access to the phenomena that were previously inaccessible (Tellis, 1997). The sampling frame must offer enough similar aspects to exhibit comparable properties associated with the research question (Brannick & Prince, 1997). After contacting a number of potential interview candidates, this study selected 11 IS/IT users in the PRC (CNIT: the anonymous IS/IT users in PRC),

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<th>Age (Years)</th>
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<th>Education</th>
<th>Current Job Title</th>
<th>Industry</th>
<th>Marriage</th>
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<td>Female</td>
<td>&gt;30 and &lt;45</td>
<td>&gt;15 and &lt;20</td>
<td>Master</td>
<td>Library Cataloger</td>
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<td>&gt;45 and &lt;50</td>
<td>over 25</td>
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<td>Administration Manager</td>
<td>Manufacturing</td>
<td>Yes</td>
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<td>Female</td>
<td>&gt;40 and &lt;45</td>
<td>&gt;20 and &lt;25</td>
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<td>Accounting</td>
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<td>&gt;5 and &lt;10</td>
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<td>Senior Engineer</td>
<td>Manufacturing</td>
<td>Yes</td>
</tr>
<tr>
<td>CNIT Case16</td>
<td>Male</td>
<td>&gt;35 and &lt;50</td>
<td>over 25</td>
<td>Ph.D</td>
<td>Registered Nurse</td>
<td>Government</td>
<td>Yes</td>
</tr>
<tr>
<td>CNIT Case17</td>
<td>Male</td>
<td>&gt;30</td>
<td>&gt;10 and &lt;15</td>
<td>Master</td>
<td>Special Assistant of General Manager</td>
<td>Information Service</td>
<td>No</td>
</tr>
<tr>
<td>CNIT Case18</td>
<td>Male</td>
<td>&gt;25</td>
<td>&gt;5 and &lt;10</td>
<td>Bachelor's Degree</td>
<td>Process Engineer</td>
<td>Manufacturing</td>
<td>No</td>
</tr>
<tr>
<td>CNIT Case19</td>
<td>Male</td>
<td>&gt;30</td>
<td>&gt;5 and &lt;10</td>
<td>Bachelor's Degree</td>
<td>Pipeline Engineer</td>
<td>Mechanical Construction Engineering</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1. The Cases Demographical Data
and 10 IS/IT users in Taiwan (TNIT: the anonymous IS/IT users in Taiwan) as the cases of this study - more would be chosen if the data provided from the first selection is not enough to achieve the theoretical saturation. The data collection took place at the convenience of each individual. Table 1 summarizes the demographic data of the subjects.

### 3.2. Conduct Case Study - Data Collection

A case study protocol, including the procedures and general rules that should be followed, was created prior to the data collection. The aim of the case study protocol is to ensure the consistency of the interviews for each case and to increase the reliability of the study. The protocol for the study consists of guidelines suggested by Paré (2004) and Yin (2009). These guidelines are applicable to the process of collecting primary data from open-ended interviews (Myers, 1997), and this approach is recommended, when the researcher identifies many of the interview questions, but cannot predict the answers (Paré, 2004). This allows open questions and follow-up conversations between the analysts and interviewees to provide full responses, interviewees to provide free and full responses in detail with illustrated concepts.

The interview team consisted of one researcher and two analysts, in which, the researcher interviewed all the Chinese IS/IT users, and the data of this study is done manually and analyzed by the researcher and the two analysts. The interviews were taped, with agreement from the interviewees. The taped interviews were transcribed verbatim into text files. The interview questions included three parts, the following is a sample of the open-ended questions:

- Please describe the IS/IT of your office, and why does your job need to use it? What kind of IS/IT characteristics of the IS?
- The guanxi plays what kind of role of your work exhaustion (or burnout). Why or why not?
- What outcome will be produced by your work exhaustion (or burnout)? Why or why not?

The researcher provided the description goal of this study first, and then began the interview process. The initial questions based on proposition and construct, and follow-up questions would be asked to the interviewees to explain more accurately or provide examples. The interviews relied on respondents’ self-identification as “burnout.” For avoid describing the case subjectively, the researcher requested interviewees to describe the process of each event, and reminded them of no subjective criticism of the event. Finally, the self-identification of interviewees did not affect the results of this study.

### 3.3 Case Descriptions and Coding Categories

#### 3.3.1 Case Descriptions

See Table 2.

#### 3.3.2 Coding Categories

Accordingly, the case study approach is an appropriate method to resolve two research questions of the present study, which was driven by Chang (2013) and Eisenhardt’s (1989), who suggested eight steps of theory (model) testing (building): get started, select the cases, craft the instruments and protocols, enter the field, analyze data, shape propositions, enfold the literature, and reach closure (see Table 3). A coding scheme served as a template for organizing the data similarly to a positivist case study (Shehu & Akintoye, 2010). Therefore, the respondents’ description of the relevant job burnout of each Chinese IS/IT users will be elucidated and analyzed by thematic units. Upon selection of the relevant sentences, each theme was analyzed (Paré, 2004), a task was achieved by the collecting of themes and their codification. Since coding is subjective, it was necessary that all analysts should agree on the coding criteria (Paré, 2004).
The analyst relies on the predefined codes that are generally rooted in an understanding of prior research and theoretical constructs. Based on the key constructs from the backing theory of job burnout, this study developed a preliminary list of coding categories (e.g., IS/IT characteristics, work exhaustion or burnout, guanxi, and the outcome of work exhaustion). The original list was refined after each interview to reflect the information gained, and a subsequent additional examination of published research is needed due to the results acquired beyond expectations. Once all the transcripts associated with Case#1 were coded by an initial analyst, a second analyst and researcher were acquainted with the coding scheme and performed another coding of the data. During data analysis, the researcher

<table>
<thead>
<tr>
<th>The PRC IS/IT Users</th>
<th>Taiwan IS/IT Users</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CNIT_Case#1</strong> has over 15 years work experience. She is a Library cataloger in SYLGP. Her workload is heavy, if she cannot finish her work, then she has to work overtime for free. Therefore, she does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#1</strong> has over 10 years work experience. She is an accountant in CY. Her workload is very heavy; thus, she does feel very tired. Because she has to take care of her daughter, thus, she could not work overtime, so she has to delay some deadline jobs till she is available.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#2</strong> has over 10 years work experience. She is an Administration Department manager in CGK. She has to handle environmental protection, security, and legal affairs. Thus, she does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#2</strong> has over 10 years work experience. She is a sales department manager in FWT. Her workload is very heavy due to having to handle all the things of her company, and she always work from 8 to 9 PM. Therefore, she does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#3</strong> has over 25 years work experience. She is an Administration Department Manager in GTC. Although she has to handle many things, however, this is a small company, thus, she does not need to work overtime, and she does not feel tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#3</strong> has over 10 years work experience. She is a sales department manager in JFS. Due to the headquarters always assigning very high goals to her store, thus, she has huge performance pressure. She handles the business even on her day off, and at midnight. Therefore, she does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#4</strong> has over 20 years work experience. She is an accountant in FMC. Her workload is very heavy due to having to do many things. Although she has to work overtime sometimes, but she does not feel so tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#4</strong> has over 10 years work experience. He is a junior clerk in BT. His workload is not so heavy, but his performance pressure induces him feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#5</strong> has over 5 years work experience. She is a principal in BS. Her workload is very heavy, and she always has to communicate with the students' parents. Therefore, she does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#5</strong> has over 5 years work experience. He is a Senior Engineer in ATMD. He always finishes his job on time, and leaves work on time. However, his colleagues always stay in the office till 8.30 PM. Therefore, it increases his pressure, meanwhile, his research pressure also makes him feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#6</strong> has over 10 years work experience. She is a pharmacist in FX. Her workload is very busy in the day shift, and she has to work six to seven days evening shifts per month. Due to the small space of the pharmacy, thus, it makes her feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#6</strong> has over 20 years work experience. She is a registered nurse in TCDC. Her workload is increased due to the COVID-19 epidemic outbreak period, thus, she does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#7</strong> has over 5 years work experience. He is a marketing staff in ECCA. If he wants to do his job, he can work overtime every day, because he has to keep thinking about new ideas, keep updating the data, thus, he does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#7</strong> has over 10 years work experience. He is a Special Assistant of the General Manager in HTC. His workload is not heavy, thus, he does not feel tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#8</strong> has over 5 years work experience. He is a marketing staff in ECCB. His job has no rest time as he has to go to work from Monday to Sunday, and there are no holidays. Thus, he does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#8</strong> has over 25 years work experience. She is an accountant in IFS. Her workload is not heavy, and only works overtime once or twice per month, thus, she does not feel tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#9</strong> has over 5 years work experience. He is a marketing staff in ECCC. Sometimes customers will ask him questions at midnight or from 2 to 7 AM, thus, he does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#9</strong> has over 5 years work experience. He is a process engineer in ASEG. His workload is not heavy, and he needs a few days to work overtime per month, thus, he likes his job, and does not feel tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#10</strong> has over 15 years work experience. She is a sales account manager in CDBX. Her workload is very heavy and has a heavy job pressure due to having to achieve the quote each month, each quarter, thus, she does feel very tired.</td>
<td></td>
</tr>
<tr>
<td><strong>TNIT_Case#10</strong> has over 5 years work experience. He is a pipeline engineer in TPSC. Although his workload is very heavy, he has a higher work efficiency and effectiveness, thus, he does not feel tired.</td>
<td></td>
</tr>
<tr>
<td><strong>CNIT_Case#11</strong> has over 5 years work experience. She is a secretary of the Youth League Committee in RSE. Her workload is not heavy, and she does not feel so tired.</td>
<td></td>
</tr>
</tbody>
</table>

The analyst relies on the predefined codes that are generally rooted in an understanding of prior research and theoretical constructs. Based on the key constructs from the backing theory of job burnout, this study developed a preliminary list of coding categories (e.g., IS/IT characteristics, work exhaustion or burnout, guanxi, and the outcome of work exhaustion). The original list was refined after each interview to reflect the information gained, and a subsequent additional examination of published research is needed due to the results acquired beyond expectations. Once all the transcripts associated with Case#1 were coded by an initial analyst, a second analyst and researcher were acquainted with the coding scheme and performed another coding of the data. During data analysis, the researcher
returned to the interviewees for further information or clarification of the statements made in the initial interviews, either by arranging additional interviews or by having telephone conversations with the interviewees. Sometimes, if the researcher still was unable to clarify the informants’ statements, additional follow-up emails or phone calls were made to clarify ambiguities revealed through the initial interpretation of the data.

Thus, each of the researcher and two analysts analyzed these data independently, used diagrams and a matrix to present the data, and finally discussed the results. The final results were accepted when three analysts agreed. Those sections that could not be agreed upon in this way were examined

<table>
<thead>
<tr>
<th>Steps</th>
<th>Activity</th>
<th>Reason</th>
<th>This paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Get Started</td>
<td>(1) Definition of research question</td>
<td>(1) Focus efforts</td>
<td>(1) How and why gseus are critical for the Chinese IS/IT users to influence their work exhaustion? how do gseus and technology characteristics interact with each other, and influence their work exhaustion of the Chinese IS/IT users? In turn, how does work exhaustion influence their job burnout outcomes? (2) The lens of Maslach et al. (2001)</td>
</tr>
<tr>
<td>2. Case selection</td>
<td>Theoretical, not random sampling</td>
<td>Return theoretical flexibility. Constrains extraneous variation and sharpens external validity</td>
<td>Case selection criterion: at least five-year experience of using IS/IT and felt burnout, and from different industries and companies in the PRC and Taiwan</td>
</tr>
<tr>
<td>3. Craft data collection protocols</td>
<td>(1) Employ multiple data collection methods</td>
<td>(1) Strengthen grounding of theory by triangulation of evidence</td>
<td>Interviews and observation are used to strengthen the grounding of theory through triangulation of evidence. This enhances internal validity</td>
</tr>
<tr>
<td></td>
<td>(2) Qualitative and quantitative data</td>
<td>(2) Synergistic view of evidence</td>
<td></td>
</tr>
<tr>
<td>4. Entering the field</td>
<td>(1) Overlap of data collection and analysis</td>
<td>(1) Speed analyses and reveal helpful adjustments to data collection</td>
<td>(1) Iterative process is used to speed analysis and to reveal helpful adjustments to data collection</td>
</tr>
<tr>
<td></td>
<td>(2) Flexible and opportunistic data collection methods</td>
<td>(2) Allow investigators to take advantage of emergent themes and unique case features</td>
<td>(2) Emergent themes and unique case features are exploited by investigator</td>
</tr>
<tr>
<td>5. Data analysis</td>
<td>(1) Within-case analysis</td>
<td>(1) Gain familiarity with data and preliminary theory generation</td>
<td>(1) Classification of the relationship among technology characteristics, gseus, work exhaustion, and job burnout outcome of Chinese IS/IT users of each case is provided</td>
</tr>
<tr>
<td></td>
<td>(2) Cross-case pattern search using divergent techniques</td>
<td>(2) Force investigators to look beyond initial impressions and see evidence through multiple lenses</td>
<td>(2) Comparing and organizing the similarities and differences among each case is made, enhancing the probability that the researcher will capture relationships which may exist in the data of this study</td>
</tr>
<tr>
<td>6. Shape propositions</td>
<td>(1) Iterative tabulation of evidence for each construct</td>
<td>(1) Sharpens construct definition, validity, and measurability</td>
<td>(1) Verification of the propositions of the relationship among technology characteristic, gseus, work exhaustion, and job burnout outcome of Chinese IS/IT users of this study</td>
</tr>
<tr>
<td></td>
<td>(2) Replication, not sampling, logic across cases</td>
<td>(2) Confirms, extends, and sharpens theory</td>
<td>(2) Development of connections between those constructs</td>
</tr>
<tr>
<td></td>
<td>(3) Search evidence for “why” behind relationships</td>
<td>(3) Builds internal validity</td>
<td>(3) Integration of categories to build theoretical propositions. All forms of coding enhance internal validity</td>
</tr>
<tr>
<td>7. End the Literature</td>
<td>(1) Comparisons with conflicting frameworks</td>
<td>(1) Builds internal validity, revises theoretical level, and sharpens construct definitions</td>
<td>(1) Comparison of established relationships of this study with prior published studies</td>
</tr>
<tr>
<td></td>
<td>(2) Comparison with similar frameworks</td>
<td>(2) Sharpens generalizability, improves construct definition, and revises theoretical level</td>
<td>(2) Falsification of the constant relationship among technology characteristics, gseus, work exhaustion, and job burnout outcome of Chinese IS/IT users of this study</td>
</tr>
<tr>
<td>8. Reach closure</td>
<td>Theoretical assumption</td>
<td>Ends process when marginal improvement becomes small</td>
<td>No new information gained after 21 case interviews</td>
</tr>
</tbody>
</table>
in greater detail by the one of researcher and analysts. If agreement still could not be reached, the findings of the theme were discarded. After the second analyst completed all the tasks, both researcher and two analysts met and modified their coding based on discussions of any variances on categories, meanings, or procedures. At this point, the researcher and two analysts achieved an acceptable agreement with an inter-rater reliability above 80%, which was also achieved for the subsequent cases (Krippendorff, 2012). Finally, the coding themes were analyzed and interwoven them with the Job Burnout Model of Chinese IS/IT users (Figure 2) of this study.

Table 4 presents the coding categories of cases work exhaustion reasons and count numbers. Accordingly, Chinese is the native language of the subjects, the description of cases quotations were translated and proofread by a professional proofreader; thus, these quotations were not being used in a normal English conversation. Meanwhile, the English translation fully reflects the subjects’ meaning.

The result presented that the usability, intrusive, and dynamic features of their used IS/IT will influence their work exhaustion; the permeability, and Chinese guanxi will influence their work exhaustion too. Meanwhile, job satisfaction and the depersonalization will be influenced by their work exhaustion; however, their personal accomplishment will be influenced by many other reasons, but not depersonalization.

4. DATA ANALYSIS, RELATIONSHIPS AND DISCUSSION

The analysis and results are organized across the major relationships characterized by the data. This study turns attention to the relationship between technology characteristics, work exhaustion, depersonalization, and personal accomplishment in the existing model of Figure 1. In addition, the current study also adds permeability and guanxi to the existing model (Figure 1) to extend its significant academic contribution which is beyond the existing model.

4.1 Technology Characteristics and Work Exhaustion

Ayyagari et al. (2011) proposed technology characteristics, and made a significant impact on some organizational factors which will increase the stain (work exhaustion) of the IS/IT users. However, many scholars found IS/IT related stress will influence employees’ work exhaustion of their job directly (Addas & Pinsonneault, 2018; Chen & Karahanna, 2018; Galluch et al., 2015; Tams et al., 2018). In addition, high permeability (e.g., instant messages, or social media) indeed increased the
work exhaustion of employees in the context of telecommuting and ICT usage after work (Addas & Pinsonneault, 2018; Leung & Zhang, 2017); and the permeability characteristics was not included in the study of Ayyagari et al. (2011). Organizational employees have to work exceptionally hard, spend longer hours at work, and are connected to the organization 24/7 via IT (Addas & Pinsonneault, 2018; Galluch et al., 2015; Nam & Kabutey, 2021); thus, the supervisor’s work-related instant messages (IM) after working hours of the employees will increase their work exhaustion and dissatisfaction of their company (D’Arcy et al., 2014).

However, the aspects of the above studies do not explore why the work exhaustion will be influenced by technology characteristics. The following example statements illustrate case situations of this study, which are related with the technology characteristics, and the Chinese IS/IT users’ work exhaustion was influenced by technology characteristics directly, but not through the organizational factors (in parentheses):

**CNIT_Case#5:** If no IS, our workload will increase. Due to IS, it makes the report clear, no errors. For example, we can easily query information, but if IS has a problem, of course this will increase our workload (*usability feature of IS*).

**TNIT_Case#1:** Our IS only has medium quality (*usability feature of IS*). For example, the front desk needs to key-in the travel agency number first; then I can produce the travel agents report. If the front desk does not do it, I have to use Excel to do another report. Therefore, it will increase my workload, and is very tiring.

**TNIT_Case#5:** The third-party platform can provide our IS a single sign on mechanism, if something wrong happened, it can inform the IS administration. Thus, every colleague will know who did something, even if I go to the gym, everyone at work will know. Our company monitored employees at every moment, and it really is an invasion of our privacy (*intrusive feature of IS*).

**CNIT_Case#10:** If our IS can be upgraded and integrate the data of the front desk and account manager (*dynamic feature of IS*), then I can search for the latest customer information; but our IS does not provide this function now.

**CNIT_Case#1:** The supervisor will encourage us on QQ. We always use QQ to communicate with each other, and use QQ to send messages. Meanwhile, the director asks everyone to reply messages in the group, and when emergencies happen after leaving work, we only can use QQ to get messages (*permeability*). These situations indeed have increased our workload and exhaustion.

**TNIT_Case#1:** Colleagues always use Skype to communicate with each other at work. Thus, colleagues will be disturbed after leaving work, our boss says this is the employees’ responsibility (*permeability*). This situation made us very tired.
In short, the cases support the notion that intrusive feature, dynamic feature, and permeability will increase all the Chinese IS/IT users’ work exhaustion directly, but the usability feature of IS/IT will decrease Chinese IS/IT users’ work exhaustion. In light of this, Figure 2 has a gap on the burnout model of Figure 1. The relationship to this point is \( P_1 (+/-)^2 \) in Figure 2, and the Chinese IS/IT users feel the technology characteristics of IS/IT, indeed, leading to increase work exhaustion directly, because they have to learn how to use IS/IT and it is not so easy to use. This represents the situation which is not consistent with the job burnout base model of Figure 1. Thus, this study dis-confirmed the \( R_1 \), and replaced it with \( P_1 (+/-) \).

In addition, the cases support the notion that permeability increased over half of the Chinese IS/IT users’ work exhaustion. In light of this, the relationship to this point is \( P_2 (+)^3 \) in Figure 2, which is not in the burnout model of Figure 1, and consistent with the studies of Addas and Pinsonneault (2018), Galluch et al. (2015), Leung & Zhang (2017). This represents that Chinese IS/IT users will always obey their supervisors’ commands, and requests. It is the virtue to be promoted in Chinese cultural societies, and it is inherent from the philosophy of Confucianism.

4.2 Guanxi and Work Exhaustion

The rapid development of IS/IT radically changed the organizational employees in Chinese society, and potentially increased the risks to their job burnout, work exhaustion, and well-being (Chan, 2021; Goel & Verma, 2021; Hu et al., 2016; Jin et al., 2015; Liu & Jia, 2021; Xu et al., 2020; Yang et al., 2019). Due to a higher commitment of the employees to organization in Chinese society, they will sacrifice individual well-beings for group harmony. The cases of this study have provided that Chinese guanxi is a critical factor to increase the Chinese IS/IT users’ work exhaustion. The following example statements illustrate that case situations of this study are related with the guanxi, and Chinese IS/IT users’ work exhaustion are influenced by guanxi (in parentheses):

**CNIT_Case#2:** Some colleagues often request me to help them because they have good guanxi with me, then I will do it so as to give them face. For example: a lot of the problems of IS are abnormally (usability feature of IS), thus, I have to help them, and it takes me a lot of time to resolve those problems.

**TNIT_Case#5:** My supervisor has to give the favors to other units because he has good guanxi with other units’ supervisors, and it is the renqing pressure for him. Therefore, I have to often help other units’ staff to resolve problems temporarily my supervisor will contact with me through LINE even I have got off work (permeability), and go to office to resolve these problems immediately. Because my supervisor requests me to do so, thus it indeed made me very tired (work exhaustion). For example: if the A-brand’s product lines’ IS abnormal (usability feature of IS), frontline staff cannot run down; thus, I will advise he/she how to put down the matter at hand and give the first priority to A-brand’s problems.

**CNIT_Case#10:** I have to chat, and la (pull) guanxi with colleagues, for example, my supervisor always asked me to help him key in data to the IS because it is too complex (usability feature of IS) and too hard to use to him. This is very embarrassing due to renqing pressure, but I still have to help him no matter what.

The relationship to this point is \( P_{34} (+) \) in Figure 2, in which, most of the Chinese IS/IT users lead to an increase in their work exhaustion, and most of them try their best to help others, because maintaining harmony is necessary virtues which are emphasized in the Confucianism society. Meanwhile, Chinese IS/IT users have good guanxi with their colleagues, thus, they will help colleagues to resolve their technology characteristics’ (e.g., usability feature of IS) problem. On the other hand, colleagues also will use convenient technology characteristics (e.g., permeability) to request Chinese IS/IT users to help them, and Chinese IS/IT users who have built good guanxi (la guanxi) with their
colleagues, of course will help them to resolve their problems. Therefore, the interaction with each other between technology characteristics and guanxi relationship to this point is $P_{3,2}$ ($+$) in Figure 2.

IS/IT user also stated:

**TNIT_Case#9**: When I am in a bad mood, I have to courteously treat others but without sincerity, then I will feel very tired (emotional job demands). However, I cannot vent my anger on others, because I have to make good guanxi with them.

The relationship to this point is New-$R_1$ ($+$) in Figure 2 which is not in the burnout model of Figure 1, and consistent with the studies of Charoensukmongkol (2020), Hu et al. (2016), Jin et al. (2015), Liu and Jia (2021), Salvagioni et al. (2017), Salo et al. (2020), Wang et al. (2014), Xu et al. (2020), Yang et al. (2019). These studies found that the perceived conflict between the way one feels toward interactive colleagues and the emotion one feels compelled to display toward those individuals is a critical source of stress among employees, it is an emotional problem, and the emotional job demands will influence employees’ work exhaustion directly.

Besides that, cultures have been shown to have different norms for emotional expressions (Charoensukmongkol, 2022), thus guanxi indeed will induce Chinese IS/IT users’ work exhaustion and emotional load in this study. The study represents that Chinese IS/IT users will always consider the group harmony even if they feel uncomfortable in their job, but they will be patient and la guanxi with others for future work to be much more smoothly. The relationship to this point is $P_{3,3}$ ($+$) in Figure 2.

Moreover, some Chinese IS/IT users stated:

**TNIT_Case#3**: I will help people who have good guanxi with me. For example: some people need suppliers’ goods and help (social support), then I will try my best to help them because we have good guanxi, and they will help me too.

**CNIT_Case#6**: I have problems on my work, my colleague or supervisor would help me (social support), because I have good guanxi with them. If I have encountered some difficulties, or make something insufficiently, colleagues and supervisor will give me help to finish my job.

In light of the above quotations, the relationship to this point is $P_{3,4}$ ($+$) in Figure 2. They believe that if they have good guanxi with others, some employees (including supervisors, colleagues, and subordinates) in their company, will support them, even reciprocate with each other in their future careers.

Finally, some Chinese IS/IT users stated:

**TNIT_Case#5**: My attitude towards those colleagues who are useful to me will be much better. Maintaining good guanxi with them, and differential treatment for people is necessary. If I can analyze data faster, then I will feel greater accomplishment. The biggest achievement in work is to make a good performance, which is approved by colleagues and bosses.

**CNIT_Case#10**: Through the guanxi of many people (La guanxi), a tough customer has willing to transfer his deposit to another bank finally; thus, I felt particularly excited and accomplished.

In light of the above quotations, the relationship to this point is $P_{3,5}$ ($+$) in Figure 2. The result is consistent with the studies of Fu and Charoensukmongkol (2021), Guan and Frenkel (2019), Opper et al. (2017), Zhang et al. (2015). In this study, Chinese IS/IT users believe that if they have good guanxi with others, some employees (including supervisors, colleagues, and subordinates) in their company, will support them or give them help, even reciprocate with each other in their future careers. Meanwhile, if they have good guanxi with their customers, this will also help them to finish their job, and help them to have accomplishment (Yang et al., 2019).
4.3 The Outcome of Work Exhaustion

Due to the IT speedy development, Maslach et al. (2001) provided a burnout model, including work exhaustion, cynicism (depersonalization), and professional efficacy (personal accomplishment). The relationship is among these three factors according to Figure 1. Scholars also believed that work exhaustion will decrease the job satisfaction of employees (Beheshtifar & Omidvar, 2013; Li et al., 2015; Salvagioni et al., 2017; Wang et al., 2014; Yin et al., 2018; Yu & Frenkel, 2013). The following example statements illustrate that case situations of this study are related with the work exhaustion, job satisfaction, and depersonalization. These example statement figure out that the Chinese IS/IT users’ work exhaustion indeed will decrease the Chinese IS/IT users’ job satisfaction, and increase their depersonalization (in parentheses):

**CNIT_Case#1:** When I am tired and the job is hard to do; thus, I have to work overtime, which really will decrease my job satisfaction.

**CNIT_Case#11:** When I am busy and tired, I don’t like to take care of others, and I will be more irritable (depersonalization).

In addition, some Chinese IS/IT users stated that many reasons will influence their accomplishment, but not depersonalization (in parentheses):

**TNIT_Case#1:** Treating annoying supervisors heartlessly will not affect my accomplishment, but if a job cannot be done, it will affect my accomplishment.

**CNIT_Case#3:** Supervisor assigned me a difficult case which needs cross-department communication, and this is not within my job scope. If it can be completed successfully, I feel very happy and have accomplishment.

**TNIT_Case#9:** When my job cannot exhibit my professional capability, and I always have to do repetitive things, then I have no accomplishment. On the other hand, when I finish a harder project and record the whole process, I will be very happy and have accomplishment.

In short, the cases support the notion that work exhaustion of Chinese IS/IT users will decrease over half of their job satisfaction. As a result, the relationship to this point is New-R$_5$ (-) in Figure 2 which is not in the burnout model of Figure 1. If employees always feel work exhaustion, of course their job satisfaction will be decreased, therefore, the relationship New-R$_5$ (-) should be added in the research model. More than half Chinese IS/IT users believed that work exhaustion will increase their depersonalization. The relationship to this point is R$_3$ (+) in Figure 1 representing the situation where it is consistent with the job burnout base model.

Finally, there was only one Chinese IS/IT user, who agreed that his personal accomplishment will be decreased by the depersonalization. As a result, this represents that the relationship of R$_4$ (-) in Figure 1 is not consistent with the job burnout base model of Maslach et al. (2001), and the study of Shih et al. (2013). For most of the Chinese IS/IT users, their personal accomplishment always came from other reasons, such as, good performance, resolving difficult problems, praise by supervisors, rewards received, good reputation, customers’ satisfaction by Chinese IS/IT users’ service.

5. CONTRIBUTIONS

5.1 Academic Contributions

Reports in the literatures suggest that emotional job demands will increase the ITP’s work exhaustion, and this relationship also happened to Chinese IS/IT users’ work exhaustion (New-R$_1$ (+)). In addition, the literature believed that work exhaustion will decrease the job satisfaction of the employees, and
the relationship also happened to Chinese IS/IT users (New-R₅ (-)). Literature also state that work exhaustion will increase the employees’ depersonalization, and depersonalization will influence Chinese IS/IT users’ personal accomplishment. However, this study found that the former relationship (R₃ (+)) happened to Chinese IS/IT users, but the latter (R₄ (-)) did not exist in Chinese IS/IT users.

The first academic contribution of this study is that although the literatures state that the technology characteristics will influence the Chinese IS/IT users’ organizational factors first, and in turn, impact on the ITP’s work exhaustion, however, this study found that the technology characteristics will directly influence Chinese IS/IT users’ work exhaustion (P₁ (+/-)). Because the speedy development, and permeability are the most important characteristics of IS/IT; thus, this study added this factor to the technology characteristics, and it indeed is a critical factor to increase Chinese IS/IT users’ work exhaustion (P₂ (+)).

Second, this study found that the relationship (P₃₁ (+)) exists in Chinese IS/IT users. This means that when Chinese IS/IT users have good guanxi with colleagues, they have to satisfy any request of their colleagues, thus their work exhaustion will be increased at the same time. In addition, this study also found that guanxi and technology characteristics (e.g., usability feature of IS, permeability) will interact with each other (P₃₂ (+)) because Chinese guanxi is critical to Chinese IS/IT users, and the permeability characteristics of technology will be a convenient factor to increase their good guanxi. Meanwhile, Chinese IS/IT users have good guanxi with each other, then, increasingly they will help each other to resolve the IS/IT problems.

Third, if Chinese IS/IT users have good guanxi with their colleagues, they will increase their emotional job demands (P₃₃ (+)), their social support by their colleagues (P₃₄ (+)), and their personal accomplishment (P₃₅ (+)). It is necessary to maintain good guanxi with colleagues for Chinese IS/IT users. Therefore, in order to decrease the renqing pressure, and maintain group harmony, they have to help colleagues’ problems without any excuse. For this reason, the emotional job demands of Chinese IS/IT users will be increased (P₃₃ (+)). At the same time, when Chinese IS/IT users have good guanxi with colleagues, their colleagues certainly will provide more resources to help and support them (P₃₄ (+)). Thus, these Chinese IS/IT users will have much more resources to resolve their work problems than other colleagues who have no guanxi with colleagues. Accordingly, these Chinese IS/IT users can do their job more easily than other colleagues, and their personal accomplishment will be increased too (P₃₅ (+)).

5.2 Practice Contributions

This study has several implications for management. First, in the IS/IT popular era, because of the permeability characteristics of IT (e.g., Internet, online social network), management should try their best to avoid contact with Chinese IS/IT users at anyplace/anytime as follows: requests to help colleagues, supervisor to track Chinese IS/IT users to resolve business problems, or assign them extra tasks immediately. Otherwise, Chinese IS/IT users’ work exhaustion will be increased so quickly.

Second, the data evidenced that guanxi is very significant to Chinese IS/IT users, and this study found that if Chinese IS/IT users have good guanxi with others (e.g., colleagues, customers) not only they will increase their work exhaustion, but also can increase their emotional job demands. Chinese IS/IT users always have to use IS/IT to resolve their work problems in a very short time, they have to inhibit their own emotion, and be kind to communicate with their employees or customers. Thus, the emotional job demands will increase their work exhaustion over a long period of time. In addition, if Chinese IS/IT users have good guanxi with colleagues, they will increase their social support, and have personal accomplishment more easily.

In light of the result, HRM can provide a management strategy to cultivate good guanxi with Chinese IS/IT users to avoid increasing their emotional job demand, and can provide them more resources to do job, this will be a feasible policy; thus, their work exhaustion will be decreased. Management in Chinese society should cultivate good guanxi with Chinese IS/IT users, treat their benefits to be the first priority, take care of their emotional demands, and provide some channels which can give vent to release their emotions. Thus, they will be grateful and happy in the workplace,
and try their best to do their job without any complain. Then, the emotional job demand will not be a big deal for them, and their work exhaustion also will not be increased.

Finally, the data of this study found that the technology characteristics (e.g., usability feature of IS, permeability) and Chinese guanxi will interact with each other. Thus, management should not contact with them through online social network (e.g., LINE, IG, WeChat) (permeability) at anyplace/ anytime to increase their work exhaustion due to have good guanxi with Chinese IS/IT users. In addition, because the poor quality of IS/IT, employees will have good guanxi with Chinese IS/IT users to help employees’ job, and increase their work exhaustion too. In light of this, management can add this effort to Chinese IS/IT users’ workload, and provide appropriate rewards to them. Meanwhile, managements should enhance the quality of IS/IT to decrease Chinese IS/IT users to help other colleagues and decrease their work exhaustion.

6. CONCLUSION

Many global companies have branches in Chinese societies (e.g., the PRC, Taiwan) and cooperated with Chinese business. Now, IS/IT already is a very important tool for employees in organization. Due to the convenience of IS/IT, the work exhaustion of Chinese IS/IT users was increased. The Chinese guanxi culture still plays a very important role in Chinese society and organizations. In light of this, this study extends the understanding of the Job Burnout Model of the Chinese IS/IT users (Figure 2) which was dictated by the job burnout base model. The result exhibits that organizational factors still can influence Chinese IS/IT users’ work exhaustion, permeability should be included in the technology characteristics, and guanxi also should be added into the research model. Therefore, Chinese guanxi not only can increase Chinese IS/IT users’ work exhaustion, but also can increase Chinese IS/IT users’ emotional job demands, social support, and their personal accomplishment. Thus, it is an appropriate Job Burnout Model to Chinese IS/IT users. The most critical contribution of this study is that the characteristics of permeability is significant factor to increase Chinese IS/IT users’ work exhaustion due to the ubiquitous of IT and online social network. Then, Chinese guanxi and technology characteristics will interact with each other for Chinese IS/IT users, and this also is a breakthrough contribution of the current study.

There are three limitations of this study: first, the generalization of results may be limited to only considering the organizational employees in traditional roles and in Chinese societies, because guanxi can be used to analyze human interactions in any culture (Hwang, 2015). Second, there are only 21 cases have been selected from a huge Chinese society in this study due to the limitation of project budget and research period; thus, it is necessary to collect more cases to confirm the research model of this study. Finally, maybe some other national cultural factors could be a potential faction in other societies (e.g., Middle East, India), which will influence the Chinese IS/IT users’ work exhaustion, and job burnout.

Based on above limitation of this study, there are three future research directions: first, data collecting from different cultural societies can comparing how guanxi will influence Chinese IS/IT users’ work exhaustion, and job burnout in different cultural societies. Therefore, the management of global enterprises can adopt appropriate approach to use guanxi to Chinese IS/IT users and provide positive strategies to avoid the negative influence to organization in different cultural societies. Second, collecting other cultural societies data, and comparing these research models’ gap in different cultural societies of different cultural, will have more contribution to the global management to use their cultural characteristics to support their management strategies. Finally, both of research department and enterprises can provide enough budget to support a global and long-term study; thus, the research result will be beneficial for scholars, and enhance global enterprises to improve their management strategies.

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**ENDNOTES**

1. *Guanxi*: literally means “relationships,” and stands for any type of relationship. In the Chinese business world, however, it is also understood as the network of relationships among various parties that cooperate together and support one another. The Chinese businessmen’s mentality is very much one of “You scratch my back, I’ll scratch yours.” In essence, this boils down to exchanging favors, which are expected to be done regularly and voluntarily. Therefore, it is an important concept to understand if one is to function effectively in Chinese society.

2. (+/-): some technology characteristics have positive (increase) impact on work exhaustion, some technology characteristics have negative (decrease) impact on work exhaustion

3. (+): antecedent factor has positive (increase) impact on dependent variable

4. *Renqing*: Chinese guanxi often includes renqing (human feelings, or human obligations); as part of the ‘art of social relations’, it requires people (as the architects of network-building) to adhere to the reciprocal exchange of affective elements (through gifts, condolences, etc.), thus guanxi could develop ‘naturally’ from pre-existing ties of renqing.

5. (-): antecedent factor has negative (decrease) impact on dependent variable

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